

Community Contract System in Sri Lanka: A Sustainable Approach for Infrastructure Provision in Poor Urban Communities

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Although national and international agencies have put greater effort to provide basic infrastructure services to low-income settlements during last few years, the urban poor have remained beyond the reach of infrastructure and services. Today, many developing countries are taking initiatives to introduce alternative systems to meet this challenge. One of the initiatives being employed by the National Housing Development Authority (NHDA) in Sri Lanka is Community Contract System. Under this new procurement system, the NHDA accepted the Community Development Councils (CDC), local residential committees in the low-income settlements as possible contractors, similar to commercial contractors to award small contracts for building infrastructure services in their own neighborhoods. The CDC with technical assistance from the NHDA identified sub-projects, priorities; approved engineering designs, cost estimates; and executed the construction works hiring skilled and unskilled laborers from within the same community. However, the idea that local communities construct infrastructure and operate and maintain the services is not yet generally accepted principles, despite little experiments in different parts of the developing world. The paper therefore reviews the experience of 127 community contracts implemented by the low-income communities in Colombo relatively with the 2504 conventional tender contracts carried out by the commercial contractors and the Works Department of the Colombo Municipal Council (CDC) in the low-income settlements in Colombo, and concludes that within certain conditions, community contract system can perform better than the conventional contract system in providing infrastructure services to low income communities. The data was obtained from both primary and secondary sources followed a literature review, documentary observation, focused group discussions, and key informants interviews, and comprised a case study analysis.

1. Introduction

The rate of urbanization throughout the world is steadily increasing, and by 2015 more than half of the population in developing countries is expected to live in urban centers (UNDP, 2000). This rapid growth has been accompanied by increasing poverty and uncontrolled proliferation of low-income settlements, thereby placing enormous burdens on municipal councils charged with managing cities (World Bank, 2004). It has been estimated that about 750 million urban populations in the developing countries live in low-income settlements and are expected to double by 2025 (UN-Habitat, 2003).

The city of Colombo, which is the commercial and financial hub of Sri Lanka, is no exception adding to the general problem in its dramatic statistics. Half of the population of Colombo has been living for many years in low-income settlements. According to a survey carried out by the Sustainable Township Program (STP) of the Ministry of Urban Development and Housing in 1997/98 identified about 66,022 households living in 1506 low-income settlements which covered 11 percent of the

city's land extent. The low-income settlements in Colombo were classified into six categories based on their location and physical characteristics (see Table 1). A majority of them falls under the categories of slums (71.1 percent) and shanties (12.2 percent). The balance is low-cost flats (6.8 percent), relocated housing (6.4 percent), old deteriorated quarters (2.1 percent) and unplanned permanent dwellings (1.4 percent). A unique character of these low-income settlements was that they are relatively small in size. 74 percent of them have less than 50 housing units while the larger settlements with more than 500 units account for about 0.7 percent of the total low-income settlements in Colombo (CMC and SEVANATHA, 2002: 4). Individual dwellings are also small. Average dwelling size is approximately 30 square meters with an average floor space of around 3.5 square meters per person (Horen, 2002).

Table 1: Distribution of Low-income Settlements in Colombo by Types in 1999

| Settlement Type | No. of Settlements | Percent | No. of Housing Units | Percent |
|-------------------------------|--------------------|---------|----------------------|---------|
| Slums | 1071 | 71.1 | 25500 | 38.6 |
| Shanties | 183 | 12.2 | 13313 | 20.2 |
| Low-cost Flats | 103 | 6.8 | 8950 | 13.6 |
| Relocated Housing | 97 | 6.4 | 14814 | 22.4 |
| Old Deteriorated Quarters | 31 | 2.1 | 2575 | 3.9 |
| Unplanned Permanent Dwellings | 21 | 1.4 | 870 | 1.3 |
| Total | 1506 | 100.0 | 66022 | 100.0 |

Source: STP, 1997/98

The low-income settlements in Colombo lack the most of the municipal services. About 56 percent of households relies on common water taps generally 40-100 households per tap on average. About 67 percent of households in low-income settlements either share or do not have access to toilets. In the case of garbage collection, 66 percent of low-income communities do not have access to municipal waste collection services, thus, throwing garbage into nearby canals, drains or reservation lands is common in low-income settlements. In most of the low-income settlements (about 70%) paved roads and improved storm and waste water drains are not available.

