

Some Theoretical Considerations on Behavioral Changes And Their Use in Housing Project Evaluation

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Behavioral changes may be used to evaluate government development projects. Behavioral change is the change in man's generalized character and actions as a result of changes in income, evaluation, land ownership and degree of urbanization. Different ways of affecting behavioral change were examined and a simple model for inducing behavioral change from a traditional to a modern direction is formulated.

Introduction

The most common evaluation approach being used in many government housing projects is the Social Cost-Benefit Analysis¹ which measures the return on investment to society. This looks into the increase in future income of a community, say increase in land value or increase in structural value. This approach, however, is limited because it fails to consider an important area of social benefits, namely, the behavioral change that occurs as a result of the implementation of the development project. Failure to include behavioral change as a social gain in project evaluation implies an underestimation of the social benefits of the development project.

Analysis of behavioral change looks into the social benefits of a project qualitatively. But, existing studies have been conducted only for individual groups and oftentimes concentrated in the early phase of Philippine development such as the Tondo Foreshore project. The project was evaluated according to an increase in land value,² according to an increase in structural value³ according to its housing consolidation,⁴ according to its efficiency in serving the

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targeted population,⁵ and according to the cost recoverability of the project and the affordability levels of the residents.⁶ So far, only social anthropologists have used the methods of looking into behavioral change. However, their work has not been integrated with modern economic and political theory,⁷ Thus, this is an area where little research has been undertaken and studies that aim to evaluate housing development projects by considering behavioral changes following its implementation could be a great contribution to the analysis of this little-known area of project evaluation.

Looking into the social benefits of behavioral changes occurring as a result of a housing development project is significant for the following reasons:

- 1) It offers a new perspective to project evaluation. Examining project benefits through behavioral changes goes beyond the standard procedure of project evaluation.
- 2) It has implication on the need to reconsider the Internal Rate of Return (IRR) concept presently being used in Cost-Benefit Analysis, because of its failure to consider an important area of social benefits, namely the occurrence of behavioral change due to the influence of a development project.
- 3) It could provide more in-depth information to practitioners and theorists in the field of Urban and Regional planning.

Theoretical Considerations

Human Behavior and Behavioral Changes

Human behavior⁸ has been defined in many ways by different disciplines. An economist would view human behavior as the preference patterns of individuals in response to external variables in the economy, such as: market prices, wages and availability of resources⁹. An environmental/architectural psychologist looks at the physical form of an individual's surroundings as influencing his behavior;¹⁰ while a sociologist sees behavior as the manner of individuals in relation to other individuals within and outside their community which have both social and cultural considerations.¹¹

Human behavior is defined as the generalized character manifested by overt action in relation to one's environment, while behavioral change is the change in human behavior due to changes in external factors, e.g., education, land ownership or some degree of urbanization.

Traditional Vs. Modern Behavior

There are many types of individuals manifesting different actions but, schematically, human behavior may be classified into traditional and

modern.

In Guthrie's¹² study of the rural Philippines, traditional and modern behavior was described in the following manner: In the less advanced parts of the rural areas, he found that the major activity of the people revolve around the production and distribution of food. Each housewife makes daily purchases in small quantities because of lack of refrigeration facilities and may be because income is earned daily. With this habit, even rice which could be stored for a period of time is purchased in small quantities to meet one or two days' needs. Thus, each vendor, like the housewife-buyer, gets enough to keep him going until the next day. This results to having no large-scale, wholesale marketing structure. In addition, because of poor transportation, roads and limited system of wholesalers, commodities may sell for virtually nothing since there is no mechanism to distribute them to nearby areas where demand may be greater. Thus, people often take to the market even part of what would have gone for their own diet. The shipments are small and profits are very little to cover the cost of the trip. Industries, as a rule, are small and cater only to local needs. Education is usually available in the elementary level. The whole picture is of subsistence marketing in which individuals seek enough to carry themselves through the day. There is no saving nor growth in these enterprises, since traditional behavior prevails.

In the more advanced areas where modern behavior is observed, many are landowners because ownership of useful land is the main source of wealth. Thus, one can be sure that owners of large modern houses in the town have land in the "barrios" (less developed areas in the province). Many of the people in the more advanced rural areas are professional and almost all encourage their children to seek advanced degrees. There are major roads which are usually the principal stops or terminals of major bus routes. With relatively better transportation system than the less advanced areas, goods and people move much more quickly and cheaply and exchange of ideas, commercial credit transactions and updated news flourish.

