

## Methods and Tools for State of the System in Urban Agriculture

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### Introduction

Although urban and peri-urban agriculture contributes to income, family nutrition, social and environmental conditions, and well-being, little specific consideration of appropriate methods and tools was given for assessing the system.

<b>Methods and Tools</b>
<b>Appropriateness</b> Research philosophies Purpose of research Ownership of research Role of researchers in relationship to stakeholders
<b>Choice</b> Interests and concern of investigators <ul style="list-style-type: none"><li>- Raise public awareness</li><li>- Project design</li><li>- Academic research</li><li>- Policy change or advocacy</li><li>- Community empowerment</li></ul>

This presentation focuses on methods and tools which help to build and facilitate action-orientated programmes, with emphasis on participatory diagnosis and learning.

Two frameworks can be considered as very useful considering methodologies for situational analysis in urban and peri-urban agriculture. These two frameworks can be considered as the basis for studying peri-urban agriculture.

#### 1) *The Sustainable Livelihoods Framework*

Assist conceptualization of interrelationships between the different dimensions of people's lives and help to reveal the complexity of urban livelihoods and poverty. It is both holistic and cross-sectoral, encouraging interdisciplinary thinking. This framework is useful to analyse the multifaceted urban livelihoods, especially in situation of poverty and vulnerability. It places people in the center and explore their access to and control over the assets (human, social, environmental, financial, physical). The framework also draws a link between the household level and higher levels, therefore encouraging analysis of how livelihoods and institutional and policy processes influence each other.

#### 2) *Driving Force-State-Activity and Impact model or Pressure-Activity-State-Impact-Response model*

Focus on identifying the factors bringing changes (called either pressure point or driving force), and exploring the consequences and impacts of these changes. These pressure points can be a human activity, a policy, a natural process, the economic situation, etc. Impacts include changes in ecological, social, welfare. Once these are assessed, one can develop an appropriate response in action and policy interventions. Changes in pressure are then linked to the response. The model is therefore both theoretical and practical and helps clarify theory but is difficult to correctly implement.

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### ***Harmonizing the definition of concepts***

#### **Urban – Peri-urban – Rural**

Are they continuous or discrete categories?

#### **Households**

Especially difficult to define in urban area

#### **Type of agricultural activity addressed**

Homestead activities to be included?

### **1. Participatory approaches in analysis of Urban agriculture**

These participatory approaches are well established in the tradition of rural appraisal but far less in the urban agricultural context. As these approaches encourage participation and empowerment of local communities while improving local governance, their application to urban area seems desirable.

A Rapid Visual Appraising (RVA) approach can lead to collection and synthesis of important information regarding urban agriculture, thereafter leading to action, dissemination and enhanced participation.

### ***Rapid Visual Appraising***

#### **Phases**

1. Conceptualization of the topic
2. Conceptualization of the concept
3. Conceptualization of information
4. Visual appraisal
5. Participatory interviews
6. Formulation and participatory action plan

#### **Modalities**

Including all the multi-sectoral stakeholders

#### **Promotes**

Valorisation of local practices  
Development of new knowledge  
Ground to improve local governance  
Integration of all aspects into development of project

The use of PRA tools such as transects and mapping should not be used in the urban context until trust with key-informants has been build up (which can take time), thereafter allowing to explore land use and tenure. Access to land in urban area is often limited and highly politicised.

Applying PRA in an urban context may also bring other problems, often based on assumption only relevant in the rural context:

- Assumption of mutual knowledge (especially concerning weakness of network of kin and friends in urban areas, *e.g. wealth ranking*)

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- Assumption of homogeneity in livelihood patterns (although urban livelihoods are seasonal, patterns and effect however are likely to be very varied, there may even be a need to accommodate day patterns of each stakeholder group, *e.g. seasonal diagramming*)
- Assumption of community (very variable understanding of what constitutes a community in urban area)

There are many others issues that should be considered when conducting PRA in urban area (such as greater diversity of urban livelihoods strategies; extent of reliance on natural resources; combination of both formal and informal activities; languages and ethnicity; tenure arrangements, intervention of local government). There are also obstacles to participation (low social capital, poverty, pressure of work, insecurity, social isolation, power of dominant groups, limited access to assets). However, rural and urban agriculture have still much in common and linkages should be considered.

