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Is community management of resources by urban households, feasible? Lessons from community gardens in Gweru, Zimbabwe

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ABSTRACT

The poor economic situation in Zimbabwe has forced many households to engage in urban agriculture. With the increasing number of households engaging in the practice, a local NGO in 2009 introduced community gardens in the city of Gweru to vulnerable households as a new development initiative. We examine the feasibility of community resource management in these gardens using a blend of econometrics and community resource management theory. The study finds that sex of head of household, household labour, on-plot area, and off-plot area significantly affected the decision to practice community gardening. Results also show that households characterised by food insecurity tended to be the participants in community gardens. Strong social capital made it possible for these households to participate in community management of resources. However, there is need to remove obstacles such as uncertainty of tenure. Given the potential of urban agriculture in alleviating food insecurity, urban authorities need to consider their position that the practice causes river siltation and include it in their planning processes.

1. Introduction

Zimbabwe's key economic sectors (agriculture, manufacturing, mining, and services) contracted significantly from 1990 to 2008 due to changing government policies, which weakened the economy's ability to absorb external shocks (Zhou and Hardlife, 2013). For example, the Economic Structural Adjustment Programme (ESAP) and the Fast Track Land Reform Programme (FTLRP) policies resulted in negative GDP growth rates, decline in national food production, collapse of markets, and hyperinflation which culminated in food availability challenges (Gasana et al., 2011). The poor performance of the economy adversely affected urban households through a decrease in the stability and security of formal sector employment, a decline in real wages, a rise in unemployment rate, and a breakdown of market facilities (Mwakiwa, 2011). As a way of coping with these economic pressures, urban households adopted strategies such as operating flea markets, cross border trading, illegal and illicit operations and illicit urban agriculture, which flourished from the late 1990s (Muzvidziwa, 1998).

Urban agriculture is a farming practice where households use any available land for crop production (Mbiba, 1999). The practise can be classified into two main categories which are on-plot and off-plot agriculture. On-plot agriculture refers to farming on private land owned by a household while off-plot agriculture is farming activity on public open spaces, utility service areas and on allotments as defined in Table 1 (Mbiba, 1999). Baumgartner and Belevi (2001) argued that urban agriculture, if supported and practised in a sustainable manner, can boost local economic development and assist in alleviating both urban poverty and food insecurity. However, in Zimbabwe, urban agriculture has not been formally accepted by government as a practise. Following the 2007-08 global food crises, a United Nations high-level task force called for a paradigm shift in urban planning, to one that encourages urban and peri-urban food production. However, the transformation of urban agriculture's current "squatter" status to that of a planned economic activity is still a pipe dream in most African countries (FAO, 2012). Most decision makers regard urban agriculture as an illegal land use activity compared to other conventional urban land use activities such as housing, commerce, reservations, and open space. A lot of work though has been done among local authorities especially in Southern Africa to integrate urban agriculture in a holistic planning process (RUAF, 2007). Despite the controversy surrounding urban agriculture in Zimbabwe, some communities and donors, for example, CARE, World Vision, and Christian Aid approached city

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Table 1
Status of urban agriculture activities.

Feature	On-plot	Off-plot (both legal and illegal)	Peri-urban
Location	On property in both high and low-density sareas	Public open spaces, utility service area all over the city, and on allotments	Outside city boundary in rural areas
Produce use	Mainly subsistence, more commercial in low-density areas	Mainly subsistence, slightly more marketed output than on-plot production	Subsistence in the smallholder sector but marketing on the increase
Main crops produced	Maize, vegetables and fruit	Maize, sweet potatoes, fruit and vegetables	Maize, vegetables, fruit and other horticultural produce
Plot size	Up to 50 $m^2$and can be as high as 1 acre in low density areas	Average 200 m^2up to 2 acres per household cultivator	3 acres for smallholders and 5 ha or more for large-scale producers
Percentage of households involved	80% of properties in summer and 60% in winter; 70% property owners, 30% lodgers	At most 25% of households; property owners dominate	Those with land-access rights
Fertiliser use	Low levels	Low levels	High levels (quantities not available)
Involvement of the poor	Very low	Very low	High potential
NGO support	None	Negligible to none	Low and likely to increase
Support from financial institutions	Low	None	Reasonable and increasing
Local authority attitude	Control	Control	Positive and increasing
Potential for future incorporation as an official land use	Low	Low	High

Adapted from Mbiba (1999).

council authorities to designate land for the establishment of community gardens to combat food insecurity.

Community gardens are a type of off-plot urban agriculture whereby residents of a particular community participate jointly in growing different types of crops mostly vegetables on a given piece of land (Hallberg, 2009). Community gardens are modelled around the concept of community resource management. At the core of this approach is the premise that local populations have a greater interest in the sustainable use of resources (Dongier et al., 2001). According to Cilliers et al. (2017), social groups form a community of practise characterised by shared enterprise, jargon, routines and interaction with both physical and institutional (e.g. property rights) environments which is passed from generation to generation as legacies, creating socio-ecological systems. Under this concept, production challenges are addressed through co-production of knowledge, which is a process that involves all stakeholders in a project. Community natural resource management is imagined differently by different advocates. Development organizations, driven in part by their experiences with past development projects, aim to promote local participation in development initiatives. Populist activists hope to empower local groups in their conflicts with state resource management agencies and national and transnational capital while indigenous peoples' spokespersons argue for a new respect for local rights, knowledge, and culture. Academics on the other hand are worried more by the sustainability of the initiatives and benefits that accrue to beneficiaries and society as a whole (Dasgupta and Beard, 2007). Mansuri and Rao (2004) also argue that most community-based projects targeting the poor are prone to hijacking by the elite (politically powerful and high-income households) and hence may not reach the intended beneficiaries.

Community gardens in urban areas bring in issues of community resource management that are different from other types of urban agriculture that are privately managed by households. Usually community resource management presents the issues of common pool resource dilemma, free riding, and failure to exclude non-members. A common-pool resource is defined as “a natural or man-made resource system that is sufficiently large as to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits from its use” (Ostrom, 1990, page number). The free rider problem arises when an individual may be able to obtain the benefits of a good or a service without contributing to the cost (Tieternberg and Lewis, 2018). Woolcock and Narayan (2000) asserted that it is easier to address free-rider problem in a homogenous group setting while Doe and Khan (2004) argued that a heterogeneous group is much easier. The extent to which community resource management can be used as a tool for economic development has remained elusive with mixed results (Doe and Khan, 2004). If the resource users cooperate towards their common interests, then they can be assured of exclusively getting all the benefits (Berkes et al., 1989). On the other hand, if there is no cooperation, then the resource becomes an open access good and exclusion of non-participants becomes difficult resulting in the free rider problem. Examples of common interests are: attainment of household food security and preservation of the resource for future generation. Hallberg (2009) suggests that the success of community gardens depend on a number of factors, which include, gender, categorization of location within the municipality, whether on or off-plot, and availability of labour. The study from the United States of America showed that female heads of households, households in high density areas, and households with abundant labour tend to participate more in community gardens (Hallberg, 2009).

Community resource management projects and studies have been biased towards the rural areas where voluntary community resources management is quite common (Murphee, 1999; Doe and Khan, 2004; Sammy and Opio, 2005; Stone, 2006). Even in circumstances where rural communities are not homogenous in nature, community resource management is usually not a problem due to the communalised way of production and consumption (Wilson, 1986; Dasgupta and Beard, 2007). Headmen, councillors, chiefs, and other community leaders lead most projects in those communities, making it easy for community