If available, they are poorly maintained and hence, non-functioning. As a result, many of these communities often face serious flooding for extended periods of time during and after the rainy seasons, while dirty roads are full of pools of stagnant water which become breeding grounds for mosquitoes. Play areas and recreational facilities are not available in most of the low-income settlements (CMC and SEVANATHA, 2002: 21-25; Yap, 1994: 1).

2. Evolution of Participatory Approaches for Human Settlement Development in Sri Lanka

The human settlements development in low-income settlements in Sri Lanka started with the enactment of Ceiling on Housing Property (CHP) law in 1973. This made a significant change in the pattern of house ownership; tenants in low-income settlements became the house owners; common lands in low-income settlements were vested with the government, paying compensations for original land lords; a new institution called the Common Amenities Board (CAB) was setup to look after and maintain the housing properties in low-income settlements (NHDA, 1991).

In 1979, the CAB entered into a formal agreement with the UNICEF by signing a project protocol called Urban Basic Services Program (UBSP) to improve environmental health and community development in low-income settlements in Colombo. Originally, the project was a bureaucratic creation that it was primarily the result of a request made by the CAB to the UNICEF for getting financial assistance in order to increase its coverage of low-income settlements in the upgrading of basic amenities. The communities were not consulted in preparation of designs at all, thus, people were not interested to take part in operation and maintenance of the improved amenities (Cassim *et al*, 1982).

When the CAB made a second request for further assistance on a long term basis, it was strongly felt that the beneficiary community should be motivated and mobilized to look after and maintain the facilities and this required the cooperation of the health education officers of the Municipal Public Health Department. The main objectives of the five years integrated program were; to convert the bucket latrines; to offer better and more effective coverage of the low-income communities in terms of primary health care and health education; and more especially to organize them into cohesive and strong beneficiary groups capable of bargaining for obtaining and maintaining basic amenities (Cassim *et al*, 1982).

The Health Wardens of the Public Health Department of the CMC were successful in organizing the low-income communities themselves under the Community Development Council (CDC) scheme registered at the Municipal Public Health Department. The CDC is formed by the low-income residents in a particular geographical location with the objective of achieving a set of common goals. It is a relatively unstructured organization with simple rules and low membership fees. The executive body of the CDC is

elected once a year and consists of a President, a Vice-President, a Secretary, an Assistant-Secretary, a Treasurer and five or six committee members. The low-income settlements with 50 to 60 families usually have one council while some larger settlements have councils at two levels; a zonal council for each neighborhood or cluster and a federation of zonal councils for the entire settlement consisting of representatives of the zonal councils (Citynet, 1991: 10).

However, a radical policy shift towards the community participation and management in housing and low-income settlement upgrading in Sri Lanka did not gather momentum until the inception of the Million Houses Program (MHP) in 1984. The government of Sri Lanka launched its support-based housing program based on minimum intervention and maximum support by the government and maximum involvement of the builder family, and the decentralization of decision-making planning and implementation to the local authorities, communities and the householders. There were six sub-programs including rural housing sub-program; urban housing sub-program; plantation housing sub-program; mahawelli housing sub-program; major settlement schemes housing sub-program; and private sector housing sub-program (Urban Shelter Policy, 1984). The Urban Housing Division of the NHDA was made responsible for the implementation of urban housing sub-program focused on legalization of land tenure and the provision of basic infrastructure services in low-income settlements; and the development of sites-and-services schemes (UN-Habitat, 1985: 22).