In applying participatory approaches to urban areas, one will need tools to encourage direct participation of urban agricultural producers, and consultation with other stakeholders such as leaders, politicians, professional workers (health, education, agriculture, traders), and major employers.

### 2. Stakeholder analysis

The urban context involves a wide range of stakeholders, split in a highly multi-sectoral environment. It is therefore quite easy to miss some key stakeholder during a participatory process. Even if objectives lie within a specific sector, integration amongst different sector is desirable but difficult to achieve in the urban context. Multi-sectoral teams are seen as important for effective analysis of urban livelihoods.

The wide range of stakeholders also implies the existence of conflicts and tensions between different groups. The team should therefore adopt a position of “critical neutrality”, to taking position on any side, or granting benefits. In this context, the information provided should be relevant to all stakeholder groups.

#### ***Methods to identify & explore stakeholder interests***

##### **Small meetings with a few key stakeholders**

This in turn will help to identify other stakeholders

##### **Stakeholder workshops**

Detailed identification of activities, interests, contributions and opportunities for new networks (e.g. using Venn diagrams)

##### **Individual interviews**

With representatives of the main stakeholder groups, to explore main issues, perceptions, constraints, potential areas of conflicts

##### **In-depth discussions**

With separate stakeholder groups

##### **Joint focus groups**

With representatives of each stakeholder groups, to discuss the issues arising from the above meetings and develop a strategic vision which may be up taken by policy makers

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### 3. Scale and focus

Limited resources imply to be selective in the coverage of areas and types of urban agricultural activities. A precise delimitation of the geographical boundaries of the study area helps in the planning and implementation of the participatory appraisal.

<b>Scale and Focus</b>	
<b>Area selection</b> Availability of open space Socio-economic characteristics High/low growth areas Housing/population density Levels of basic services Distance from city centre Transport linkages and costs Housing availability and rent Land use Tenure status Land's physical characteristics Availability of arable land Political and technical dimensions	<b>Representativeness of area &amp; participants</b> Key informants are not as much useful in urban area as there is a huge variation of patterns. Therefore sampling should be done at different scales and levels, according to the resources.  - Focus groups may be seen as a way to explore issues, by adequately selecting participants and using techniques to promote interactions, with time and resources  - Questionnaire survey of all households may be done to collect baseline information which will be used to select households for a follow-up study
<b>Levels of analysis</b> From the regional level through the community to household and individual (approaches are complementary)	

Some kind of compromise can be done between a simple case study approach and an all-inclusive questionnaire survey, selecting households randomly along a transect walk. The walk should cover a diverse cross-section of the area. This will allow exploration of the variable role of urban agriculture in people's livelihoods. This can be considered as "baseline" information to be used to select households for more detailed follow-up study, using a mix of detailed semi-structured household interviews and focus group sessions.

### 4. Analysis of dynamic

Hence urban environments are often characterized by rapid changes; there is a need for practical methodologies to capture trends and dynamics influencing urban agriculture, at the different scale levels. The importance of understanding the context and diversity of local dynamics (i.e. land, governance, institutional action vs. conflicts) is not to underestimate. Poverty is highly dynamic, distinction between transient and chronic poverty must be made. Livelihoods analysis is useful for exploring the relevance of urban agriculture for the poor, which assets are contributed by this activity, and how it fits with policy, environment and local institutions.