This paper defines traditional and modern behavior with respect to savings and consumption patterns, preference on productive and non-productive activities and the availment of formal and informal institutions. A modern individual tries to improve his savings and consumption patterns by having higher levels of monetary savings for his future. He gives higher priority to productive activities, say work and study over non-productive activities like leisure and understands the advantages of utilizing formal institutions such as hospitals and banks over informal institutions like, faith healers and piggy banks. The traditional individual is on the other hand expected to give higher priority to higher levels of consumptions, greater time allotment to non-productive activities and more priority to the availment of informal institutions.

Direction of Change in Human Behavior

Studies show that people's behavior, change towards modernization in the course of development. Bailey¹³ showed the effect of raising the econo-

mic status of castes with the opening of a new road. It has opened up the farming economy in areas of Far East Africa's caste system. Castes which adopted this kind of innovation benefitted from it while those which did not, did not benefit.

Maynard evaluated the Muong Phiang Cluster Program in Laos. The program provided improvements in physical and social infrastructure such as: roads, schools, medical facilities and rice mills. The following behavioral changes were seen:

- 1) **Increase in school attendance**
- 2) **Increase in pig and duck raising and livestock sales;**
- 3) **Shift in means of transportation from the use of horses to motor vehicles;**
- 4) **More importance to monetization in the purchasing of fertilizers, insecticides, water pumps, buffaloes, etc.;**
- 5) **Initial utilization of radio communications, library and newspaper facilities and started to purchase radio receivers;**
- 6) **More tolerance of villagers towards their neighbors and less intimidation of children;**
- 7) **And emergence of leaders of the community and new standards appropriate to middle-class services and acceptance of elections.**

In this study of the development package in a village in Punjab known as the "green revolution," Leaf observed the following behavioral changes."

- 1) **New varieties of crops are adopted which respond more productively to larger amounts of fertilizers and water supplies than the old varieties of crops;**
- 2) **Farmers market more of their produce relative to their own consumption;**
- 3) **Greater willingness to adopt to institutions outside of the village such as availing of well pumps in the fields;**
- 4) **Greater willingness to adopt to formal institutions for crime control, say, relying on the police;**
- 5) **Utilization of Farm tractors;**
- 6) **Introduction of the flat rate system of work and wages which eliminated advanced negotiations before work is done in the field;**

- 7) With a clearer definition of landownership laws, villagers started to save money to buy extra land that was coming on the market from other nearby villages; and
- 8) Membership in the village cooperative became universal through which collections of credit were made.

Jere studied Lusaka in Zambia by examining the citizen participation in planning and decision making. He observed that the squatter families voluntarily dug water trenches for their communities in the early stage of the development projects. They received monetary credit from the government for this and made further investments for more modern societies:¹⁶

- 1) Residents of Nyerere Compound used the amount of money to construct a clinic for the health education of the community members and other needs;
- 2) Residents of Desai Compound built a day care center; residents of Garden Compound built a clinic and self-help market; and
- 3) Residents of Chaisa built a clinic.

Silas¹⁷ studied the Kampung Improvement Program of Indonesia. He made a comparative study of Jakarta and Surabaya. The program made improvements on general works which included roads and footpaths. It was observed that after the footpaths were constructed, individual households along these foot-paths started planting trees and flowers, provided garbage cans, installed street lighting using their individual house's electricity as the source of lighting. In other areas, the residents provided community meeting halls and guard houses. They held periodic communal cleaning activities for the maintenance of environmental quality.

Guthrie¹⁸ theorized that the social organization of industrial cities reinforce modern behavior while the social organization of rural areas reinforced traditional behavior.

Hunter¹⁹ studied man's history in society and showed that the general trend of development is towards economic growth. He compared the peasant societies of Asia and Africa and summarized the different stages of development in terms of the following:

- 1) The first stage is the traditional society that has strong attachments to religion, primitive farming and low level of education.
- 2) The second stage is partial modernization which involves tension. This is because the society is split in half between the rewards offered by new ways and fears attached to old ways.

- 3) The final stage is the society's commitment to the rewards and risks of new ways and then, the rules and methods of developed economic and administration begin to fit.

From the above studies, it was observed that the direction of behavioral change associated with development is from traditional to modern. This was shown in terms of greater preference for savings over consumption, greater tendency to invest in productive activities, greater resort to formal institutions (such as: financing and crime control), greater political awareness, greater value attached to higher education, etc.

Factors That Induce Change

What are the factors that bring about a transition to modern behavior? Among these are the following: (a) human interaction, (b) mass media, (c) landownership, (d) education, (e) degree of urbanization, and (f) housing development project.

