Regional Culture and Urban Agriculturalists of Mexico City[1]

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Abstract: This article describes two agricultural regions of Mexico City where households reproduce forms of labour organization and technological inputs around agricultural production as the result of the cultural and social intersection with an urban and rural economy. Since the structure of the regional culture is based on organizational patterns within the multigenerational family, we discuss how urban agriculture is the consolidation of cultural networks among regional space and community.

We argue that the struggle to adapt to processes of change caused by urbanization has been carried out not only for technological or economic reasons pertaining to agricultural activities, but also because of the desire to defend a cultural space, a shared territory where relationships with nature and among social groups are consolidated.

The urban agriculturalists of southern Mexico City see themselves neither as farmers nor as urban inhabitants, but as the unity of both in one according to the internal cultural and social requirements of their geographical space.

Keywords: rural economy, urban economy, urbanization, Mexico, agriculture, technology, labour

Résumé : Cet article décrit deux régions agricoles de la ville de Mexico où les familles reproduisent des formes d'organisation du travail et d'utilisation de la technologie dans les occupations agricoles qui résultent de l'intersection socioculturelle entre l'économie urbaine et l'économie rurale. Puisque la culture régionale est basée sur une organisation familiale qui comprend plusieurs générations, nous montrons comment l'agriculture urbaine englobe les réseaux culturels reliés à l'espace régional et à la communauté.

Nous maintenons que la lutte pour s'adapter aux processus de changement causés par l'urbanisation a été livrée non seulement pour des raisons technologiques ou économiques relevant de l'agriculture, mais aussi pour protéger un espace culturel, un territoire commun où les relations avec la nature et entre les groupes sociaux sont maintenues.

Les agriculteurs urbains du sud de Mexico ne se voient ni comme des fermiers ni comme des citadins, mais comme une combinaison des deux identités en accord avec les exigences de leur culture et de leur occupation de l'espace.

Mots-clés : économie rurale, économie urbaine, Urbanisation, Mexique, agriculture, technologie, travail

Introduction

The need for innovative and coherent research centered on the relationship between human activity and environment has increased as ecological problems intensify worldwide. Particularly, the processes that occur dynamically in modern societies are testing the vulnerability of social groups to respond to economic, environmental and cultural changes. Anthropologists have used the spatial dimension of cultural processes in studying developmental transitions in societies. The construction of theoretical schemes for regional studies has been useful to elucidate relationships among cultural systems, economic changes and ecological processes (Altamirano and Hirabayashi, 1991; Halperin, 1989; Hilhorst, 1990; Orlove, 1980).

The theoretical and practical issues of regional studies may illuminate the economic and ecological variations which allow us to evaluate particular hypotheses concerning sociocultural change, space and time in local populations (Ellen, 1979; Van Young, 1992). An examination of cultural systems must include the overlapping of the infinite number of continually generating cultural systems and the constantly changing hierarchical relationships between them, which result from differential access to a wide variety of regional resources. Regional territory is the space of discourse that serves as a domain and an object of economic relationships, political practices and cultural systems, where the systems of interconnections are thought of as a hierarchy (Lomnitz-Adler, 1991). Thus, this interdependent system itself has been based on systems of unequal exchange of goods, labour, resources and capital.

It is common to think of Mexico City only as a macro urban settlement with monumental problems pushing its population toward major environmental and economic crisis. However, if one approaches this ancient city from the south, patches of rural landscapes can be seen within its urban hinterland. This is notable in the

vegetable and ornamental flower growing area of Xochimilco and the corn-cactus belt of Milpa Alta, which still convey a classic rural environment. The social reality of these regions is demonstrated in the interplay between the segments of rural society that are connected to both the family-based agrarian system and the urban wage economy.

Agricultural production in both Xochimilco and Milpa Alta face essentially the same problem in maintaining agronomic and economic strategies near or within urban concentrations. Today, urban agriculturalists can earn wages in factories, work for governmental institutions, sell agricultural products at urban markets or cultivate ancient agricultural land as typical peasants. Urban agriculturalists' understanding of the regional landscape, the dynamics of Mexico City, the state, national and international economics and politics, religion, community, family, friends and self is mediated by cultural systems, which are reproduced by agricultural practices and urban routines, knowledge, language and identities of a particular regional setting.