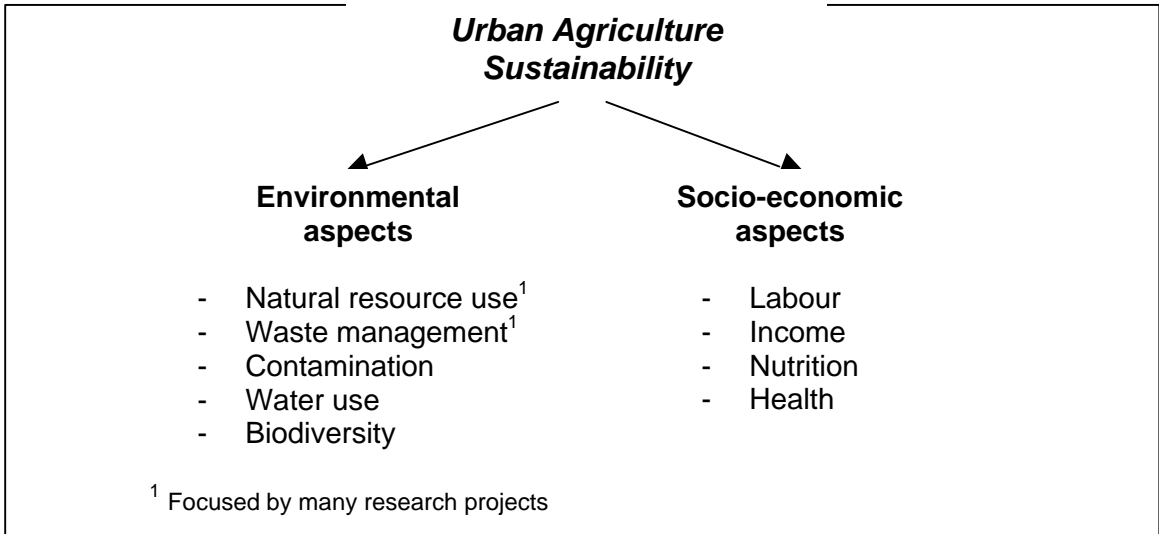
To understand the wider dynamic and institutional context, one must explore what changes people have perceived in relation to their livelihoods and to urban agriculture, and how these responded to their aspirations and perceptions.

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- Exploring dynamics**
1. Visualisation using photographs to explore values and perceptions
  2. Interviews at different times a year
  3. Interviews over a longer period of time
  4. Focus group discussion with PRA tools such as time lines/trends and seasonal calendars
  5. Individual interviews exploring changes and perception of the future
  6. Changes in spatial distribution and coverage of urban agriculture in relation to other land uses
  7. Using case studies and learn past response to previous changes
  8. Personal life histories

**5. Methods of exploring sustainability**

It is often claimed that urban agriculture adds to the sustainability of urban areas. This was confirmed by the UN City Summit in Istanbul (1996). Methods exist to assess the sustainability of an activity, examining its impacts over a relevant time, and linked to interactions with social, economic and environmental aspects.



Assessing and achieving environmental sustainability is a problem that be addressed in a holistic way, which beyond a simple technical focus. It uses a number of interactive tools. Sustainability is further discussed in the next section, more in light of the economic aspects..

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### ***Exploring sustainability***

#### **Individual and focus groups interviews**

Done with farmers, using tools such as matrix ranking for nutrient sources, contingent evaluation to explore farmers' willingness to pay)

#### **Household surveys**

On perception of waste separation and household consumption

#### **Analysing the legal and institutional framework**

- Key informant interviews (individual and organisations)
- Focus group discussion (community leaders and members, to develop scenario to improve sustainability)

#### **Other tools**

- Causal diagramming (for an integrated approach to problem exploration and analysis)
- Urban ecological footprint (to visualize the total land area affected by city, and which required to sustain the city)

## **6. Economic analysis**

Economic analyses are useful to support the discussion on sustainability. These must address trends in production costs and wages, but also examine non-market, social and environmental aspects as well. Market analysis is described below in the text.

### ***Estimating trends and economic benefits of urban agriculture***

- 1) Comparison of labour allocation in the different regional and economical contexts
- 2) Assessment of economic, social and agroecological indicators that affects sustainability
- 3) Description of the current trends of the relationship between economic growth and sustainable urban agriculture

Methods of economic analysis include the cost-benefits analysis (heavily dependant on quantitative information) and the contingent valuation (mostly for measuring non-market effects, attempting to give a monetary assessment of non-market benefits or losses). Preliminary work to improve communities' capacity to undertake economic analysis of urban agriculture is recommended (such as using trend analysis for major measurable impacts; financial analysis of urban agriculture; develop indicators to monitor non-measurable impacts; conduct case study economic analysis to demonstrate unrecognized impacts to policy makers). Studies should not only consider on the positive economic benefits of urban agriculture but also on any negative association (e.g. risk to health, environmental degradation, or land use).

## **7. Assessment of food security and nutritional status**

Urban agriculture makes both a direct and indirect contribution to urban food supply.

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### ***Assessing urban agriculture contribution to food supply***

#### **Indirect**

- Through household surveys, asking respondents to estimate the proportion of home consumption covered by home cultivation.
- Comparing weekly expenditure on food between farming and non-farming households.