3. Community Contract System

Bearing in mind the lessons learned past, the NHDA realized from the very beginning of the program that it could only meet its targets if it delegated responsibilities of the program to the low-income communities themselves. Hence, the NHDA decided not only to promote the participation of low-income communities in planning, organizing, contributing and selecting sub-projects, but also to delegate the responsibilities for the construction of infrastructure in their own neighborhoods. Eventually, the NHDA drafted a procedure for the award of community contracts to low-income settlements. The procedure for the award of Community Contracts as follows (NHDA, 1989: 7):

- (a) The CDC along with the NHDA and possibly a cooperating NGO identifying the needed infrastructure facilities, its location, and its mode of construction
- (b) The NHDA decides whether the CDC is capable of carrying out the construction work on its own. If it is, the NHDA contracts directly with the CDC. Otherwise, an NGO may be used as an intermediary between the CDC and the NHDA.
- (c) The CDC establishes a Construction Committee composed of two officers from its executive body, and two other community members preferably with experience in construction. The

committee may include the technical officer and the project officer of the NHDA to act as advisors.

- (d) The CDC signs a contract with the NHDA to undertake the work according to the specified plans. Alternatively, an NGO may sign the contract and negotiate its own agreement with the CDC
- (e) The CDC establishes a Community Fund by opening a bank account for which representatives of the executive body of the CDC, the NHDA, and possibly an NGO are signatories.
- (f) On the basis of the proposal submitted by the CDC the NHDA prepares plans, bills of quantities, and list of building materials and labor requirements. Cost estimates provide for 15 percent contingencies or overhead.
- (g) The NHDA transfers an initial payment to the Community Fund. The amount may be 15 percent of the total costs, SLR. 5,000 (US\$ 50) or an amount sufficient to complete one phase of the contract. Alternatively, the CDC may initiate the project with its own reserves and later receive reimbursement from the NHDA.
- (h) The CDC recruits skilled and unskilled labor from within the community and pays them at its own discretion. Check-roles must be certified by the Technical Officer. Payments exceeding the estimated labor costs require NHDA approval.
- (i) The Construction Committee purchases necessary materials and ensure their safe storage. Purchases exceeding initial estimates require NHDA approval.
- (j) The Construction Committee is responsible for work supervision and quality control.
- (k) Members of the Construction Committee are personally responsible for lost funds or materials. In case of unsatisfactory performance, the NHDA may refrain from providing any further funds or infrastructure to the settlement until the work is improved or completed or it may resort to legal action against the CDC.
- (l) The CDC can utilize surplus funds as it wishes. Preferably, they will be used to improve the community's living conditions.

The NHDA awarded its first community contract in January 1986, for the renovation of a common bathing well in the Seevalipura low-income community in Colombo. Here, the community was dissatisfied with the quality of the first well built by a commercial contractor through a conventional tender contract system. The community made a request to give them a chance to build the second well. The NHDA was receptive to the

request made by the people. The people designed the well themselves and carried out the construction work with technical assistance and training provided by the NHDA. The design was well suited with the community's need and local conditions; as well the quality of the work was high. The well was completed one week ahead of the schedule, though cost SLR. 4,000 (US\$ 40) more than estimated due to changes made to the original plan. The result encouraged the NHDA to carry on with this new approach (Pathirana, and Sheng, 1992: 3-14).

Since 1986, about 127 Community Contracts were awarded by the government agencies to the CDCs in low-income settlements in Colombo for improving the neighborhood level infrastructure facilities (see Table 2). Among all of them, NHDA became a pioneer in awarding maximum number of Community Contracts in Colombo. During the period of 1986 to 2004, the NHDA alone has awarded about 115 community contracts.