Urban agriculturalists of Mexico City are principally sojourners who traverse regional frontiers as easily as they traverse the conceptual boundaries fabricated by social scientists. The cultural orientation of these urban-rural scenarios and their social structure is ambiguous and contradictory from the perspective of most theoretical frameworks. To study the nature of the urban agriculture framework of Mexico City requires the depiction of distinctive types of social organization and cultural systems. This requires an elucidation of the regional realm more thoroughly than other studies of contemporary urban agriculture contexts (Mougeot, 2000; Smit et al., 1996), which have originated from either the perspective of urban studies or that of agricultural technology. Perhaps because conventional sociohistorical analysis depends on a clear demarcation of agrarian and industrial societies, few studies have been able to capture the dynamic interplay and complex characteristics of the urban agriculturalists' social life.

Rural labouring groups that populate the large states of Latin America, Asia and Africa have been the focus of some of the most compelling theoretical efforts to address the peasant-worker phenomenon. Peasant-workers often appear in the literature as cottage industrialists, part-time farmers, return migrants and transient day labourers, with little or no regard for the agrarian pursuits of workers and the wage-earning pursuits of peasants. (Carrasco, 1959; Mintz, 1959; Roseberry, 1976; Wolf, 1959).

Holmes (1986) defines the peasant-worker phenomenon as a consolidation of heterogeneous labouring groups that emphasize the diversity of wage involvements on the one hand and the unifying influence of rural households on the other. It has been estimated that 92% of the farm families in the United States have some type of non-farm income (Albrecht and Murdock, 1984). Both direct and indirect effects of environmental and technological factors, and sustenance diversity from both the farm and the non-farm sectors are seen as affecting the prevalence of part-time farming (Fuller, 1984). Part-time farmers, in their efforts to secure a livelihood, continually create agrarian and wage-earning activities.

The theoretical orientation in this article assumes that culture, (the creation of values, attitudes, beliefs, ideas, behaviours and practices), and resulting identity are primary determinants of change within the confines of the regional community. At the same time, regional culture, including its development, is an adaptation or response to social, economic, political or material changes in the wider environment. Thus, a regional culture includes the construction of frames of communication within and between the various identity groups sharing a temporal and spatial experience as well as a set of cultural understandings (Lomnitz-Adler, 1991). In Mexico City, the influence of urban agriculturalists extends beyond the contours of their livelihood into community cultural scenarios and through urban institutional frameworks. Integrated into both rural and urban labour conditions, these urban agriculturalists are able to configure a wider occupational profile than either fulltime peasants or urban workers. Since the complexity of rural identities is the result of a whole range of personal, spatial and temporal characteristics (Little, 1999), the examination of the cultural construction of identity should be based on its importance in individuals' understanding and experience of the "rural" (Cloke and Little, 1997).

Clearly, these communities display two separate regional identities. First, they express a regional culture, consolidated in territory and around which people maintain their ethnic identity. Second, they include a temporary-recurrent migration process in which people find urban employment and still sustain a strong potential for culture change. By studying the distinctive nature of urban-rural societies in Mexico City, this article portrays the rationale for urban agriculturalists' livelihood and their cultural systems. At the core of this article are three theoretical questions: (1) What is the cultural interplay of labour integration between rural and urban scenarios in the process of temporary-recurrent migration among urban agriculturalists? (2) Why do urban agricul-

turalists migrate while at the same time they intensify their agricultural production? (3) How do urban agriculturalists use and adjust their cultural systems?