#### **Direct**

- Quantities of the different product traded
- Measuring total harvest (complex)

Policies and programmes to improve urban food and nutrition security should not only be designed by the definition of nutritional problems by experts. Participatory approaches should be used to complement in planning interventions and take into account the underlying socio-economic and cultural factors (bottom-up involvement).

### ***Community mapping toolkit to enable local communities to understand their local food economy and improve food security***

#### **Pre-planning phase**

Stakeholder analysis of those affected by food and nutrition policy, and those whose cooperation is essential for future interventions

#### **Preliminary planning phase**

Group data collection for a socio-economic profile and a community map to see factors and interactions affecting food security.

#### **Identification of assets and problems**

The later being ranked

#### **Periodic reappraisal**

With information sharing, action projects and policy influence

## **8. Techniques for market and enterprise analysis**

Market analysis is important to assess the economic importance of urban agriculture, but also to identify opportunities and constraints for further market growth. In analysing markets (participants, linkages, types of produces), one must consider both the formal and informal sector. A commodity map is an important tool to analyse market and its dynamic, it illustrates the vertical flow of commodities in quantitative and qualitative terms, with the inter-relationships between participants. Market analysis is an iterative process.

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### ***Assessing markets***

#### **Key-principles for participant analysis**

- Vertical perspective (from farmer up to consumer)
- Competition (which level, constraints, why some participants are more successful than others)
- Coordination (how are participants linked together, how do they affect each other)
- Leverage
- Viability of markets (for a particular product)

#### **Key principles for commodity map**

- Markets (final destination of a product, a location or a consumer)
- Functions (is defined as such, each step that a product go through during production and distribution)
- Participants
- Channels (made by participants, differentiated by technologies, functions and linkages)

## **9. Tools for spatial analysis**

Urban agriculture is an important land use and should be taken into account in urban planning and development policies. GIS can be used as powerful tools for mapping and analysing spatially referenced data. GIS have many advantages, such as being able to facilitate socio-economic analysis; managing large data sets but their use requires important technical cost, and human skills. GIS may as well be used in participatory applications to facilitate stakeholder communication, as a visual tool. If relying on remote sensing, one must acquire aerial photographs of the area, which might be expensive, outdated, or unavailable, and might require important processing before being converted in GIS format. GPS have shown to be time consuming and are therefore not an effective tool. Often, an accurate cadastral map may just be fine as a base map for GIS. Scale may again be a problem, as small areas such as homestead, which often play a critical role in urban food security or supply, are difficult to represent in GIS format.

## **10. Analysis of the institutional and policy context**

Usually, participatory approaches are associated more with researching the poor than with elites and policy makers. However, group discussions among development professionals, government officers and planners, together with policy makers may allow sharing research findings and collect policy opinions for the later stages of the research.

In order to successfully implement research and development initiatives with urban agricultural objectives, understanding of the institutional and policy context, in which stakeholders operate, is necessary. For formal institutions, a rapid institutional survey may be done. However, much of the access to social capital in urban areas is through informal institutions, which are much less comprehensively covered in the literature.

## **11. Conclusions**

- 1) Much of the existing and documented methods for situational analysis can be used for urban agriculture studies.
- 2) Studies must be done by multidisciplinary teams with the participation of urban agricultural producers.



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- 3) Standard tools of participatory enquiry, used in the rural context, may be used but need adaptation to the urban environment.
- 4) Conceptual clarity is required in guiding the selection of location, of methodology and analysis.
- 5) The use of analytical frameworks encourages holistic perspectives and consideration of cross cutting issues in urban agriculture.
- 6) The active and coordinated participation of all stakeholders is needed to facilitate improvements for vulnerable groups.
- 7) Documentation, together with a combination and sequencing of complementary methods is a far more effective approach than simple description of use of single tool in isolation.
- 8) Similarly, a combination of complementary methodologies, both quantitative and qualitative, visual and verbal, is effective and helps in triangulation of information.
- 9) Time is needed, as trust must be build with stakeholders for participatory enquiry and action research. This is especially difficult to achieve in the urban context.
- 10) Keeping reflective and assessing critically the methodology and research practice will help in adjusting to the challenges posed by unpredictable and conflict prone urban context.
- 11) Consideration should be given either a slow community empowerment and participation or a goal-orientated influence on powerful stakeholders to expedite change is desired. Trade-off should be considered.

