

UC Berkeley

Berkeley Planning Journal

Title

Elusive Boundaries of the Informal Housing Sector

Permalink

<https://escholarship.org/uc/item/918257n8>

Journal

Berkeley Planning Journal, 7(1)

Author

Pamuk, Ayse

Publication Date

1992

DOI

10.5070/BP37113108

Copyright Information

Copyright 1992 by the author(s). All rights reserved unless otherwise indicated. Contact the author(s) for any necessary permissions. Learn more at <https://escholarship.org/terms>

Peer reviewed

ELUSIVE BOUNDARIES OF THE INFORMAL HOUSING SECTOR

Ayşe Pamuk

Introduction

Conceptualizing the urban economy in a dualistic framework generated debate since it was first introduced in the International Labor Organization (ILO) studies in the early 1970s (Moser 1978). The duality originally posed in these studies with reference to urban economic activities was later adopted in contexts as diverse as transportation and housing, gradually losing its differentiating focus. Currently its use is quite ambiguous, and may even misguide public action unless its connotations are clarified at the outset of policy formulation.¹

Historically, the 'informal' housing concept has been equated with self-built housing. Nonmonetary relationships in particular have been perceived as characterizing 'informal' housing production and transactions. In this paper, by highlighting the increased evidence of commercialization of housing activities,² I will illustrate the increasing ambiguity of the 'informal' housing concept. If the empirical evidence shows that the distinction between formal and informal housing sectors is blurring, the justification for using these concepts to characterize housing activities would be untenable. This paper is an attempt to critically assess what we mean by the 'informal' housing sector, and to examine whether the distinction between formal and informal sectors as an analytical construct accurately depicts current housing activities in developing countries.

Notions of Marginality Implanted

The strongest argument for conceptualizing the 'informal' sector as distinct from the rest of the urban system is provided by the theory of marginality. Different schools of thought, in contributing to this theory, engraved stereotypes and misconceptions about the urban poor living in sub-standard housing. These in turn were perpetuated by government policies, and became guiding norms in public discourse. The most notable misconception was introduced by the 'culture of poverty' school, which provided a rationale for the separate treatment of the 'informal' sector. This separation was rationalized by referring to unique personality traits. It was argued that the *symptoms* of the differences between the urban poor and middle-class norms were important, but the *causes* of these differences were seldom questioned. The peripheral location of the settlements with respect to the city center and the sub-standard quality of buildings were used in a circular argument to associate 'marginal' people with impoverished settlements. The marginality theory portrayed the settlements of the poor as socially disorganized, as enclaves of rural parochialism, and as sources of economic burden for the city. Their residents were characterized as being politically disenfranchised from the urban and national political life, unproductive and socially deviant (Perman 1976: 130-131). Theories focusing on the cultural aspects concluded that the rural traits of the migrants and their peasant way of living made them hopelessly incompatible with the urban way of life.

Perlman's fieldwork in the *favelas* of Rio de Janeiro disproved the marginality theory. She found that the *favelados* (those who live in *favelas*) "have the aspirations of the bourgeoisie, the perseverance of pioneers, and the values of patriots" (Perlman 1976: 243, and 1987). Furthermore, she concluded that they are "not socially marginal but rejected, not economically marginal but exploited, and not politically marginal but repressed."³ Despite the critique of the marginality concept in the academic debate, stereotypes attached to urban poor were embraced by policymakers, and had important urban policy implications. By highlighting the coexistence of poverty in living conditions with informality of economic activities, policymakers attempted to justify minimal public investments and bulldozing campaigns in the 1960s. The approach of 'blaming the victim' led to further neglect of the urban poor. The combined effect of prolonged government neglect and imperfect housing market operations facilitated the proliferation of sub-standard housing settlements in major cities.

The marginality and informality concepts proved to be static representations of housing-related activities in unplanned settlements over time. The 'informal' sector concept originally used to differentiate wage labor from self-employment in the ILO studies in the 1970s gradually became less relevant for understanding how the two sectors are related in housing production and transactions today. The application of the informal versus formal distinction to describe current housing activities in developing countries therefore requires greater care, particularly with respect to its wider policy effects. The dual and broad categorization of housing activities in developing countries as formal and informal may be inherently misleading, and even dangerous.⁴ Although on the surface it may sound technical and innocent, the inclusion of very diverse social and economic activities under this dualistic framework may misguide public action.

