Estimating Quality of Life in New Subsidies Affordable Housing Projects

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ABSTRACT

The need to provide Affordable Quality Housing for people in growing metropolitan areas urges governments to develop alternative housing subsidies programmes. In this article, we would like to propose a practical solution for estimating Quality of Life in a new Affordable Quality Housing before implementation the physical works of the project. The concept of project at this research is according to Smart Growth theory which entails dense and accumulate city. This paper introduces a Binary solution for choosing best project amongst the variety of proposals with using experts scoring system and Quality of Life's indexes. It is our hope that this estimation becomes an alternative solution for developers to work together with government and corporations to subsidies the development of Affordable Quality Housings.

Keywords: *Smart Growth, Affordable Quality Housing, Subsidies House.*

INTRODUCTION

Many low-income people are trapped into paying high rental for low quality housing. It becomes impossible for them to save any down payment for purchasing a home. Growing and shifting population is creating demands for new housing in some areas while decreasing demands for new and existing housing in another [1]. Inflation and other factors have brought about a dramatic increase in the cost of new and existing housing and it will decrease the quality of the houses and life [2]. In addition, the trend for consumer awareness is reflected in housing alternatives, and improved construction method and materials and amenities. In many countries, governments are looking for new qualified allocation plans for settling low income people in Affordable Quality Housing (AQH). It requires each country to prepare a qualified allocation plan to determine housing priorities and to give preference to projects serving the lowest income tenants and projects obligated to serve qualified tenants for the longest periods [3]. The concept of project at this research is according to Smart Growth theory which entails retracting the city, hence attempting to house low-income residents at new affordable housing facilities within a metropolitan area. For homeowners, an affordable mortgage payment is defined as 25 percent of household income, which allows 5 percent of income for other costs such as taxes, insurance, utilities and maintenance [4]. The American Planning Association (APA) outlines Smart Growth as a new method of metropolitan development leading to more compact regions, i.e., offering an alternative to sprawl [5]. Given that housing comprises a major share of the built environment, policies that promote denser residential development form a key component of Smart Growth.

RESEARCH METHODOLOGY

In this research, Smart Growth principles as well as Affordable Housing elements is taken as the foundation of our study. Estimating the QoL is according to European index introduced by European Union. It is including 156 indexes in 12 sub-categories, which are, employment, income, housing, life, health, family, activity, safety, environment, transportation, education and leisure. Then one group of experts indicates their opinion according 0 or 1. There are two main ways for estimating quality which are binary and fuzzy logic. This paper is based on binary approach, which is 0 or 1, and there is not any other number between these two. Number 0 means the new project doesn't have any positive effect on the first index and 1 means; it has a positive effect on this index. The total point shows the score of QoL at this project. This estimate can confirm which project has most positive effects on QoL amongst all proposed project.

SUBSIDIES EFFECTS ON THE QUALITY OF LIFE

One issue that arises in assessing the impact of the Affordable Housing on the stock of housing is whether the projects receiving any significant awards at the margin of being developed. In other words, are subsidies awarded to projects that would not proceed if not for the subsidies financing? Alternatively, are subsidies awarded to projects that could proceed, and be successfully developed, without the aid of subsidies financing? To the extent that subsidies are awarded to projects not at the margin (i.e., infra marginal projects that could proceed without subsidies financing), it could be argued that the subsidies does not add to the housing stock [6]. Thus, the effectiveness of the subsidies relies heavily on the ability of state housing authorities to select and fund marginal projects. Project financing, along with sponsorship and costs, are criteria used by states in the selection process that could be used in identifying marginal projects [7].

The demand for housing capital slopes downward from left to right, and the supply curve is perfectly horizontal. In first figure, if the subsidies were widely available to all investors, the subsidies would simply cause a downward shift in the supply curve (as denoted by S). Given the downward-sloping nature of the demand curve, housing stock would increase from H. to H1 (the stock from H. to H1 would be the subsidies units) and the AH could be said to have increased the stock of housing. But the subsidies are not widely available. Instead, the subsidies are awarded to a few projects by state housing authorities.

In Figure 2, only a few projects receive subsidies and thus, only a portion of the supply curve for the market shifts downward. In this example, the first few projects (the infra marginal ones) receive subsidies (those up to H1), and yet the total stock of housing is unchanged at H0 (the units from H1 to H0 are unsubsidized). Thus, the subsidies have financed projects that would have been built even without the subsidy.