Effects of Human Interaction

In the world, people interact and influence one another causing changes in their behavior. In the process of behavioral change, traditional individuals learn a series of behavioral actions of modern individuals according to their own interpretations, as they interact with the latter. An interesting and somewhat mystifying aspect of this is that the learning of the acts of the other may, and usually does, take place without overt practice. That is, the acts of the other may be incorporated in incipient or latent behavioral mobilization that appear in overt manifestations only when the situational context is so structured that A, say, finds himself/herself in the position of B, whereupon he/she behaves as B did when A was acting his/her own position.²⁰ This is commonly known as the influence of B over A. Such, may later cause A to shift his/her level of indifference curve towards B's level of indifference curve and consequently, be more willing to adopt B's manner of living. Willingness to change will be defined as a manifested shift in behavior, assuming everything else is constant.

An evaluation of behavioral change by examining the effects of human interaction, nonetheless, is longitudinal and generalizations are difficult to make because this kind of approach will have to be done on a person to person basis.

Effects of Mass Media

Mass media accelerates the rate of change and has brought about a change in the imagery of ambition. People can slowly learn to want more money as an end in itself, the new consumer "durables" of the last few decades, such as radios, refrigerator, bicycles, even cars, have greatly reduced

traditional wantlessness of the impoverished and have brought women as well as men into the orbit of desire. ²¹ However, mass media does not discriminate the particular types of people it tries to influence. All income groups are exposed to the same kind of advertisement or news at the same time. (Thus, isolation of behavioral changes; say, from traditional to modern, of a certain group of individuals may not be possible.)

Effects of Landownership

In the evaluation of Tondo Foreshore through the Hedonic Pricing approach,²² it was found that the residents improved the quality of their housing units soon after land-ownership. The author, however, did not go further into finding out whether such improvement have been considered as a social gain, say, in increasing one's financial credibility and gaining access to other institutions. For instance, in the Philippines, collateral in the form of real estate is a prerequisite for obtaining loan from formal financing institutions. Thus, their behavior in terms of increased savings and undertaking of productive investments may be observed.

Effects of Education

Education is believed to be a great factor in bringing about changes, say, in one's future income, through higher levels of skills which lead to higher income. Several studies on human capital have been made and one of which is the study of Psacharopoulos²³ on the income earnings of Filipinos having different levels of education. Aside from the impact of education on skills and hence, on productivity, this may be because of access to a wider range of information when one is able, through education to have greater access to sources of information e.g., on employment opportunities. Moreover, there could be a change in preference as a result of education, i.e., the realization of the opportunity cost of time with respect to productive activities and hence, a greater proposition of time allotted to income-generating activity or better education may mean better nutritional and hygienic habits, say, a greater utilization of professional medical service, due to a better understanding of its importance. Better health, in turn, allows a higher productivity and thus, higher income.

From the above, education can induce behavioral change and can be examined with other variables, e.g., land ownership.

Effects of Degree of Urbanization

Degree of urbanization refers to the degree of availability of infrastructure say, electric and water supply systems, roads, drainage and sewer systems which may induce behavioral change over time. For example, electricity may encourage schooling individuals to study for longer hours; water supply, drainage and sewer systems may encourage better sanitary practices; and

roads may give access to area linkages with more urbanized or developed centers around or near an undeveloped area, and may give access to market as a source of employment opportunities and information. There may also be greater contact with other members of the community, hence, more community involvement, etc.

Effects of a Housing Development Project

In a development project, say, in housing, several institutions could be introduced in a package. That is, improvements in economic, physical and social institutions may be done simultaneously where the total social organization of the community could be changed towards modernization. For example, a housing development project may provide landownership, infrastructure and basic facilities, proper amenities such as schools and health centers, and job training programs. Thus, it is possible that particular types of behavioral changes may occur and its impact may be on the modernization of the residents of the community.

A housing development project seems to be a comprehensive and deliberate policy for bringing about such a change in human behavior. Thus, if the government of, say, a developing country observes behavioral changes, from traditional to modern, after a housing development project in an undeveloped area, say, a squatter community, a policy of more investment on housing development projects will be undertaken.

Behavior in an Urban Squatter Area

It is possible, however, that although living in an urban area, say, in an urban squatter area, that traditional types of individuals persist. This is obviously because a squatter's area though situated in a city, is isolated by special conditions that prevent the dwellers from benefitting from the fruits of urbanization. That is, the different factors that, as discussed above, were related with modern behavior, are lacking. In more concrete terms:

- 1) Their incomes are much lower than the urban average;
- 2) Their levels of education and skills are low and hence, income levels are low;
- 3) They squat on land that is not their own and have very little stock of physical assets;
- 4) The land they squat on is undeveloped where proper amenities and basic facilities are not provided;

- 5) The area they live in is congested and uncondusive to healthy living; and,
- 6) They live in an area that lack the infrastructure and other facilities that characterize an urban environment.

