

Improving Project Appraisals by Monetizing Social Benefits and Impacts of Public Housing Initiatives in Malaysia: A Conceptual Framework

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Abstract: This Paper Outlines Malaysia's Approach To Evaluating Public Infrastructure Projects, With A Particular Focus On The Housing Sector. The Most Significant Difficulty In Assessing Affordable Housing Is Measuring Social Benefits Or Drawbacks, Which Are Often Considered 'Intangible' And Do Not Have A Market Value. Much Of The Cultural, Social, And Environmental Impacts Are Sometimes Overlooked. Three Central Aspects Guide The Author In Formulating Its Main Research Question: What Are The Primary Project Appraisal Strategies For Public And Social Housing Practised In Malaysia, And How Can They Be Improved. This Paper Proposes A Framework For The Cost-Benefit Analysis Of Public Housing In Malaysia That Can Be Enhanced By Strengthening The Program's Non-Market Impact Evaluation In Social Housing Initiatives.

Keywords: Public Housing Projects, Project Appraisal, Cost-Benefit Analysis, Economic Valuation

I. Introduction

Public Housing Is Generally Described As Housing Constructed By The Government Or Through Private Sector Partnerships To Provide Access To Housing With Appropriate Quality And Reasonable Selling Prices Or Rent (Ibem Et Al., 2011). The Oxford Dictionary (2015) Defines Public Housing As Housing Built For Low-Income Families That Is Subsidized By Public Funds. The Malaysian Government Has Invested Substantial Budgets In Providing Its Citizens With Adequate, Affordable, And Quality Housing Through Various Public Housing Programs.

Malaysia's Public Housing Initiatives Have Been Instrumental In Addressing Urban Housing Challenges Since The 1950s, With The Primary Intention Of Enabling People With Lower Incomes To Purchase Or Rent Homes. These Programs Became Tools For Clearing Urban Slums And Evicting Squatters During The 1960s, Providing Rehousing Plans For The Urban Poor. Various Public Housing Schemes Have Been Implemented Throughout Malaysia, With The Government Spending Billions Of Ringgit On Planning And Developing Housing Projects Comprising Thousands Of Units Nationwide.

Public Housing Units Are Typically Sold At Subsidised Rates Or Offered Through Rental Schemes, Depending On The Location. These Units Throughout Malaysia Are Highly Subsidised, With Financing Often Reaching Up To 80% Of The Construction Cost Through Taxpayer Funds. Questions Arise Whether Public Housing Programs Should Be Continued Due To Increasing Development Costs, Whether These Projects Benefit The Targeted Groups, And Whether They Represent Worthwhile Allocations Of Taxpayer Money.

II. Literature Analysis

This Study Was Conducted Through A Literature Review Analysis Of The Perceived Benefits And Costs Of Public Housing Both In Malaysia And Abroad. This Study Also Reviews The Economic Approach To Valuing The Tangible And Intangible Benefits Of Public Housing, Which Should Be Incorporated Into The CBA Analysis Framework Proposed. The Study's Tools Are Primarily Derived From Secondary Data, Including Journals And Papers, Conference Proceedings, And Budget Information From Malaysia's Housing Authorities. Journal Articles Were Mainly Retrieved From Scopus, Researchgate, And Google Scholar Using Keywords Such As "Public Housing Projects, Project Appraisal, Cost-Benefit Analysis, And Economic Valuation."

Current Appraisal Methods

The Greatest Obstacle In Assessing Social Housing Interventions Is That Financial Gains Or Drawbacks Are Often Considered 'Intangible' And Lack Market Rates. Due To The Lack Of Sufficient Monetary Value, Many Cultural, Social, And Environmental Impacts Appear To Be Ignored When Pricing Such Social Impacts. The Current Evaluation Program Under The Implementation And Coordination Unit (ICU), Department Of Prime Minister (JPM), Utilises The Guidelines For Program Achievements Or Development Projects Through Outcome Assessment.

Recent Studies By Housing Authorities Have Shown That Public Housing Projects Have Generated Improvements In The Well-Being Of Target Groups In Aspects Such As Safety, Health, Environment, And Management. Research On Public Housing In Peninsular Malaysia Revealed That Low-Income Groups Were Generally Satisfied With Their Homes And Social Conditions In Public Housing Areas And Were Willing To Purchase The Housing They Initially Rented (Baharuddin, 2007). The Findings Are Supported By Other Research, Which Shows That The Majority Of Respondents Are Pleased With The Implementation Of

Public Housing And That It Has Effectively Improved Their Economic Status, Reduced Social Problems, And Fostered Social Cohesion, Thereby Contributing To The Achievement Of National Development Aspirations. The Lives Of Public Housing Residents Have Improved Compared To Living In Squatter Settlements. Their Economic Situation Also Improved With Better Access To Work And Logistics (Besar, Yusof, Rosniza Aznie, Lyndon, & Zulkipli, 2018).