Research Sites and Methodology

The sites for this research were the regions of Xochimilco and Milpa Alta, with populations of 271 151 and 63 654 inhabitants, respectively (INEGI, 1994a). The Milpa Alta region includes 0.8% of the total population of the Federal District and it consists of 12 rural-urban towns located at the south of this city. This area is situated at approximately 19 miles from downtown Mexico City, at an altitude of 2 420 m. The yearly average temperature is 16°C, and the annual precipitation is 746.0 mm, which allows the development of temperate farming systems. This region represents 19.18% of the total area of the Federal District (INEGI, 1994b). Meanwhile, the Xochimilco region is situated 14 miles from downtown Mexico City, at an altitude of 2 230 m, and includes 3.3% of the total population of the Federal District. In the Xochimilco area, the yearly average temperature is 15°C, the annual precipitation is 679.9 mm. and represents 7.95% of the total area of the Federal District (INEGI, 1994a). Currently, Xochimilco and Milpa Alta represent 15% and 35% of the total agricultural area of 27 847 hectares that were cultivated in 1993 in the Federal District of Mexico City (INEGI, 1994a; INEGI, 1994b).

The regional cultural system, as a single theoretical and methodological framework, allows the inclusion of heterogeneous labouring individuals with a high degree of diversity of job involvements and rural components. In terms of socio-economic and cultural choices of individuals to labour market constraints, this study used two units of analysis: the regional context that affects and promotes labour responses, and the household sphere where decision-making processes concerning temporary-recurrent migration strategies take place.

By using households as the basic units of observation we tried to understand differential processes of social and cultural change under intra-community and intra-regional diversity (Pelto and Oelto, 1975). Particularly, the dimensions of the structure and organization of households may reveal the nature of uneven regional development and its consequences, not only on particular households but also on particular individuals within households. However, it seems that regional cultural determinants will bring together these economic and technological relationships into historic patterns and associated probabilities of change and development.

By analyzing household structure and organization from a regional perspective, we observed how the specific functions fulfilled by individual household members directly affect the economic and social structure of rural-urban units. For example, in the Xochimilco area, the variation in the degree of household incorporation into regional spheres and community relations are based on a combination of on- and off-farm activities; the degree of family member versus hired labour participation on the farm; the technological levels to manage the natural resources; and levels of expenditures for farm and housing needs (Torres-Lima, 1994).

This article is based on intensive fieldwork that lasted from July until November, 1995. We surveyed a demographically stratified random sample (by age, sex and location) of 185 people in Xochimilco and 98 in Milpa Alta, with a 92 and 90% level of confidence, respectively, by using the agriculturally active population as a universe. The surveys consisted of 53 questions with 106 items aimed at documenting the movement of urban agriculturalists within the city of Mexico.

Employment Patterns

The territorial integration of modern Xochimilco and Milpa Alta within Mexico City began 30 years ago as Mexico City speeded up its rapid urban and industrial expansion. The proximity of these locations with urban centres and markets has been a principal factor in determining the exchange of labour, resources and products. However temporary-recurrent emigration and immigration flows in Milpa Alta and Xochimilco are seen by local people as external processes of leaving and entering the geographical territories and cultural spaces of the communities. In both towns, people identified migration as any displacement out of community boundaries, where Mexico City is considered an outside location.

The demarcation of a specific territory, the implementation of a group of cultural and socio-economic practices and the creation of relationships within the urban context are all part of a rural-urban identity. In this sense, daily life, language, agricultural practices, urban routines, economic formulas and social relations of the rural family have not been eradicated. The ethnic component in this rural-urban identity definition is, however, perceived differently in the two towns studied. For instance, in Milpa Alta 54% of the people surveyed consider themselves an ethnic group (Nahuatl) in contrast to 17% in Xochimilco.

In Mexico City, patterns of regional development, population growth and density and urbanization have led to substantial deterioration of the environment of the agricultural regions. Environmental impact caused by these processes ranges from chemical pollution of soil

and water to changes in regional climate due to an increase in atmospheric carbon dioxide. Urban expansion in Mexico City has led to the displacement of 42% of the agricultural land to urban uses during the last 30 years. Particularly in the Xochimilco region, the *chinampa* area under cultivation decreased from 1 285 ha to 440 ha between 1969 and 1989 (Torres-Lima et al., 1994). Chinampa fields are rectangular raised platforms (from 2.5 to 10 meters wide and up to 100 meters long) that were artificially constructed since the late Aztec period (1325-1521) for agricultural purposes.

