

Socio Economic Benefits of Individual Water Connections for Underserved Settlements in Colombo City

W. B. G. Fernando

Additional General Manager (Corporate Services), National Water Supply and Drainage Board

Key Words: Urban Poor, Underserved Settlements, Socio Economic Benefits, Economic Cost and Benefits, Economic Viability

Water supply to the city of Colombo had been handled by Colombo Municipal Council till the end of year 2000. Entire operations of water supply in the city were taken over by National Water Supply and Drainage Board (NWSDB) in year 2001 on a policy decision taken by the Government. By that time people living in underserved settlements numbering about 40,000 families totally depended on water through common public taps for their day to day water needs. This leads to a heavy wastage of water while it increases non revenue water in the city. In order to address this issue while ensuring a better service to the urban poor, NWSDB commenced a programme to provide individual water connections to their houses while reducing common public taps. During the period of 10 years from 2001, the Board has provided about 23000 service connections while removing about 4000 public water taps. The objective of this study was to study about many socio economic benefits of provision of individual connections while estimation of socio economic benefits and cost and thereby the economic viability of this programme.

INTRODUCTION

Almost half of the city population in developing countries lives in urban slums. According to the United Nations Human Settlements Programme (UN- habitat, 2007), 653 million people lived in slums in 2012. As most of the slums are poorly provided with basic infrastructure facilities slums are more commonly known as "underserved Settlements". They usually consist of a large number of houses constructed close to each other. Typical characteristics of houses are very limited space, less ventilation, temporary or semi – permanent construction, low roof narrow access, no in-house toilets or bath rooms and very poor drainage. Services provided by people living in underserved settlements are very essential for smooth functioning of many activities in cities. The world has identified that the upgrading of living standards in these settlements are of prime importance. This study attempts to find the economic benefits of provision of individual connections for people in underserved settlements in Colombo city who used to get water from public taps.

OBJECTIVE:

The main objective of this study was to find main socio economic benefits of provision of individual connections. The specific objectives of the research were,

1. To identify the factors affecting the economic viability
2. To estimate cost and socio economic benefits of this initiative
3. To evaluate economic viability
4. To study the externalities and spillover effects of this programme

METHODOLOGY

Out of 1571 underserved settlements, 8 settlements were selected as the sample for this research. Although there are a number of economic benefits achieved by providing individual connections, the estimation of such benefits are quite difficult. Therefore only the following economic benefits are considered under this research.

1. Time saving
2. Saving of energy cost due to avoidance of boiling of water
3. Reduction of water waste

A contingency survey was carried out to collect necessary data for estimating time saving and electricity cost saving due to avoidance of boiling of water while reduction of water waste was estimated based on actual data.

Following components are considered for economic cost estimation.

1. Construction Cost
2. Operation and maintenance cost
3. Rehabilitation cost

Above cost were estimated based on actual data.

DATA ANALYSIS

Economic benefits and cost are estimated for next 25 years and discounted at the rate equivalent to Treasury bill rate. Finally it was clear that for all settlements selected for the study NPV of cost benefit analysis were positive. A sensitivity analysis was also carried out to obtain more accurate results and it was further found that NPV is positive even under this situation.

CONCLUSION

This research finally proved that provision of individual connections in underserved settlements is economically viable and it will deliver a number of other intangible socio economic benefits. This process also has delivered number of externalities and spillover effects.