The Meanings of the 'Informal' Housing Concept

'Informal' housing settlements of the urban poor in developing countries are referred to by many names. Differing connotations depict their users' diverse problem definitions, and tacit frameworks. They also reflect select aspects of the shelter creation and neighborhood development processes.⁵ Besides being called by various names in different socio-economic contexts,⁶ these settlements also have been conceptualized differently in the literature (Pamuk 1991, Payne 1989). They are often depicted as having at least four universal characteristics: encompassing activities operating outside of the legal framework defined by the state; lack of tenure security of land and buildings; predominance of self-help construction (Turner and Fichter 1972, Turner 1977 and 1982), and lack of municipal services. These characteristics are claimed to imply nonmonetary relationships in housing production in 'informal' settlements. Recent empirical evidence raises some questions as to what extent these aspects accurately characterize a common set of housing activities that can correctly be grouped as the 'informal' housing domain.

First, the notion of informal housing settlements developing outside of the regulatory framework does not seem to hold universally. The case of Karachi, where government officials at different levels facilitate the illegal subdivision of government land (80 percent of the land surrounding the metropolis), is a vivid illustration of the 'unofficial', yet active, participation of the government in 'informal' housing delivery. In this case, the metropolitan agency even

Elusive Boundaries of the Informal Housing Sector, Pamuk

provides water to inhabitants of illegal subdivisions on government land (Nientied and Linden 1990).

Lack of 'official' tenure is another widely cited aspect that characterizes 'informal' housing. Absence of 'official' land registration documents is quickly presumed to indicate that households in such dwellings would refrain from investing in their houses, and making improvements in their neighborhoods. New empirical evidence, however, documents, and attempts to measure, the economic value attached to different degrees of claims to land, a prerequisite for housing investments (Dowall and Leaf 1991). Various degrees and types of claims to land in different countries are reported in the literature. For instance, in Indonesia four different forms of land rights relevant for housing development have been documented: *Hak Milik* (right of ownership; similar to fee simple); *Hak Guna Bangunan* (right of building); *Hak Pakai* (right of use); and *Hak Pengelolaan* (right of management) (Struyk et al. 1990: 121-122). Similar complex urban land tenure systems are found in Africa, where traditional land tenure systems (based on kinship nexus) overlap with systems introduced by the colonial administrations.⁷ The magnitude of housing investments by the residents in 'informal' settlements varies with the degree of perceived security of tenure; thus, the absence of official title to land does not automatically provide evidence for their existence as transitional and economically 'informal.'

Self-built housing is another characteristic often associated with 'informal' housing settlements. In the late 1960s, however, only 4 in 10 *favelados* in Rio de Janeiro were found to have built their own homes (Perلمان 1976: 154). Amis (1984) provides more recent evidence from Nairobi, where squatter housing is not necessarily built by the owner (subsistence shelter) but is more often provided through the shanty-town real estate market.

The concept of 'informal' housing activities abstracts from reality to a great extent, and lumps together different people and processes in the housing production process, disregarding their heterogeneity. One has to make clear whether the reference is to the nature of the job the resident is occupied in, or to, the housing production process. The concept of 'marginality' developed in the Latin American literature, as referred to earlier, combined the two aspects: marginality in employment, and marginality in housing conditions compared to the rest of the urban residents (Peattie and Aldrede-Haas 1981). A brief review of the evolution of 'informal' housing settlements is useful to identify the changes creating shifts in connotations of the 'informal' housing sector concept.

Commercialization Trends in Informal Housing Settlements

Although the establishment of 'informal' housing settlements varies around the world, two patterns are prevalent: traditional squatter settlements occupying public land without legal title or permit; and settlements established on privately-owned illegal subdivisions with no official building and occupation permits. What follows is a brief discussion of each, to illustrate the different dynamics of informal housing settlement formation,⁸ and the elements that have commercialized.

Two major patterns of land occupation are depicted in the literature: organized land invasions and unorganized or 'spontaneous' squatting. The latter forms gradually (or incrementally), without prior layout planning for the neighborhood. Organized land invasions, on the other hand, occur in at least two broad forms: land invasions by organized groups of people, often in a

relationship of political patronage with the government; and invasions organized by professional squatters (Ward 1982b).⁹ The invasion of land tied to political patronage appears to be prevalent in countries where the government owns large amounts of land and 'tolerates' squatting for political support, particularly during elections. The two well-known cases are the *katchi abadis* in Karachi (Nientied and Linden 1990) and subdivided *ejidal* lands (community lands) in Mexico City (Gilbert & Ward 1988, Castells 1983).