During the 1970s the labour force speeded up the process of combining agricultural production with urban employment. Despite the fact that the combination of employment and agricultural work has persisted for generations, some agricultural activities have been modified. For instance, Xochimilco producers started to simplify their cropping systems by cultivating only one kind of crop as a monoculture. Seasonal income fluctuations are mitigated by having part-time or full-time urban jobs. However, because of the frequent instability and low salaries of urban jobs, people started to converge toward farming as an economically viable strategy. These two trends have produced an ambiguous labour profile of urban agriculturalists.

Members of these liminal peasant-worker groups continually move back and forth across the threshold—the limen—that divides the world of the peasant and the world of the worker. In Milpa Alta and Xochimilco, this particular labour experience has been in fact a relatively unified and coherent cultural orientation, where occupational roles are typically important determinants of urban agriculturalists' livelihood, similar to the peasant-worker groups described by Holmes (1986).

Today, only 6% of the total population in Xochimilco is involved in farming activities compared to 22% of Milpa Alta. As is shown in Table 1, urban agriculturalists in Xochimilco represent only 16% of the total economically active population (EAP). This figure indicates that 84% of its labour force is involved strictly in urban activities. Meanwhile, in Milpa Alta urban-agriculturalists represent 75% of the total labour force (Table 1). The remaining 25% of the economically active population is integrated into the local and regional urban labour market. These differing results between the two towns may suggest different trends in rural-urban migration and regional economic articulation within the major urban centres.

In Milpa Alta, 42% of the urban-agricultural population tends to emigrate, and 78% of those go to Mexico City (Table 1). Fifty-six percent of these temporary-recurrent emigrants to Mexico City are involved in selling agricultural products in urban markets. The rest are employed in service and government jobs. Work in Mexico City is carried out by Milpa Alta's residents only during daytime hours. Of the total agricultural work force, only 32% is involved strictly in farming activities, whereas 68% combines agriculture with non-agricultural, urban employment.

In 1995, only 23% of urban agriculturalists from Milpa Alta emigrating to Mexico City had a permanent urban job. This means that one person of every seven migrants had permanent and regular non-agricultural urban employment and income. This group comprised only 10% of the total agricultural EAP (Table 2). Thus, agriculture is still an important source of income to help to cover the region's needs. Despite the fact that there is a high rate of temporary-recurrent migration (42%) and combination of agriculture with urban job employment (68%) among urban agriculturalists of Milpa Alta, the regional setting still provides 52% of the EAP with employment. Of this, 32% are solely engaged in farming activities.

In Xochimilco, 33% of the population sampled regularly migrates back and forth. Mexico City receives 85% of this migration. Fifty percent of the migrants to Mexico City have employment in government institutions, and the other 50% work in diverse services including agriculturally related jobs, such as plant sellers in urban markets. In 1995, 34% of all urban agriculturalists had previous experience in urban employment while 57% of those who migrate to Mexico City did (Table 2). This result suggests that again the labour structure in Xochimilco has been influenced by significant interactions with urban contexts. The continued supply of jobs in farming and urban activities provides employment for 67% of the sample. Of this total regional job market, 60% are involved in farming activities while local urban jobs consisted in only 7%.

These data show that Xochimilco is clearly a regional source of employment for urban agriculturalists. Based on informants' comments, rather than seeking protection and security through urban salaries, job benefits, collective action of political parties and urban worker organizations, urban agriculturalists have been committed to a household union sustained by bonds of family economic interdependence and a regional common social welfare. The simultaneous integration of urban agriculturalists in more than one cultural system involves knowledge of the job alternatives; and the actors are able to explain their reasoning. The range of possible temporary-recurrent migratory strategies in

TABLE 1
Distribution of Urban Agriculturalists, 1995

	Towns					
	Xochimilco			Milpa Alta		
	Population	Percentage	Relative Percentage	Population	Percentage	Relative Percentage
Economically AP	91,005	(34)	100	19,106	(30)	100
Agriculture EAP	14,967	(6)	16	14,296	(22)	75
Total Surveyed	185[a]	(100)		98[b]	(100)	
Total Outside Workers in Mexico City	61	(33)	100	41	(42)	100
	52	(28)	85	32	(33)	78
Total	271,151	(100)		64,654	(100)	