Residents Were Generally Satisfied With Their Units In Studies Assessing Factors That Influence The Performance Of Malaysian Low-Cost Public Housing, Including Electrical Fittings, Sanitary Fittings, And Waste Collection Networks. Nonetheless, Tenants Are Not Entirely Satisfied With Housing Complexes, Local Communities, Services, And Environments When These Are Linked To Public Transport, Education, And Health Services (Hashim Et Al., 2012). Studies Conducted In Selangor Found That Residents Expressed Moderate Satisfaction With Public Housing Units (Mohit & Nazyddah, 2011).

Various Studies Also Identified The Negative Impacts Of Public Housing. Residents Of Some Public Housing Projects Have Higher Rates Of Criminal Activity And Health Threats (Ellie, 2019). Hanapi And Ahmad (2017) Stated That Poor Safety, Overcrowding, Limited Facilities, And Reduced Neighbourhood Relationships Contribute To A Decrease In Physical Activity Among Children. Public Housing Has Also Been Linked With Declines In House Prices In Surrounding Areas (Landau, 2018). Solutions Proposed By Governments Might Further Distort The Market If Public Housing Standards Fail To Bridge The Gap Between Houses Available In The Informal Market And Non-Subsidised Housing Products (Lizarralde & Root, 2008). Other Challenges Exist Where Beneficiary Selection Systems Often Suffer From Manipulation And Corruption (Ferguson, Rubinstein, & Dominguez Vial, 1996).

Under The 11th Malaysia Plan, Which Commenced In 2016, The Economic Planning Unit (EPU), An Agency Under The Prime Minister's Department In Malaysia, Implemented A Creativity Index (CI) Derived From The Malaysia Blue Ocean Strategy (MBOS) To Assist Ministries And Departments In Preparing Submissions For Proposed Projects. CI Is Characterized As The Individual's Impact Or Profit Value, Rather Than The Project Cost (Including Development And Operation) Over A Specified Period. CI Is Used To Calculate Project Capabilities, Providing The Government With High-Impact Value For Target Groups And The Concept Of Best Value For Money While Maximizing Resource Utilization. However, The Method Is Not Widely Applied To Evaluate The Post-Implementation Of Programs. Furthermore, The Expense Of Conducting Primary Research To Extract These Values Prohibits Other Departments From Conducting A Cost-Benefit Analysis (CBA). Such Constraints Make It Difficult For The Government To Determine The Best Alternatives In A Transparent Manner.

Despite Various Research Outcomes, None Of The Findings Present Monetary Benefits But Rather Describe Them As Descriptive Benefits. The Guidelines Do Not Account For Significant Non-Market Or Intangible Benefits Of Program Evaluation. Instead, Policymakers Attempt To Measure Economic, Social, And Environmental Benefits Only Through Subjective Evaluation. Thus, A Proper Framework For Cost-Benefit Analysis Of Public Housing Should Be Formulated To Evaluate The Economic Viability Of Housing Programs By Presenting Benefits In Monetary Terms Rather Than Descriptive Benefits. These Methods Can Then Be Applied To Help Decision-Makers Determine The Direction Of Future Programs.

The Formulation Of The Research Question For This Study Is Based On The Pico Framework. Pico Is A Tool That Helps Researchers Develop Suitable Research Questions For Reviews. It Is Based On Three Central Concepts: Population Or Problem, Interest, And Context. Based On This Concept, This Paper Encompasses Three Central Aspects: Public/Social Housing (Population), Project Appraisal (Interest), And Malaysia (Context), Which Inform The Author's Formulation Of The Main Research Question: How Can Project Appraisal Strategies For Public Housing In Malaysia Be Improved?

Economic Valuation Approach

The Majority Of Prior Research Outside Malaysia Has Employed Various Methodologies To Assess The Impact Of Public Housing And Measure Its Outcomes From An Economic Perspective. Related Research Can Be Summarised In Table 2 Below. According To The Literature, The Top Four Benefits That Most Early Studies And Current Work Focus On Are Economic, Educational, Health, And Security Impacts. These Impacts Have Been Appropriately Cross-Checked With Stakeholders Involved In Public Housing Projects Through Interviews And Focus Group Discussions (FGD) With Housing Authorities And Relevant Government Ministries To Derive Accurate Effects Related To Public Housing Projects.