Table 2: No. of Community Contracts Awarded by Different Agencies in Colombo from 1986 - 2004

| Agency | Period | No. of Community Contracts | Percentage of Total |
|---|-------------|----------------------------|---------------------|
| National Housing Development Authority (NHDA) | 1986 - 2004 | 115 | 90.5 |
| Clean Settlement Programme Unite (CSPU) | 1997 - 1998 | 04 | 3.1 |
| Urban Settlement Improvement Programme (USIP) | 1999 - 2004 | 08 | 6.4 |
| Total | | 127 | 100.0 |

Source: Jayaratne and Premakumara, 2004

It was identified that many different types of infrastructure facilities were constructed under the Community Contract System (see Table 3). Most frequently constructed infrastructure facilities were those needs that are urgently felt by low-income people are concerned such as water supply (27.5 percentage), sanitation (24.4 percentage), and storm and waste water drains (20.4 percentage).

Table 3: Types of Infrastructure Facilities Constructed in Low-income Settlements in Colombo through Community Contract System During 1986 to 2004

| Type of Infrastructure Facility | Number of Community Contracts | Percentage (%) |
|---|-------------------------------|----------------|
| Water supply | 35 | 27.5 |
| Sanitation | 31 | 24.4 |
| Storm and waste water drains | 26 | 20.4 |
| Community centers | 13 | 10.2 |
| Access roads | 13 | 10.2 |
| Solid waste collection bins | 02 | 1.6 |
| Recreational facilities (community parks, | 07 | 5.7 |

| | | |
|---------------------------|-----|-------|
| children play areas etc.) | | |
| Total | 127 | 100.0 |

Source: Survey by the Author, 2004

The average value of the community contract has gradually increased. During the period of 1986 to 1989, only 10 (15.4%) community contracts were belong to the estimated cost of the work was higher than SLR. 100,000 (US\$ 1000). However, the estimate value of 48 (77.4%) community contracts awarded after the 1990s were more than SLR. 100,000 (US\$ 1000).

Table 4: Number of Community Contracts by the Value 1986 to 2004

| Value of the Contract (SLR) | Number of Community Contracts | | | |
|-----------------------------|-------------------------------|------------------|------------------|------------------|
| | NHDA (1986-1989) | NHDA (1990-2004) | CSPU (1997-1999) | USIP (1999-2004) |
| Less than 5,000 | 8 | - | - | - |
| 5,001 - 10,000 | 7 | 1 | - | - |
| 10,001 - 25,000 | 13 | 5 | - | - |
| 25,001 - 50,000 | 11 | 4 | - | - |
| 50,001 - 100,000 | 16 | 3 | 1 | - |
| Over 100,000 | 10 | 37 | 3 | 8 |
| Total | 65 | 50 | 4 | 8 |

Source: Pathirana, 1990; Jayaratne and Premakumara, 2004

4. Performance of the Community Contract System

(a) **Cost Efficiency:** The analysis of the performance data suggested that final cost for community contract works was lower than the conventional tender contract works. The mean cost growth (the ratio of actual completion cost to the tender contract cost) of conventional tender contract works was 1.00, while community contract works was 0.89. This figure established that the final cost is almost equivalent to the estimated cost under the conventional tender projects while about 11 percent cost saving from the community contract system against the estimated cost.

The key point is that this out come is achieved in the community contract system through negotiating down the rates for work (Cotton *et al*, 1998: 18). The community contract system seems to be more conducive in creating an enabling environment where all parties concerned to discuss and commonly agree the all aspects of contract including choice of project, technical options, contributions, cost-sharing agreement, implementation-methods, timing, rates of the work, and maintenance and responsibilities. The negotiation between the benefiting community and implementing agency is part and parcel of the community contract system and precedes the signing of the contract (Oakley, 2001: 16).