Sources: INEGI, 1994a and 1994b. Data are estimated from Canabal et al. (1992) and Torres-Lima (1991).
[a] With a 92 percent level of confidence
[b] With a 90 percent level of confidence

TABLE 2
Comparitive Labour Characteristics of Urban Agriculturalists, 1995

	Towns			
	Xochimilco		Milpa Alta	
Labour Characteristics	Total Population	Working in Mexico City	Total Population	Working in Mexico City
Regional Employment				
Agriculture only	60	---	32	---
Agriculture and urban job	40	59	68	53
Permanent regional urban job	20	73	10	23
Previous urban job experience	34	57	33	47

Xochimilco and Milpa Alta communities is influenced by individual needs, resources and decisions within regional forces. In choosing alternatives for temporary-recurrent migration, urban agriculturalists do not make complex calculations, but rather tend to use cultural and economic elements that simplify their decision-making.

Agricultural Profiles

In Xochimilco, ornamental plant and flower production, which is the most dynamic activity in terms of economic flows such as gross returns, variable costs and net returns, was the primary activity for 57% of the urban agriculturalists. Horticultural production (vegetables), which is a more traditional, low-input cropping system that includes the management of regional biotic resources, was the primary activity for 28%, corn production for 6% and multiple cropping for 9%. Of those who worked in urban jobs, 59% were engaged in ornamental plant production, 29% in vegetables and 11% in corn.

In Milpa Alta, of the urban agriculturalists strictly working in agriculture, 54% engaged in cactus production as a primary economic activity, 28% in corn, 2% in vegetables and 32% in multiple cropping systems and foraging. Of those who combine agriculture with urban employment, 77% are involved in cactus production and 23% grow corn. In general, these farming systems require a high application of skills and knowledge in managing the ecological cycles and interactions within the components of these regional agroecosystems. For example, soil fertility is increased regularly in cactus production by adding cow manure every two years. By combining different agricultural production systems and different crops in the same field, urban agriculturalists effectively enhance the agronomic performance of these agroecosystems.

This data suggests that there is a slight variation between urban agriculturalists in Xochimilco and Milpa Alta with regard to the predominant farming system, ornamental (57%) and cactus production (59%), respec-

tively. These variations are too small to explain temporary-recurrent migration trends. However, it is important to note that in both regions the majority of the population of urban agriculturalists are involved in cash rather than subsistence crops, such as ornamental plants in Xochimilco and cactus in Milpa Alta. The daily routines of agricultural operations have been impelled by a powerful urban market logic that most of the time clashes with the traditional sensibilities and rational needs of the rural population. Thus, this urban-rural engagement involves two very different visions of social order. One is embodied in urban market relations, and the other is expressed in the context of rurality.

At the moment of the survey, 84% of all Xochimilco respondents, and 66% of all Milpa Alta respondents reported the income provided by farming activities as their main economic resource. This proportion changed to 48% in Xochimilco and 21% in Milpa Alta for those who combine agriculture and regional urban jobs. These results indicate that the percentage of income generated from agriculture is reduced when urban agriculturalists have local urban jobs in either Milpa Alta or Xochimilco regions, relegating farming to a seasonal or part time source of income. This trend does not follow for those migrating to Mexico City. In this case, migrants to Mexico City from Xochimilco obtain 54% of their total income by farming activities in contrast with 45% from Milpa Alta (Table 3). These data agree with the evidence that urban agriculturalists migrating to Mexico City will not leave agricultural employment but instead combine their urban and agricultural economic strategies, since urban jobs are frequently an unstable source of income. Wages earned outside the regional homestead might permit the urban agriculturalists to accumulate modest savings and thereby accomplish an eventual repeasantization on their return to Xochimilco and Milpa Alta.