Early migrants did not face much difficulty in finding vacant public lands as potential areas for squatting. Currently, however, the assistance of 'professional invaders' is necessary to locate vacant public land and help plan the invasions. In major Turkish cities, for instance, land invasions typically occur overnight with the organization of professional invaders, where units of about 25 square meters are constructed before dawn by five or six people, one of whom is hired labor. In this process, self-help is virtually impossible (Turan 1987).

The decreased amount of public land for potential squatting over the years, combined with continued migration to cities, has given rise to another form of settlement. In cases where the legal landowners are not able to subdivide and develop their land legally, due to various regulatory constraints, they do so illegally and allow squatters to build houses on their land without official building permits. These transactions are completed with payments for the use of land by the squatters. Bogota, Bangkok, and Istanbul are reported in the literature as the cities with the largest share of such informal arrangements (Angel et al. 1983, Yonder 1987, Hamer 1985, UNESCAP 1990). The growth of markets in illegal subdivisions in major cities, coupled with the unavailability of vacant public land to squat and the competition from lower-middle-income groups (for whom the private formal housing sector is not producing adequate housing), makes conditions even worse for the urban poor in developing countries today.

Consolidation¹⁰ and Change in 'Informal' Housing Settlements

Another element that illustrates the commercialization process in 'informal' housing settlements is the way in which these settlements were established originally, and the gradual process of consolidation. The mechanism through which the land is invaded – through invasion of public land, or purchase of the right to squat on an illegal subdivision – has implications for the settlement's evolution.

Invasions of public land typically occur with the organization of a group of people, and the house construction is accomplished through mutual aid in the community with expertise provided by hired labor. This process typically brings squatters closer together, especially during a threat of eviction by the government. Over time, this solidarity enables collective demands for the delivery of basic municipal services. The organized activities in illegally subdivided settlements, on the other hand, typically materializes with the gradual development of the settlement, and this takes more time. Therefore, one is likely to observe less-organized community activities in these settlements in the earlier stages of consolidation. Over time, however, even in cases where landowners of the illegally subdivided land provide basic services

Elusive Boundaries of the Informal Housing Sector, Pamuk

for a fee, the squatters often demand other public facilities such as schools and health centers from the government.

The commercialization of informal housing is prevalent especially in sites-and-services and squatter upgrading projects that experience rapid increases in property values with the legalization of houses and land, and the provision of services. This process triggers some households to make windfall gains from the sale of their property. Some, on the other hand, unable to pay the service costs and newly imposed property taxes, have no other option but to sell their houses and move to a less expensive area. Earlier projects have often included strict regulations, such as prohibitions on renting rooms, that eliminate a potential source of income for low-income families. With the eventual and unavoidable penetration of renters, neighborhoods are now more diversified, and consist of people representing different and often conflicting interests. The latest stage in the consolidation process consists of the development of rental markets where small-scale landlords thrive in informal housing settlements.¹¹

The coexistence of competing interest groups in diversified neighborhoods makes entry into such communities, and into the economic activities operating in these settlements, increasingly difficult. Interests are organized in the provision of transportation services (jitney companies), second-hand construction materials (informal suppliers), and services such as the provision of water by tanks.¹² Homeowners and renters constitute other interest groups. Furthermore, the nature of the leadership in the community shapes the interaction of these groups with each other, newcomers, and the state.¹³

The commercialization of unregulated subdivisions has become another expression of the survival strategies of the urban poor in developing countries (Ward 1982a, Amis 1984, Baross & Mesa 1986, Moser 1982, Smart 1986, Yonder 1987). Monetary exchanges to some extent have always prevailed in these settlements, but the juxtaposition of new conditions makes them more visible. The increased commercialization trends observed in 'informal' housing settlements can be attributed to at least two reasons. First, the demand for housing in 'informal' settlements has soared over the years. Increasingly, 'informal' housing settlements are occupied by people with secure formal-sector jobs who cannot afford formal-sector housing rents, but who are able to pay more than the urban poor. Second, less land became available for housing due to increased demands for land for commercial and administrative uses in rapidly growing cities. As a result, the prices of informal-sector plots, particularly in the urban fringe subdivisions, started increasing faster than those in formal markets,¹⁴ raising the economic value of land for housing in informal subdivisions over the years and creating lively real estate markets. The distinction between 'informal' and 'formal' housing sectors has become increasingly blurred by the commercialization trends shaped by these factors.