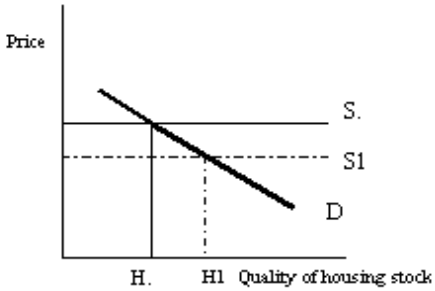

Fig. 1. Subsidy widely available

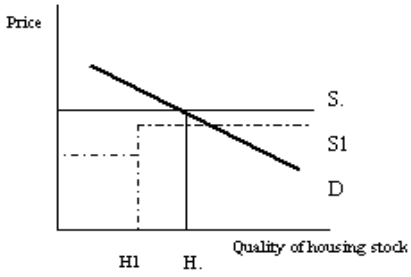

Fig. 2. Only some projects receive subsidy

Burman and McFarland [7] determined that, if the supply of low-income housing is very elastic in the long run, then production of limited amounts of subsidized housing replaces other housing that would have been provided by the private sector. Jackson believed that housing subsidized by the government could increase the average quality of housing available to poor people, but would not have a lasting effect on the quantity or price of housing available to poor people [8].

ESTIMATING QUALITY OF LIFE (EQoL)

The ranking of projects, along with all other relevant data, will determine the priorities to be followed by each proposal in allocating subsidies to the projects under consideration [9]. It shows every point at proposals will be effective on the QoL. Estimating QoL is a way for scoring project according to developers proposal. At this part we will compare two different proposal which Project A and B which have proposed by developers.

With this regards we try to show every QoL index will get positive effect from the each point system or not? With this chart you can find which proposal has more positive effect on the specified index.

Table 1. Employment, Income, Housing and Life [10].

Category	NO	Quality of life indexes	Proposed projects	
			Project A	Project B
Employment	1.	Employment rate	0	1
	2.	Unemployment rate	0	1
	3.	Long-term unemployment	0	0
	4.	Youth unemployment rate	0	0
	5.	Hours of paid work per week	1	0
	6.	Find work stressful	1	0
	7.	Control over work tasks	0	0
	8.	Work is boring	0	0
	9.	Work to tight deadlines	0	0
	10.	Work in dangerous or unhealthy conditions	0	0
	11.	Job prevents giving time to the family	1	0
	12.	Too tired after work	1	0
	13.	Partner/family gets fed up with job pressure	0	0
	14.	Job satisfaction	1	1
	15.	Importance of work	1	1
	16.	Likelihood of losing the job	0	0
Income	17.	Inequality of income distribution	1	1
	18.	Gini index	1	1
	19.	Income poverty	0	0
	20.	Persistent poverty	0	0
	21.	Deprivation index	1	1
	22.	Difficulties in making ends meet	0	0
	23.	Unable to pay scheduled bills	0	0
	24.	Risk of falling into poverty	1	1
	25.	Satisfaction with standard of living	1	1
	26.	Dissatisfaction with financial situation	1	1
Housing	27.	Persons per room	1	1
	28.	0 place to sit outside	0	0
	29.	0 indoor flushing toilet	0	0
	30.	Problems with the accommodation	0	0
	31.	Renting the dwelling	1	1
	32.	Owning the dwelling outright	0	1
	33.	Owning the dwelling with a mortgage	1	1
	34.	Average housing costs	1	1
	35.	Housing costs a heavy burden	1	1
	36.	Receiving housing allowance	1	1
	37.	Satisfaction with the home	1	0
Life	38.	Rating of the political system	0	0
	39.	Corruption Perceptions Index (CPI)	0	0
	40.	Member of a discriminated group	0	0
	41.	Quality of social services	1	0
	42.	Tensions between rich and poor people	0	0
	43.	Tensions between young and old people	0	0
	44.	Tensions between workers and management	0	0
	45.	Tensions between different ethnic groups	0	0
	46.	People try to take advantage	0	0
	47.	People try to be helpful	0	0
	48.	Optimism	0	0
	49.	Life satisfaction	1	1
	50.	Happiness	1	1

Table 2. Health, Family, Activity and Safety [10].