In addition to that, the experiences have shown that the use of community's local knowledge and understanding of its own situation, preference and technologies can resulted in considerable cost savings, and delays in implementation avoiding many mistakes in selection of locations for facilities, choices of technology, and financial capacity of the people. For example, in Purwarama shanty settlement in Colombo, the officials designed a waste water drainage system for the community with very complicated filtering system for purification the water with electric pump for pumping the purified water to the near by canal, which estimated SLR. 2,000,000 (US\$ 20000) However, later community prepared an alternative plan with the technical assistance from a NGO involved in community development work in the area, and an engineer of the NHDA who have experienced in implementing the same types of infrastructure project in another low-income settlement in Colombo, which included a very simple filtering system to meet with people's capacity to pay and maintenance in long-run, as well as their preference, which was half of the cost estimated by the officials. The design was accepted by the officials of the municipal council and community collected the contribution; SLR. 1,500 (US\$ 15) per household and managed the construction work by themselves successfully within six months.

Another source of cost reduction for the implementing agency was the substitution of community resources, particularly cash, labor and materials. At the early stage of the community contract system, the NHDA provided the 100 percent cost subsidies for the construction of the infrastructure services in low-income settlements in Colombo in view of the low paying capacity of the residents in these settlements. However, later it was identified that the total cost subsidies created dependency and also affected the sustainability of the system. This changed in strategy of the community contract system in Sri Lanka towards mobilizes the community's own resources for community contracts. Even though, this not directly resulted in reducing the total cost of the project, the community contract projects implemented by the USIP, CSPU programs of the Ministry of Housing and Urban Development, and some local and international NGOs (such as Save the Children, and SEVANATHA) have shown that it was reduced the costs of the implementing agency, which may be the most important consideration for the project administration. The community contribution for the above projects was varies from 5 percent to 20 percent of total cost of the project.

The community contracts are also less costly than conventional tender contracts when considering the profit margin, because community contract system has a lower profit margin (10% - 15%) than conventional tender contract system (35%).

Yet, there were some evident about cost increases in community contract projects. About 11 percent of community contract projects experienced cost overrun due to unexpected delays in the completion of the work, and the changes made in the original plan during the

construction time. It is obvious that delays in construction work always resulted in increasing the cost of the project, because the cost of building materials and labor charges in Sri Lanka increased rapidly due to the high rate of inflation. However, these cost increases did not always result in final cost overruns, because some could be absorbed by the overheads reducing the profit margin of the community.

Moreover, the overhead cost of the community contract system is higher than the conventional contracts, because for the success of the project community requires training, information, supervision and other forms of technical support from the implementing agency. The process of explaining the concept, assessing the capacity of communities, entering into negotiations, and providing technical support are all essential components of the successful implementation of the community contract system. The experience had shown that involvement of support organizations like NGOs as intermediaries for undertaking the capacity building of communities clearly has advantages. However, it also brings additional cost, and is time consuming. In case of the CSPU Program in Sri Lanka, the consultancy cost paid to the NGO for community mobilization amounted 200 percent of the contract cost for actual infrastructure works (Cotton *et al*, 1998: 82).

(b) Time Efficiency: The mean time growth (the ratio of the actual lapse time of the construction to the duration started in the contract) of the conventional tender contracts was 0.87, which established that there is a time saving (13%) in the conventional tender contract works during the construction period. By comparison, the meantime growth for community contract projects was shown as 1.42, which has established that 42 percent increase in the duration of the works compared to the initial contract duration. This finding suggests that the time performance of the community contract system did not show progress as expected.

Several reasons may cause delays in the construction work under the community contract system. The key reasons for the delays in the construction work was lack of funds with the community to start the work immediately after signed the contract agreement with the implementing agency as well as to continue the work until the next payment was made by the implementing agency. The implementing agencies had to work according to the existing government financial regulations. They cannot make advanced payments to the community without bank guarantee and also payments are made by cheques based on the measure and pay method. According to the officials, the minimum time required for the process of payments is just about 10 days after submitting the bills for payments. Yet, experienced have established that it took more than 15 days to make payments. Sometimes it took more than a month. Because most communities did not have funds of their own, community stopped the construction work and waiting for starting the next

stage of the work until payments are made by the implementing agency.