Conclusion

In this paper, I attempted to illustrate that, contrary to popular myths, monetary relationships are prevalent in the 'informal' housing sector. Commercialization (or commodification) of housing units and labor in 'informal' housing production increasingly makes such housing production processes similar to the 'official' sector. Similarly, non-monetary informal housing arrangements exist throughout the city, including the formal sector. The

existence of informality in housing production and transactions across social groups denote the ambiguity of the 'informal' housing sector concept in its conventional use, bearing unanticipated policy implications. Demarcation of the city into formal and informal neighborhoods strictly on the basis of legality of tenure (registration in government records) may be useful when formulating cadastral reforms, but establishing different sets of criteria for the inhabitants of 'informal' neighborhoods in formulating their access to public assistance may at the same time lead to their stigmatization in society. The heterogeneity of these settlements requires more carefully defined groupings. Putting illegal subdivision agents and single female-headed households in the same category, for instance, and attempting to reach them as a homogeneous group solely on the basis of the registration status of their residences would be problematic.

Here, I attempted to show that the 'informal' housing activities are increasingly resembling formal housing markets by focusing on commercialization trends in 'informal' housing production and transactions. This illustrates the importance of analyzing the housing system along dimensions more specific than the formal/informal dichotomy offers. If security of tenure is being considered, the complexity introduced in some contexts may not fit the neat formal/informal dichotomy. If types of economic activities are being considered, the neglect of the overlap of self-employed and wage earners in the same household may complicate our analyses. Similarly, if types of housing delivery processes are considered, increased evidence of hired labor, and the prevalence of land agents and real estate brokers operating across formal/informal boundaries have to be taken into account.

These considerations warrant conceptualizing the urban economy as a whole, where the formal and informal sectors are interconnected, rather than analyzing the 'informal' sector separately. By focusing on the city-wide economic, regulatory, and institutional factors that deny certain groups access to housing, we may be able to identify more useful approaches to housing policy reform in developing countries. Design of better policy measures demands a critical awareness of oversimplifying categories like the 'informal' housing concept.

ACKNOWLEDGEMENT

I would like to thank Professors David Dowall, Michael Teitz, John Landis, Nezar AlSayyad, and Karen Christensen, as well as the referees, for insightful comments on an earlier version of this paper.

NOTES

¹For its usefulness as a concept for characterizing urban labor markets as in its original use, see Castells and Portes (1989).

²By commercialization I mean using paid labor for house construction, and the proliferation of real estate and rental markets in informal housing settlements. Converging trends in formal and informal housing activities would also be revealed by examining the conduct of rules governing property relations and real-estate transactions in each sector, an area which I am currently researching.