On the other hand, in both Xochimilco and Milpa Alta, most of the farmers (75% and 56%, respectively) have an income up to 50% of the total money invested as a profit. These economic figures may suggest the viability of urban agriculture in providing income to farmers. However, in both Xochimilco and Milpa Alta the cropping systems have adjusted to different socio-economic pressures. For instance, increased floriculture production, replacing horticulture, in Xochimilco represents an efficient use of external and family labour, and a more intensive use of inputs. This trend is highly correlated with expansion of the domestic urban market which offers more competitive advantages for ornamentals than for vegetables. Currently, modernization of regional cropping systems such as ornamental plant and cactus production include the following: a) intensification and diversification of cropping systems, b) agricultural production integrated into the market, c) adoption of external inputs rather than a number of technological changes in farming.

Therefore, a strictly traditional management of productive resources no longer enables the continuity of these cropping systems. The farmer must balance his traditional experience from an agroecological and cultural standpoint with considerations of economic viability. When these features are combined, economic success depends on two factors: a) farmers' priorities, cultural patterns and values expressed in their attitude towards conservation and management of natural resources, and b) technological efficiency of the agricultural production systems on a regional level. Lockeretz (1989) noted that any successful agricultural system depends on the economic co-ordination between these two factors.

The income obtained through agricultural production allows 33% of the urban agriculturalists in Xochimilco and 32% in Milpa Alta to hire outside labourers. Moreover, family labour is an important input in both regions. In Xochimilco, 65% of the farmers interviewed report that family members are involved substantially in agricultural work, while 53% of the farmers in Milpa Alta report the same. These figures show that regional agriculture in these towns in Mexico City also provides employment for outside farm labour and family members and represents an important source of income.

Since urban agriculturalists' wives and children participate in different phases of the agricultural cycle and in selling the products, the occupation of farming for family members is more than a job; it is a meaningful way of life that incorporates an agrarian ethic, a sense of integration, union and participation. Through farming the family recognizes itself, its cultural values, its standard of living, its community and its regional landscape. By cultivating crops, family members of urban agriculturalists obtain emotional attachments to the region and to nature, and a sense of responsibility and satisfaction from the financial rewards.

Regional Culture

The changing economic conditions of the urban structure of Mexico City have produced many different options for urban agriculturalists. Ornamental flower and cactus production can be seen as high-input cropping systems that are expanding the number of people who can live by farming in Xochimilco and Milpa Alta. The figures on farm income and expenses suggest that

these types of urban agriculture represent not only a path to support a more affluent regional standard of living but also a path to absorb low and unstable salaries through urban jobs in Mexico City. However, the risky nature of farming has allowed urban agriculturalists either to combine agriculture with urban jobs or migrate. Thus, agricultural production also may be successful by being aided by cash infusions from urban employment or savings.

rent transformation of livelihood and culture in Xochimilco and Milpa Alta. Despite the fact that new patterns of employment have strengthened an emphasis on individualism and material success with the intrusion of urban values, a shared cultural stance is still a predominant trend among urban agriculturalists. This cultural orientation rests on the primacy of connections between work, rural landscape and family that have characterized the agrarian status of this people.

TABLE 3
Percentage of Income Provided by Farming Activities among Urban Agriculturalists, 1995

	Towns					
	Xochimilco			Milpa Alta		
Source of Income	Agriculture only	Agriculture and regional urban job	Workers in Mexico City	Agriculture only	Agriculture and regional urban job	Workers in Mexico City
Agriculture	84	48	54	66	21	56
Other sources[a]	16	52	46	33	79	55

[a] Including urban job

Since having an urban job without abandoning agriculture has been a common pattern, less income may have resulted from farmers whose crop fields have suffered ecological deterioration or agronomic failures, and from farmers having the frequent instability and low salaries of urban jobs. Nevertheless, a solid diversified agriculture in these towns reflects a highly efficient use of labour. Agricultural development in these regions has represented an important employment option.

Although Xochimilco and Milpa Alta remain rural-urban regions that have adapted technological innovations of contemporary agriculture, the reproduction of these landscapes with their forms of social organization, lifestyles and cultural components require that agricultural production be profitable enough and that urban agriculturalists have urban employment alternatives as a probable source of income (Torres-Lima et al., 1994).