Category	0	Quality of life indexes	Proposed projects	
			Project A	Project B
Health	1.	Life expectancy at birth	0	0
	2.	Life expectancy at the age of 65	0	0
	3.	Healthy life expectancy	1	0
	4.	Infant mortality	0	0
	5.	Chronic illness	1	1
	6.	Poor state of health	1	0
	7.	Smoking	0	0
	8.	Overweight	0	0
	9.	Underweight	0	0
	10.	Distance from a general practitioner	1	0
	11.	Distance from a general hospital	1	0
	12.	Expenses within the health sector	0	0
	13.	Medical practitioners	1	0
	14.	Satisfaction with the national health care system	1	0
	15.	Quality of national health service	0	0
Family	16.	Marriage rate	1	1
	17.	Divorce rate	0	0
	18.	Age at marriage	1	1
	19.	Single parent households	0	0
	20.	Single person households	0	0
	21.	Age of woman at first birth	1	1
	22.	0n-marital births	0	0
	23.	Caring for ill, disabled or elderly in the home	0	1
	24.	Satisfaction with family life	1	1
	25.	Importance of family	1	1
	26.	Feel left out of family	0	0
	27.	More than fair share of family responsibilities	0	0
	28.	Support from family members	0	0
Activity	29.	Contact with neighbors	1	0
	30.	Meeting friends or relatives	1	0
	31.	Membership in an organisation	0	0
	32.	Religious service attendance	1	0
	33.	Activity in a religious organisation	1	0
	34.	Activity in a political or charitable organisation	0	0
	35.	Activity in an organisation for personal reasons	0	0
	36.	Use of the Internet	1	0
	37.	Trust in democratic representatives	0	0
	38.	Trust in people	0	0
	39.	Satisfaction with social life	0	0
	40.	Voted in last election	0	0
Safety	41.	Robbery and thefts	1	0
	42.	Burglaries in the past year	0	0
	43.	Sexual offences	1	0
	44.	Assaults and threats	1	0
	45.	Corruption	0	0
	46.	Consumer fraud	0	0
	47.	Burglaries in the past five years	0	0
	48.	Crime and vandalism	1	0
	49.	Vandalism and theft in the area	1	0
	50.	Concern about burglary	1	0
	51.	Unsafe to walk around at night	1	0
	52.	Distance to the nearest police station	1	0
	53.	Trust in the police	0	0
	54.	Trust in the judicial system	0	0
	55.	Satisfaction with the work of the police	0	0

Table 3. Environment, Transport, Education and Leisure [10].

Category	No	Quality of life indexes	Proposed Malaysian point system	
			Project A	Project B
Environment	51.	Distance from a cash dispenser	1	0
	52.	Distance from a cinema	1	0
	53.	Distance from a shop or supermarket	1	0
	54.	Distance to the nearest nursery	1	0
	55.	Distance to the nearest primary school	1	0
	56.	Experience pollution from traffic or industry in the local area	1	0
	57.	Complain about the quality of drinking water	1	0
	58.	Complain about noise	0	1
	59.	Complain about waste disposal	0	0
	60.	Complain about the lack of green spaces	0	1
	61.	Complain about damage to the landscape	1	0
	62.	Buildings in a bad state of repair	0	0
	63.	Area has not got a good reputation	0	0
	64.	Satisfaction with the area you live in	1	1
Transport	65.	General mobility	1	0
	66.	Railway density	1	0
	67.	Car ownership	1	0
	68.	Road safety (accidents)	1	0
	69.	Road safety (fatalities)	1	0
	70.	Households which cannot afford a car	1	0
	71.	Commuting time	1	0
	72.	Time to get to the next public transport stop	0	0
	73.	Complains about traffic problems	1	0
	74.	Quality of public transport	1	0
Education	75.	Reading skills	1	0
	76.	Skills in mathematics	1	0
	77.	Skills in science	1	0
	78.	Secondary school education (20-24 age group)	0	0
	79.	Higher education enrolment	0	0
	80.	Female participation in tertiary education	0	0
	81.	At least upper secondary education (25-64 age group)	0	0
	82.	Attended a training or education course	0	0
	83.	Public expenditure on education	1	0
	84.	Quality of education system	1	0
	85.	Satisfaction with education	1	0
Leisure	86.	Time spent on family activities	1	0
	87.	Time spent on sports	1	0
	88.	Time spent on social activities	1	0
	89.	Time spent on cultural activities	1	0
	90.	Time spent on charitable/voluntary activities	1	0
	91.	Time spent relaxing	1	0
	92.	Watching TV	1	0
	93.	Young people's involvement in sport	1	0
	94.	Young people's use of multimedia	1	0
	95.	Young people's involvement in outdoor activities	1	0
	96.	Young people's involvement in artistic activities	1	0
	97.	Young people's involvement in support and subsidiary activities	1	0
	98.	Young people's reading habits	1	0
	99.	Satisfaction with the amount of leisure time	1	0
	100.	Importance of leisure	1	0
	101.	Too little time for hobbies and interests	0	0

The above comparision shows that expert team gave 87 points to A project when B project only could earn 29 points. The mentioned survey confirmes that A project is more in line with QoL principles and it can bring more quality for its residence with using the same amount of subcidies.

CONCLUSIONS

Experience indicates allocating different allowance shch as subsudies are necessary but are not sufficient. Always choosing most qualified project for constructing an Affordable Quality Housing project is a big delima for local governments and authorities. Rutine ways for selecting better proposals are qulitative which mostly is not including transparent result. It is our hope that this estimation becomes an alternative solution for housing developers to work together with government and corporations to finance the development of Affordable Quality Housings. The research confirms, proposed subsidies can bring high quality result or low quality. On the other hand, paying subsidies by government for improving the QoL, needs some survey and estimates before starting any project.

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