Elusive Boundaries of the Informal Housing Sector, Pamuk

- ³Quoted in Peattie and Aldrede-Haas 1981: 165.
- ⁴This caution is similar to Gans's (1990) discussion of the power of labels and buzz-words and their unexpected social policy implications with reference to the term 'underclass.'
- ⁵Referring to the self-acting character of their builders, they have been named 'spontaneous' or 'uncontrolled' settlements; referring to their substandard quality, 'shanty towns'; referring to their invasion activities, 'squatter settlements'; referring to their temporal status, 'transitional settlements'; and referring to their inhabitants' position in society, 'marginal' or 'peripheral' settlements.
- ⁶The more common term for the housing settlements are: *Favelas* in Brazil, *barriadas* in Peru, *gecekondu*s in Turkey, *katchi abadis* in Pakistan, *kampung* in Indonesia, or *bidonvilles* in former French colonies.
- ⁷Mabogunje (1990) reports that in the Belgian colonial territories (Zaire, Burundi, Rwanda), Africans were not allowed to hold freehold or leasehold titles, which were reserved for the Europeans. Instead, urban land had to be leased from the state for three-year periods and documented by a special document: *livret de logeur*. In the French-speaking colonial territories (Burkina Faso, Congo, Mali), a similar lease was named *permit d'habitation*. In most of the British colonial territories (Tanzania, Nigeria), segregation was promoted with certificate of rights.
- ⁸See Jellinek (1991) for a detailed historical account of the evolution and transformation of *Kebun Kacang*, a centrally located *kampung* in Jakarta. The process she describes is illustrative of the dynamics of informal settlement formation in developing countries. Also see Hardoy and Satterthwaite (1989).
- ⁹De Soto (1989) further differentiates between gradual and violent invasions in Lima, Peru, where 90 percent of the latter type is located on state land.
- ¹⁰I use the term consolidation to mean the completion of houses on squatted land, and the provision of basic infrastructure. It has also been associated with World Bank projects, where it means the completion of houses on assigned plots.
- ¹¹Amis (1984) reports that in Nairobi an average landlord lets over 12 rooms, indicating the operation of small-scale landlordism in the unauthorized settlements in later stages of the commercialization process, while Gilbert and Varley (1990) report the existence of small-scale 'self-help' landlords in two types of settlements: older self-help settlements, and central-city settlements in Guadalajara and Puebla in Mexico.
- ¹²Payne (1982) describes the monopoly over the supply of second-hand materials by the suppliers, restricted license plates advocated by jitney operators, and information advantage of real-estate brokers in Ankara.
- ¹³Ward & Chant (1987) describe the forms of leadership that emerge based upon personal characteristics, socio-cultural context and traditions, and the nature of the relationship between the state and the community. Their analysis underscores the importance of understanding the leadership characteristics in communities – where the leaders act as intermediaries between the government agencies and the community – for the success of development projects.
- ¹⁴Informal private land development in fringe areas of rapidly growing cities, 'new suburbs,' are also reported by Baross & Linden (1990), UNESCAP (1990), and Dowall & Leaf (1991).

REFERENCES

- Amis, P. 1984. "Squatters or Tenants: The Commercialization of Unauthorized Housing in Nairobi." *World Development* 12(1): 87-96.
- Angel, Shlomo, Raymon W. Archer, Sidhijai Tanphiphat, and Emiel A. Wegelin. 1983. *Land For Housing the Poor*. Bangkok, Thailand: Select Books.
- Baross, Paul, and Jan van der Linden, eds. 1990. *The Transformation of Land Supply Systems in Third World Cities*. England: Avebury.