### **12. Case studies**

Three cases studies illustrate use of appropriate methodologies for development of a facilitating framework for planning and policy in urban agriculture (page 80-88).

- 1) Local economic development and investment in urban agriculture: the case of Cuenca (Ecuador)
- 2) Territorial planning processes: the case of Santiago de los Caballeros (Dominican Republic)
- 3) Environmental planning and management: the case of Dar es Salaam (Tanzania)

A transversal analysis on the 3 cases studies (page 88-97) is done, to illustrate general conceptual and methodological guidelines.

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### TOOLS FOR SITUATIONAL ANALYSIS IN URBAN AGRICULTURE

	CONTEXT OF APPLICATION	POSE/EXPECTED RESULTS	ISSUES IN IMPLEMENTATION
Sustainable livelihoods (SL) framework	Useful in analysis of urban agriculture within context of multi-faceted livelihoods and prevalence of poverty. Holistic and cross sectoral. Helpful for analysis of urban vulnerability.	Framework to assist analysis of relationships between assets, sources of vulnerability, policies and institutions and livelihood strategies and outcomes.	Requires range of participatory and other data collection tools for information to substantiate the framework. Requires interdisciplinary team skills. Important to define limits to data collection.
Pressure – activity-state-impact- response model (PASIR) or Driving Force - State - Response	Dynamic causal model. It identifies a pressure point or 'driving force' as an independent variable and traces causal relationships and consequences for activities, ecological and social state, impact and helps to identify an appropriate response	Identifies root causes of problems not just symptoms. Used by different stakeholders. Gender friendly	Requires interdisciplinary research team including computational, calibration skills. High data requirements.
Multidisciplinary situation and stakeholder analysis" (MSSA). Involves questionnaire surveys, individual and focus group interviews, matrix ranking, contingent evaluation, household surveys, key informant interviews, focus group discussions	Holistic framework for exploration of supply, processing and demand for organic waste and the institutional, legal and community framework. <b>(Drechsel)</b>	Decision support for municipal authorities on realistic options for organic waste recycling Paving way for production of alternative fertiliser for UPA use Capacity building Results from a number of locations compared and extrapolated.	Requires a compendium of tools – focus groups, interviews, ranking, contingent evaluation etc. Availability of multidisciplinary contribution required Software requirement for material flux analysis and mapping. Time requirement, 2 years for 3 cities.
Community mapping tool kit	Tools used for urban food and nutrition analysis and planning.	Identification of the factors affecting food security and their interaction. . Complements formal nutritional monitoring.	Series of activities – stakeholder analysis, group data collection, community map etc
Urban ecological footprint analysis	To explore the extent and nature of how surrounding rural areas are affected by cities	Identifies spatial and physical dimensions of urban demands on natural capital	raises the issues both of equity and the long-term sustainability of production
Social network analysis	Explores patterns and nature of social relationships and linkages within urban communities and between urban and rural areas.	Analysis of patterns of interaction and group membership, sources of support and linkages between actors in e.g. agriculture, enterprise and marketing	Lack of methods for urban social network analysis
Market analysis	For exploring market locations, functions, participants and channels	Identification of relationships from producer to consumer in the marketing chain Understanding of commodity flows and bottlenecks.	Possible easier to apply chain analysis in urban setting than in rural. Linkages over shorter distances.
Stakeholder analysis	Tool for identifying the interests and influence of different stakeholder groups relevant to UA.	Information on stakeholder interests and identification of areas of complementary or potential conflict.	Requires skilled facilitation. A workshop of mixed stakeholders may not elicit the most sensitive issues or may result in overt tension
Stakeholder workshops	A context to apply stakeholder analysis, where there is interest in communication across different stakeholder groups. <b>(Gabel)</b> . Can be used at different stages of research process, but in situation analysis useful near beginning.	Sharing of views and achieving a better understanding of different stakeholder perspectives Specification of needs and priorities	Difficult where status, language and educational differences – more common in urban areas Requires prior capacity building and preparation. Issues of who is representing larger group
Gender analysis	Exploration of practical and strategic gender needs of urban cultivators. <b>(Gabel)</b> .	Men and women's needs identified	Should be incorporated at all stages of the research process.
Participatory poverty assessments	For understanding of different dimensions of poverty and causes and consequences in urban areas	Analysis of poverty according to local perceptions	Assessment by different social groups and gender Cross-community comparisons sometimes problematic if different criteria used.