Table 1: Literature On Housing Benefits And Methodology Used

Impact Category	Outcome	Source	Methodology
Economic	Greater Financial Flexibility	(Ravi & Reinhardt, 2011)	Proxy Values
	Increase Monthly Income	(Bottero, Ambrosini, & Callegari, 2017)	Proxy Values
	Saving In Monthly Rent/Mortgage	(Ministry Of Economic Affairs, 2019)	Proxy Values

	Generating Local Economic Activity Surrounding Projects Through Tenant Spending	(Ministry Of Economic Affairs, 2019)	Proxy Values
	Reduced Financial Stress (Savings In Monthly Expenses)	(Thomson, Yates, Myers, & Thomson, 2016)	Proxy Values
Educational	Enhanced Educational Success For Affordable Housing Tenants' Children (Increase In Future Salaries)	Ravi And Reinhardt (2011)	Revealed Preference Approach
	Tenants Are More Likely To Seek Incentives For Education Or Training That Will Boost Job Prospects (Improvement In Wages)	Ravi And Reinhardt (2011)	Revealed Preference Approach
	Increased Participation In Continuing Education (Value Of Higher Education Fees)	(Thomson, Yates, Myers, & Thomson, 2016)	Proxy Values
	Employment And Wage Increases	Bottero, Ambrosini, & Callegari (2017)	Proxy Values
Health	Improved Overall Health (Savings On Medical Expenses)	Ravi And Reinhardt (2011), (Thomson, Yates, Myers, & Thomson, 2016)	Cost Of Illness
	Creating Conducive And Healthy Environments (Prevents Water-Borne Diseases, Dengue - Saving On Medical Expenses)	(Ministry Of Economic Affairs, 2019)	Cost Of Illness
Community Inclusion	Participation In New Activities Proposed By Projects/Programs	(Bottero, Ambrosini, & Callegari, 2017)	Willingness To Pay
Mobility	Access To Forests And Parks	(Bottero, Ambrosini, & Callegari, 2017)	Willingness To Pay
Security	Increased Safety For Tenants Through Street Lighting Facilities In Housing Areas	(Ministry Of Economic Affairs, 2019)	Proxy Values
	Perception Of Safety	(Thomson, Yates, Myers, & Thomson, 2016)	Willingness To Pay
	Reduced Crime	(Carlson, Haveman, Kaplan, & Wolfe, 2009)	Willingness To Pay

The Literature Indicates That Most Studies Have Employed The Contingent Valuation Method (CVM) To Measure And Value The Benefits Generated By Projects. CVM Is Generally Used As One Of The Primary Methods For Calculating The Economic Value Of Non-Market Products, Such As Assets, Wildlife, And Environmental Quality Products (Hanemann, 1994). Furthermore, The CVM Approach Is Highly Versatile And Can Be Used To Estimate The Economic Value Of Practically Any Natural Resource (Whitehead And Blomquist, 2006). Thus, This Paper Proposes The Application Of CVM In Monetising The Social Benefits And Impacts Of Public Housing Projects To Be Included In CBA Analysis.

Cost-Benefit Analysis

CBA Is The Most Detailed Project Comparison Tool, As It Provides A Standard Metric For All Costs And Benefits (Nur, Abd, Khalil, & Isa, 2019). CBA Is Applicable In Determining Whether To Invest Large Amounts Of Capital, For Instance, Clients' Decisions Whether To Invest In New Housing Schemes Or Continue Existing Programs. It Also Provides Decision-Makers With The Most Detailed Collection Of Information, As It Calculates Not Only The Expense Of Processes But Also The Value Of Benefits Derived From Processes, Using Parameters Or Indicators Outlined In The CBA. The Resulting Indicator Is Typically Referred To As The Project 'Net Benefits' Or 'Net Present Value' And Is Often Interpreted As A Measure Of Its Social Desirability (Nyborg, 2014).

CBA Analysis Is Widely Used In Various Fields In Malaysia, Such As Agriculture (Shahwahid Et Al., 2017; Wan Ariffin Et Al., 2018), As Well As Energy And Utilities (Abdullah Et Al., 2012; Chua Et Al., 2015; Mahlia Et Al., 2004). It Is Also Widely Applied In The Construction Industry (Kwong Et Al., 2018; Shekarchian Et Al., 2012) And Education (Kenayathulla, H. B., 2010). This Condition Demonstrates That The Application Of CBA In Public Housing Evaluations In Malaysia Is Feasible And May Be Beneficial In Decision-Making For Public Housing Projects.