Berkeley Planning Journal

- Baross, Paul, and Nora Mesa. 1986. "From Land Markets to Housing Markets: The Transformation of Illegal Settlements in Medellin." *Habitat International* 10(3): 153-170.
- Castells, Manuel. 1983. "The Social Basis of Urban Populism: Squatters and the State in Latin America." Part 4 in *The City and the Grassroots*. Berkeley: University of California Press.
- Castells, Manuel, and Alejandro Portes. 1989. "World Underneath: The Origins, Dynamics, and Effects of the Informal Economy." In *The Informal Economy: Studies in Advanced and Less Developed Countries*, Alejandro Portes, Manuel Castells, and Lauren A. Benton, eds., Baltimore: The Johns Hopkins University Press, 11-37.
- De Soto, Hernando. 1989. *The Other Path: The Invisible Revolution in the Third World*. New York: Harper & Row.
- Dowall, David E., and Michael Leaf. 1991. "The Price of Land for Housing in Jakarta: An Analysis of the Effects of Location, Urban Infrastructure, and Tenure on Residential Plot Prices." *Urban Studies* 28(5): 707-722.
- Gans, Herbert J. 1990. "Deconstructing the Underclass: The Term's Dangers as a Planning Concept." *JAPA* 56(3): 271-277 (Summer).
- Gilbert, Alan, and Ann Varley. 1990. "The Mexican Landlord: Rental Housing in Guadalajara and Puebla." *Urban Studies* 27(1): 23-44.
- Gilbert, Alan, and Peter M. Ward. 1988. "Land for the Rich, Land for the Poor." In *The Urbanization of the Third World*, Josef Gugler, ed., Oxford/ New York: Oxford University Press, 129-137.
- Hamer, Andrew Marshall. 1985. "Bogota's Unregulated Subdivisions: The Myths and the Realities of Incremental Housing Construction." World Bank Staff Working Papers No. 734, Washington, D.C.: The World Bank.
- Hardoy, Jorge E., and David Satterthwaite. 1989. *Squatter Citizen: Life in the Urban Third World*. London: Earthscan Publications Ltd.
- Jellinek, Lea. 1991. *The Wheel of Fortune: The History of a Poor Community in Jakarta*. Honolulu: University of Hawaii Press.
- Mabogunje, A. 1990. "A Perspective On Urban Land and Urban Management Policies in Sub-Saharan Africa." Unpublished paper.
- Moser, Caroline O. N. 1982. "A Home of One's Own: Squatter Housing Strategies in Guayaquil, Ecuador." In *Urbanization in Contemporary Latin America: Critical Approaches to the Analysis of Urban Issues*, A. C. Gilbert, Jorge E. Hardoy, and Ronaldo Ramirez, eds., Chichester/New York: John Wiley & Sons, 159-190.
- _____. 1978. "Informal Sector or Petty Commodity Production: Dualism or Dependence in Urban Development?" *World Development* 6 (9/10): 1041-1064.
- Nientied, Peter, and Jan Van Der Linden. 1990. "The Role of the Government in the Supply of Legal and Illegal Land in Karachi." In *The Transformation of Land Supply Systems in Third World Cities*. England: Avebury.
- Pamuk, Ayse. 1991. "Housing in Developing Countries: A Select Bibliography and Field Statement." CPL Bib. 273. Chicago: Council of Planning Librarians.
- Payne, Geoffrey K. 1989. *Informal Housing and Land Subdivisions in Third World Cities: A Review of the Literature*. Oxford, UK: Centre for Development and Environmental Planning (CENDEP).
- _____. 1982. "Self-Help Housing: A Critique of the Gecekondus of Ankara." In *Self-Help Housing: A Critique*, Ward, ed., London: Mansell Publishing Limited, 117-139.
- Peattie, Lisa R., and Jose A. Aldrete-Haas. 1981. "'Marginal Settlements' in Developing Countries: Research, Advocacy of Policy, and Evolution of Programs." *Annual Review of Sociology* 7: 157-175.
- Perلمان, Janice. 1987. "Misconceptions about the Urban Poor and the Dynamics of Housing Policy." *Journal of Planning Education and Research* 6(3): 187-196 (Spring).

Elusive Boundaries of the Informal Housing Sector, Pamuk

- _____. 1976. *The Myth of Marginality: Urban Poverty and Politics in Rio de Janeiro*. Berkeley: University of California Press.
- Smart, A. 1986. "Invisible Real Estate: Investigations into the Squatter Property Market." *International Journal of Urban and Regional Research* 10(1): 29-45.
- Struyk, Raymond, Michael Hoffman, and Harold Katsura. 1990. *The Market for Shelter in Indonesian Cities*. Washington, D.C.: The Urban Institute Press.
- Turan, Mete. 1987. "Poverty, Prudence, and Place-Making: Strolling Through Gecekondus." *Habitat International* 11(3): 77-102.
- Turner, John F. C. 1982. "Issues in Self-Help and Self-Managed Housing." In *Self Help Housing: A Critique*, Peter M. Ward, ed., London: Mansell Publishing Limited, 99-113.
- _____. 1977. *Housing by People: Towards Autonomy in Building Environments*. New York: Pantheon Books.
- Turner, John F. C., and Robert Fichter, eds. 1972. *Freedom to Build: Dweller Control of the Housing Process*. New York: MacMillan.
- UNESCAP, United Nations. 1990. *Economic and Social Commission for Asia and the Pacific, Case Studies on Metropolitan Fringe Development with Focus on Informal Land Subdivisions*. New York: United Nations.
- Ward, Peter M. 1982a. "Informal Housing: Conventional Wisdom Reappraised." *Built Environment* 8(2): 85-94.
- _____. 1982b. "The Practice and Potential of Self-Help Housing in Mexico City." In *Self-Help Housing: A Critique*, Peter M. Ward, ed., London: Mansell, 175-208.
- Ward, Peter, and Sylvia Chant. 1987. "Community Leadership and Self-Help Housing." *Progress in Planning* 27(2): 69-136.
- Yonder, Ayse. 1987. "Informal Land and Housing Markets: The Case of Istanbul, Turkey." *Journal of American Planning Association* 53(2): 213-219.