The income obtained through agricultural production allows 33% of the urban agriculturalists in Xochimilco and 32% in Milpa Alta to hire outside labourers, this outside farm-labour is involved primarily in farming work and the care of specific crops, especially ornamental plants and cactus, with the commitment to maintain their scale farm-operations and high yields. Despite the important percentage of hired seasonal labour, urban agriculture creates jobs even inside the urban agriculturalist's family. The rise of family participation in regional farming brings into focus the enduring and cur-

In the process of regional development, the restructuring of the agroecosystem to maximize food production and the intensification of production and consumption usually have been accompanied by urban pressures on water, land and ecological cycles in both towns. For instance, recent ecological deterioration in Xochimilco has caused different problems in horticulture and floriculture cropping systems, such as floods, land sinking and increasing soil nitrate levels. In this regard, by privileging short-term considerations of maximum economic profit over agroecological processes, gradual environmental degradation becomes an important concern for urban agriculturalists. Some recent agroecological disruptions in regional cropping systems have been related to the increase of agricultural pests and diseases.

Despite this trend of environmental deterioration, there is an innovation of agricultural practices and life styles, where tradition is integrated with modern techniques, and self-management of employment strategies are integrated with economic profit. Thus, there is a regional stewardship rooted in the environmental landscape and the cultural practices involved in farming and community relationships, which are also based on human values, economic profitability and agronomic productivity. This urban agriculturalists' stewardship implies the implementation of a series of projects and actions to reestablish agricultural production, income and social welfare levels that are meaningful to the people who live in Xochimilco and Milpa Alta.

Even though tradition is important to stewardship, the urban agriculturalists keep abreast of current technology in agriculture. The ability to maintain a particular ratio of objective economic indicators to culturally defined needs, values and aspirations may vary depending on urban employment alternatives and agricultural profitability. Regional stewardship has become the central factor in maintaining of farming as a means to achieve this particular ratio. However, behind these agrarian values there are rapid and articulated changes promoted by urban and consumer pressures. As a result of these pressures and the instability and insecurity of agricultural production, increasing involvements in urban jobs are now part of the basis for producing a livelihood.

Though these urban agriculturalists participate in various forms of the urban wage economy, their identities are tied to a combined cultural experience which entails: (1) a cultural stance rooted in a rural realm, and (2) an active disengagement from the complex, social and economic and political experiences that surround and define urban labour in Mexico City. These individuals interpret their experience in terms of intense community and household struggle facing regional inequalities, as opposed to personal struggle across urban structures.

The changing Mexico City and regional economies have brought with them a changing moral economy of the household implying individualistic choices and work autonomy, and personal aspirations. Temporary-recurrent migration is an important choice and opportunity for personal fulfillment. Thus, current cultural knowledge among urban agriculturalists on migration to Mexico City, may lead to specific individualistic behaviour, but also incorporate the technological and marketing changes brought by development. These changes relate migration knowledge to the ecological and socio-economic environments, and regional landscapes where urban agriculturalists make decisions. However, these changes adopted by urban agriculturalists are not unique to Xochimilco and Milpa Alta. The relationship between development and temporary-recurrent migration throughout Mexico is creating new demands and new alternatives encoded in different cultural systems.

Conclusions

This article has discussed the notion of regional cultural systems for a shared set of behaviours, meanings, identities and relationships that are both rural and urban. The elements of stewardship, as a cultural trend, include patterns of change by which every individual and every household manipulates and reformulates their social and economic circumstances. Thus, urban agriculturalists of Mexico City are able to face, for instance, the insecurities of urban wage employment and the instability of temporary-recurrent migration by maintaining farming activities. However, the current tendency of this urban-rural milieu includes transitional spheres where people percolate an urban identity.