However, it was identified that some communities and the project staff followed several strategies to overcome the financial delays. One popular strategy was communities established their own Community Fund collecting community contribution and organizing some fund raising activities before entering the community contracts. Most of the communities involved in the community contract projects, particularly after 1990s have mobilized the Community Fund contributing cash by each family in the community; an average SLR. 500 (US\$ 5) per household, and have organized different types of fund raising activities, such as a musical program, drama, and weekends fairs to mobilize the additional funds for their Community Fund to initiate the contract until it were reimbursed by the implementing agency. Some communities borrowed money from the community saving networks, and also from NGOs to initiate the work without any delays. In other situations, community member's personal money was also used for initiate the construction work. In one community, the president of the CDC used his personal money for continuing the construction work until they received payments from the implementing agency. Some communities borrowed money from the money lenders at a high interest rate to be able to continue the work.

In addition to that, the personal involvements of the project officers have supported the communities to expedite the work avoiding the delays in several ways: the payments were authorized before the completion of the work, so that work was not delayed while the cheque was being prepared; and in other case, the project staff personally moved in handling the files from one desk to another without following the routine procedures to make sure the payment was made in time; sometimes, project officers even used their personal money to make advanced payments in anticipation of the payment by the agency.

A several unexpected delays were also identified in some community contract projects. The sudden changes in leadership and power politics within the community may delay the project progress. For example, the delays of time overrun was more than double of the construction of waste water drainage system in Suwarna Road Stage II community due to changes in the leadership of the community. The construction work of drainage system in the Maha Watta community was not completed due to some power politics and leadership changes within the community. In addition to that, the construction of sewerage system in Kirulapura and Suwarna Road Stage II, the construction of main drainage system in Siddarthapath - Block C and E, and the construction in Aramaya place were all abandoned just after making the designs due to political changes at municipal and national level.

However, the experiences have shown that since community contract procedures are very simple and do not require much time for processing; a contract can be

awarded without much delay. There is no need for calling tenders from external contractors. On average, the community construction contract system requires only 45 days to start the construction work after getting the concerned approvals. By comparison, it was identified that conventional tender procurement system required much longer time in finalizing the tender procedures. Several steps have to be taken before commercial contract is awarded, such as the calling of tenders, the assessment of the tenders, the approval of the plan and this is rather time-consuming. On an average, the city authority requires about 120 days to start the contract after obtaining the council approval for the project implementation. It was very common, that the city authority had to follow this long tender procedure in many times for selecting a contractor for a particular job due to lack of interest of commercial contractors on the very small projects in low-income communities. In this point of view, the community contract system is more timesaving than the conventional tender procurement system.

(c) Quality of the Works: The study found that there were no any reported evidences of work being rejected due to poor quality either in community contract system or conventional tender contract system. But, it was identified few uncompleted projects in both procurement systems which was less than 10 percent of the total number of projects. According to the technical staff, they are satisfied with the quality of work done through the both procurement systems. They said that the quality of both projects were effectively met the technical standards. The technical staff who involved in the community contract works felt that low-income communities also can produce the good quality work under a regular supervision and guidance of the qualified technical staff, and rated that 90 percent of the contracts completed was good (Yap, 1994: 18).

But, according to people's views in many low-income settlements, they are highly satisfied with the quality of work done through the community contract system than the conventional tender contract system. Most of them felt that the quality of work done through the community contract system is better. The main reason with this higher degree of community satisfaction of the work done through the community contract system was the greater involvement of the people in the construction and monitoring activities. The people who satisfied with the quality of work done by the community contract system felt that the main interest of the CDC involved in the construction work is maximized the quality of work, rather than profit. Because both CDC office bears and all other skills and unskilled laborers involved in the construction work have to live in the same community once the work is completed, thus they are more responsible and accountable to the community. Moreover, they commented that ones who involved in the construction work cannot cheat them, because they much aware of the actual cost and technical standards of the work. This information is discussed and presented in many times at the community meetings. If people required

any further clarifications they can made at the community meetings or they can made any complaints to the technical staff by personally.