Thus, one can expect that traditional behavior will prevail in an urban squatter area. Transition to modern behavior, however, may be induced by bringing about a change in the form of better and higher education, increase in their ownership of physical assets, e.g., land, urbanized infrastructure including educational and medical facilities.

Conclusion and Recommendation

From the above considerations, housing development projects which provide landownership, infrastructure, basic facilities, proper amenities and job training programs may bring about behavioral changes among the residents from a traditional way of life to a modern way of life.

In other words, we conclude that behavior is a function of income, education, landownership program and the degree of urbanization of the environment. This is formally expressed as:

$B = f(Y, E, L, DU)$ where,

B: Behavior

Y: Income

E: Education

L: Landownership Program

DU: Degree of Urbanization

It is recommended that post evaluation studies of housing projects on behavioral changes be given greater attention because of the long-run benefits that may be expected.

Endnotes

¹Lasgupta and Reance, 1978. See also Squire, Lyn and Van der Tak, 1975.

²National Housing Authority, Unpublished Report, 1982.

³E. Jimenez, "The Magnitude and Determinants of Home Improvements In Self-help Housing: Manila's Tondo Project," *Land Economics*, Vol. 59, No. 1, pp. 70-83.

⁴Mila A. Reforma, "House Consolidation in Tondo: Estimating Changes in Housing Quality," *Philippine Journal of Public Administration*, 1981, Vol. 15, Nos. 3-4, pp. 252-269.

⁵D.L. Lindauer, "The Tondo Project: Whom Have We Served?," *Philippine Journal of Public Administration*, 1981, Vol. 15, Nos. 3-4, pp. 280-287.

⁶V.V. Loanzon, "An Evaluation of Development Charges: The Case of Tondo Fore-shore and Dagat-dagatan Urban Development Project." Master's Thesis, Institute of Environment & Planning, University of the Philippines, 1978.
Environment Planning, University of the Philippines, 1978.

⁷G. Hunter, *Modernizing Peasant Societies*. (London: Oxford University Press, 1969).

⁸Studies have shown that human behavior is sometimes contradictory to human attitude (Kaji, Geronimo & Palma, 1981; Guthrie, 1971). That is, what individuals intend to do, many times are not reflected in their actions. However, if attitude is seen to include beliefs, intentions and actions (Ehrlich, 1969; Fishbein, 1966), human behavior could be part of human attitude. Thus, behavior and attitude may not be contradictory, but rather, complementary to each other.

⁹Mera, 1979; Squire, et. al., 1975.

¹⁰C. Mercer, *Living in Cities* (Great Britain: Cost and Wyman, Ltd., 1975).

¹¹Jacobs, 1966.

¹²G.M. Guthrie, "The Psychology of Modernization in the Rural Philippines," *IPC Papers No. 8* (Metro Manila: Ateneo de Manila University Press, 1971).

¹³Bailey, 1957.

¹⁴P.J. Maynard, "Value Charges in a 'Development Cluster' of Villages in Laos," *Values and Development Appraising Asian Experience*, (Massachusetts: The MIT Press, 1976).

¹⁵M.J. Leaf, "The Green Revolution and Cultural Change in Punjab Village, 1965-1978," *Journal of Economic Development and Cultural Change*, Vol. 31, pp. 227-270.

¹⁶H. Jere, "Lusaka: Local Participation in Planning and Decision Making," *Low-income Housing in the Developing World*. G. Payne, Ed. Chichester: John Wiley and Sons, pp. 55-68.

¹⁷J. Silas, "The Kampung Improvement Programme of Indonesia: A Comparative Study of Jakarta and Surabaya," *Low-income Housing in the Developing World*. G. Payne, Ed., Chichester: John Wiley and Sons, pp. 69-88.

¹⁸Guthrie, *op. cit.*

¹⁹Hunter, *op. cit.*

²⁰Cottrell, L.S., "Interpersonal Interaction and the Development of the Self," *Handbook of Socialization Theory and Research* (Chicago: Rand McNally Publishing, Co., 1969).

²¹D. Lerner, *The Passing of Traditional Societies*, (Illinois: The Free Press, 1958).

²²Jimenez, E., "The Magnitude and Determinants of Home Improvement in Self-Help Housing: Manila's Tondo Project," *Land Economics*, Vol. 59, No. 1, 1983, pp. 70-83.