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	CONTEXT OF APPLICATION	POSE/EXPECTED RESULTS	ISSUES IN IMPLEMENTATION
Cost benefit analysis	To assess economic benefits of activity, e.g urban agriculture. <b>(Nugent)</b>	Benefits defined in money terms	heavily dependent on quantitative information and tends to founder when only qualitative information available.
Contingent valuation	Useful for measuring non-market effects. Through discussions, establishes how much people are willing to pay for benefits from urban agriculture, and to avoid risks or loss an asset or amenity <b>(Nugent)</b> . The decision analysis method defines stakeholders preferences among alternatives and places them along a common scale	Willingness to pay attempts a monetary assessment of non-market benefits. Decision analysis method elicits hypothetical willingness to pay and gives insights into how and why communities select between alternatives	Difficulties encountered in converting non monetary dimensions to money values or to a common scale..
Case studies	In depth understanding of activities and livelihoods and perceptions.	Detailed quantitative and qualitative understanding of particular cases to enhance understanding of the general category thus represented.	Sometimes confusion between case studies as detailed examples of broader categories, and case studies intended as a representative sample, which may have problems of limited sample size.
Focus group discussions	Discussions among a group of purposively selected participants (ie. Age, gender, status, occupation etc.) on issue of common interest. <b>(Mbiba, Gabel )</b> For exploring attitudes, value orientations, local perceptions and opinions	Provides qualitative insight into perceptions and attitudes toward a predetermined problem or issue (e.g.policies, social and economic changes, poverty and the environment)	Requires time, knowledge of issues. And effective facilitation Requires tools such as visualisation, photographs, PRA tools to stimulate interaction
Structured questionnaires	Where quantitative data is required for planning interventions <b>(Moustier)</b> Baseline data for monitoring impact of intervention	Quantifiable data characterising particular attributes and activities of a population, e.g. urban agricultural producers.	Requires pilot study or informal inquiry to help formulate appropriate questionnaire design.
Semi-structured interviews	To explore in detail decisions, activities and returns in urban agriculture. <b>(Gabel)</b> To explore range of livelihoods and UA activities associated with different categories of urban dwellers.	Detailed understanding of particular activities and decisions. Variation according to different social, economic, gender and age factors and ownership of assets.	Requires interviewing skills and training to avoid interviewer bias.
Key informant interviews	To tap knowledge on a particular subject through interviews with people with expert knowledge or specific responsibilities. Useful to help structure a broader inquiry	Inquiry targeted to informants likely to be most knowledgeable on a particular subject. Can save time in identifying issues to follow up more widely.	Useful for rapid consultation of key decision makers, e.g. urban policy and planning, community leadership etc.
Household surveys	Used for information gathering around household based activities and preferences	Information on household managed issues – food consumption, marketing, agricultural production, occupations and income. Demographic characteristics	Ambiguous and shifting definition and composition of households in urban areas. Mobility and rural/urban linkages complicate the analysis.
Rapid Institutional Surveys	To identify formal and informal organisations and programmes active in the urban and peri urban area	Identifies additional stakeholders and key informants and existing areas of community participation or programmes of activity.	Understanding of institutions requires follow up with detailed institutional analysis. Especially difficult for informal institutions.
Wealth ranking	For exploring social differentiation according to local perceptions and wealth indicators	Understanding of local criteria of well being and distribution of wealth categories in the community. Useful as stage in household sampling process	Relies on key informants' knowledge of household and individual circumstance. Can be used successfully at on a neighbourhood scale May not be appropriate in new and highly urban heterogeneous settlements,
Visioning	For envisaging futures. Preliminary to defining action strategies. Individual or group <b>(Gabel)</b>	To find out how people are planning for their futures, and evaluate different activities in the light of short and long term goals.	Individual visioning allows full articulation sometimes difficult in group setting. Group setting generates broad range of ideas. Reaching consensus is a much longer process
Life histories	To explore identity and change over time associated with gender and age, livelihood decisions and locations. <b>(Gabel)</b>	Decision making and motives in relation to major life events e.g. marriage, migration, occupational choices and activities etc.	