The identities of the urban agriculturalists have been based on the exploitation of regional natural resources, cultural and social community bonds, social organization, family relations and personal values and aspirations. Particularly, the social and labour organization of Milpa Alta and Xochimilco has historically rested on an interplay of productive roles and sociocultural statuses. The reconstruction of their past and the contemporary urban internal make up of their present demonstrates how these urban agriculturalists maneuvre within the matrix of these statuses and how the regional contours of urban agriculturalist society are defined.

Urban agriculturalists continue to shape the present in their own terms even after the influence and effects of the macro-urbanization process in Mexico City has come to challenge all definitions of past, present and future for urban agriculture and for the city itself. The historic nature of these agricultural regions should be understood from two different and complementary aspects. First, appropriate technology has been developed to manage the natural resources and to control the landscape for agricultural production. Secondly, agricultural systems are the result of cultural practices, which are based on community and family ties that adapt to current urban conditions. As we have shown, this particular human-environment relationship in these agricultural regions has been developed not as method of survival as is proposed by Salles (1992), but as a regional social construction.

The permanency of this regional construction is associated with particular features of the natural environment, population, cultural production, technological heritage in farming, social and family organization and labour activities. These are precisely the elements of the complexity and diversification of cultural systems once the regional culture of urban agriculturalists has been conceptually demarcated.

The future of this type of society depends on the propensity for change and the capacity for adjustment of its cultural processes to integration with the hegemonic urban macro-region. Currently, the intensity and persistence of this integration have started to exceed the social resilience of the regional culture of urban agriculturalists. This social resilience indicates the capacity

of cultural systems to fluctuate with certain levels of recovering from the changes produced by the population's rural-urban articulation.

In Xochimilco and Milpa Alta, contemporary urban agriculturalists' behaviour shows that there is no uniform opposition to change, urbanization and modernization. Clearly, there are current intra-community and intra-regional variations in household composition, education, farming systems, sources of income and migration experiences. Today these farmers are under pressure to intensify production in the face of increasing land/person ratios and growing need for cash income to purchase urban goods, educational materials, medical services and so on.

This article supports the argument that in the territorial and functional integration of Mexico City, there are still important spatial processes connecting and articulating agricultural activities and urban-rural people into labour markets. Despite the fact that urbanization processes have played the role as promoters of spatial integration and economic development, as structural imperatives, the urban-rural agriculturalists' demands for job are socially defined no less than territorially. Thus, as Mexico City's societies become more complex in terms of territory, socio-economically and culturally, urban agriculturalists face new market pressures and demands. For instance, in agricultural production short-term considerations of maximum economic profit over agroecological and cultural factors are being privileged (Torres-Lima et al., 1994). The final result may be a displacement of traditional community and household actions and decisions by individualistic behaviour, which start to play an important role in labour allocation. Self-interest is part of the ideological orientation that economic success should be articulated with a mix of consumption patterns of urban external products and the desire to have a new way of life in urban environments. Thus, temporary-recurrent migration strategies are carried out as a part of an expected new quality of life.

The urban-rural livelihood of Xochimilco and Milpa Alta is part of a continuing effort to construct a regional identity by cultivating agricultural land and participating in daily life experiences in the urban context. By having simultaneous roles as agriculturalists and as urban workers, urban agriculturalists' status implies the integration of two systems of local knowledge. One is related to natural resources, landscapes and agroecological processes and the other to off-farm labour. Both of these require different economic values, different socialization strategies and different senses of time, space and culture.

In urban agricultural regions the intensity and persistence of urbanization processes have exceeded the economic and regional cultural capacity to fluctuate within certain levels for producing and delivering goods and services to the people. In each region, the cultural systems assess and negotiate the critical processes that will determine development. Linkages among urbanization, agriculture and regional development have challenged existing boundaries between urban and rural scenarios. In some cases, temporary-recurrent migration and labour reallocation processes have been the result of the co-existence of agricultural production and urban development.

Today, urban agriculture is reformulating the relationships among regional economic growth, environmental management policies, private enterprises, local communities, cultural production and household needs. The success of urban agriculture in Mexico City will be determined by its impact upon these relationships. Answers to food production, job creation and environmental management in urban settings are useless without reference to urban agriculture.

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Note

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