Proposed Conceptual Framework Of CBA For Public Housing Projects

In This Study, The Summary Of CBA Indicators Is Shown In Figure 1 As An Initial Conceptual Model For Public Housing Projects. The Framework Was Drafted And Assembled From Previous Analyses And Studies. From The Figure, There Are Four Main Perceived Benefits: (A) Economic Impact, (B) Education Impact, (C) Health Impact, And (D) Security Impact. On The Other Hand, Perceived Costs Can Be Divided Into Four Main Categories: (A) Development Cost, (B) Maintenance Cost, (C) Compliance Cost, And (D) Operating Cost.

Both Perceived Benefits And Perceived Costs Will Be Analysed Using Cost-Benefit Analysis To Measure Return On Investment (ROI), Internal Rate Of Return (IRR), And Net Present Value (NPV). The Difference Between Costs And Benefits Will Determine Whether Actions Are Warranted. The Government Will Determine Whether Plans Are Reasonable, Justifiable, And Feasible By Considering Whether The Benefits Outweigh The Costs. However, On A Project-By-Project Basis, This Conceptual Framework Should Be Reviewed As Perceived Benefits And Costs May Differ Between Each Public Housing Project.

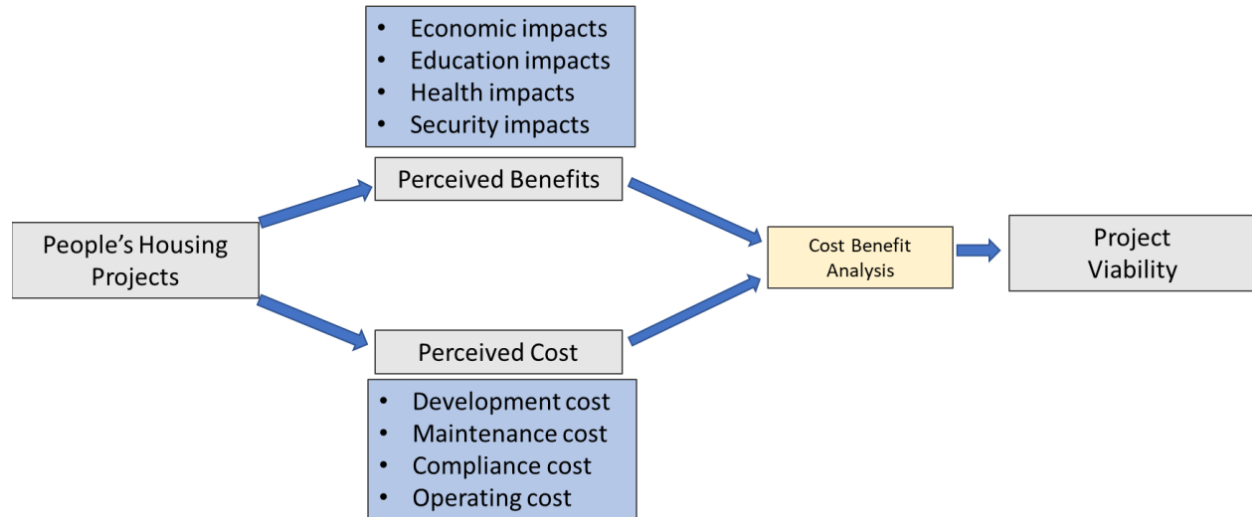


Figure 1: Proposed Conceptual Framework Of CBA For Public Housing Projects

III. Conclusion and Recommendations

Measuring Benefits Is Key To Evaluating The Effectiveness Of Public Housing Projects. Public Housing Programs Are Beneficial In Helping Low-Income Groups Access Comfortable Homes. The Eradication Of Hardcore Poverty Is The Primary Agenda Of The Government, Aimed At Ensuring That Citizens Are Capable Of Owning Their Own Homes. However, Economic Perspective Studies Are Vital In Providing Insights For Future Planning Of Public Housing Programs By The Government.

Nevertheless, The Usage Of CBA Is Still Low In Public Housing Appraisal In Malaysia. Thus, This Study Proposes A Conceptual Framework Utilising Cost-Benefit Analysis (CBA) As A Tool For Evaluating Public Housing Initiatives. This Empirical Method Should Be Implemented Currently As Governments Are Very Concerned About Allocating Money For Development Spending. It Would Certainly Justify The Money Spent On Projects Or Services That Yield The Highest Returns For Both People And The Government.

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