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	<b>CONTEXT OF APPLICATION</b>	<b>PURPOSE/EXPECTED RESULTS</b>	<b>ISSUES IN IMPLEMENTATION</b>
Transect walks	For understanding urban context and variation. Walk across a cross section of an urban area for observations and discussions with urban cultivators. <b>(Gabel)</b> . Can use as a mechanism for sampling where maps and household lists are not available.	Useful at early stages of situation analysis to gain familiarity with distribution and variation in urban farming systems. Can be used as a rapid sampling technique where no household lists are available.	Important to establish shared expectations and understanding regarding control of process. In urban contexts more difficult to engage a group to cover the transect. Operates more easily as a plot to plot contact. In politically sensitive contexts may arouse suspicion.
GIS	To understand spatial distributions – areas, land use, change over time and spatial relationships.	assists in analysis and mapping of multiple data sets useful in stakeholder discussion and negotiation and influence on land use policy makers	Further potential for participatory uses. Integration of community defined spatial reference points may require GPS work Requires recent photography or remote sensing data
Mapping and modelling	Participatory mapping of neighbourhood and agricultural areas. <b>(Gabel)</b> Mapping of commodity markets. Mapping/modelling of water flows and pollution sources.	Information on spatial distribution of activities – agriculture, markets etc.	Those without formal education may lack confidence to draw. Tendency for one individual to do drawing. Less appropriate where urban agriculture has illegal status. Requires trust that no negative results will follow from possible uses of the map.
Cartoons	Picture stimulus for group discussion of gender relations, economic hardships etc. <b>(Gabel)</b>	Elicits attitudes, values and opinions.	Useful as complementary tool in exploring attitudes. Relies on availability of relevant cartoons.
Photographs	Aerial photos and photographs of urban areas – agricultural production, policy implementation, enforcement, information sharing etc., to use in individual or group discussion <b>(Mbiba)</b>	Aerial photos for location of land types, boundaries and problem areas and understanding of urban expansion. Tool to explore values and preferences on urban activities/amenities	Requires recent photos or time series Sets of photographs can be used as ranking tool
Family trees/genealogy	Trace family kin relationships in relation to residence patterns, land access. <b>(Gabel)</b>	Important of networks and exchange and mutual support related to family and kin.	Time consuming
Flow diagrams	Tool for discussing and depicting the relationships between components of systems or decision making pathways.	Characterising main interlinkages and influences within systems or decision making	Useful for depicting influences and interrelationships. Can lead to quantification of elements.
Time lines	Used with particular stakeholder groups or key informants to explore change over time	Shows key events and changes, e.g. in growth of urban area, enterprises, agricultural change etc. Leads to discussion of causes and issues.	Use as a tool to elicit discussion of changes and their consequences, and not simply a list of events.
Venn diagrams	A visual depiction of institutional relationships and communication channels.	Identifies the most important institutional interactions with a community.	Needs detailed follow up analysis of institutions. May miss out informal institutions or rules of the game.
seasonal diagramming/ seasonal calendars	Labour distribution and crop patterns and other activities at different times of the year. Household food needs and expenditure <b>(Gabel)</b>	Shows variations in activities/problems in different seasons.	Should be developed with different categories of producers (by age, gender, etc). Can be used later as M and E tool.
Problem trees	Useful for in depth exploration of problems through tracing causal relationships back to root problems	Gives insight into causes rather than symptoms of problems and shows interrelationships between problem dimensions	Helps in the important stage of moving from problem identification to identifying appropriate entry points.
Simple ranking Pairwise ranking	Free ranking of activities and criteria for ranking <b>(Gabel)</b> To explore and rank preferences, e.g. crops, markets, occupations etc. and criteria for ranking	Rapid method of exploring preferences in pairs and ranking alternatives	Simple introduction to point to discussion of alternatives. Risk of over-simplification
Matrix ranking	To compare and weight advantages and disadvantages of different alternatives. <b>(Drechsel)</b>	Evaluates aspects of UA by locally determined criteria.	Time necessary to establish the relevant criteria which are weighted and the reasons for the weighting.