Moreover, it was identified that because of the community satisfaction of the improved services, they felt more responsible in operation and maintenance of the services. The improved services in many locations where community contract system is applied were well maintain by the people themselves while the most of the communities where infrastructure services are provided by the city authority felt little responsibility in maintenance, thus created many environmental and sanitary issues.

(d) Addressing the Community's Urgently Felt Needs: it was identified that many infrastructure amenities provided by the conventional tender procurement system did not meet with the needs and preferences of the community and its local conditions, due to absent of proper consultation with the beneficiaries in prior to design the project.

For example, a communal toilet block in the Usaviya Watta have been designed and constructed by the CMC at the very rear corner of the community close to one of the boundary wall, inaccessible to the vacuum truck of the municipal council. After a few months, the septic tank of the toilet block filled, and thereafter, started to overflow, because of not be emptied. As a result, the people stopped using the toilet and complained that which has resulted in creating many environmental and sanitary issues than the before.

In another case, the Sri Lanka Land Reclamation and Development Cooperation (SLLRDC) has designed and constructed a common septic tank in the low-income community called Badowita with a complicated waste water filtering system. A few years later, this septic tank got block and therefore need to be clean and empty. Both community members and the sanitary staff of the city authority did not have experience and knowledge about how could empty this type of septic tank. They throw out all gravels, which put inside the tank for filtering water by misunderstanding that it was a reason for blocking the tank.

By comparison, community contract system seems to be more successful in creating an enabling environment where technical staff and the community members work together, and this contributes in designing new infrastructure services or to do modifications to the prior designs in line with beneficiary preferences. For example, in Wanathamulla community, the staff of the NHDA prepared the designs for renovation of the bathing well in the settlement. But, people rejected the design of the well saying that the designs made by the staff did not meet with the needs and requirements of the community. As a result, a group of community members prepared an alternative design which was square instead of round which made it possible for more people to use the well at once; the platform of the well was divided into two parts (one for bathing and one for washing cloths) so that soap from the people washing would not

spoil the freshly washed cloths; a small area near the well had been fenced off to create a place where the women could change their cloths; there was a separate place to hang the cloths. In addition to that, the community proposed to use of rocks instead of bricks as lining of the well to make it stronger, because the past experiences had shown that buckets constantly hit and damage the bricks wall of the existing well (Yap, 1994: 11).

In addition to that, most of community contract projects have shown that beneficiary communities brought up some alternative plans and ideas to the official designs as a viable option for reorganizing the construction works without much disruption and changes to the existing housing and layout pattern of the community.

(e) Livelihood Improvement: There is evidence that community contract system can contribute to employment creation for both skilled and unskilled unemployed labor within the community, and provide the opportunity of job training in technical, administration and management skills, thus enhancing community capacity building and restoring grassroots confidence and self-respect. In addition to that, experience suggests that community contract system tends to create or re-activate the social capital within the community based on trust, social obligation and solidarity.

The experiences have shown that community contract system opened up new opportunities for income generation and bringing new financial capital into the local economy through community contract agreement, which could be hardly expected from the conventional tender contracts. Experience suggests that two common methods were followed by the communities in implementing the community contract projects in low-income settlements: (1) by the community itself hiring skilled and unskilled labors from the same community; and (2) by sub-contracting. It was identified that about 73 percent of completed community contract projects in Colombo were carried out by the community itself and in the remaining 27 percent were sub-contracted to the member from the same community; or to member from the another community; or to micro-contractor. Easy organization, lack of skilled persons within the community, less time with the community members to participate in a contract, lack of initial funds, and lack of efficiency of the existing management committee of the CDC were some of the common reasons for awarding sub-contracts to the micro-contractors (Pathirana, 1990: 48).

The situations where communities did all the construction work itself created employment opportunities for skilled and unskilled unemployed laborers in the settlement. According to the case in Seevalipura, about 300 total labor days were created for the residents in the community by the drainage construction work (Pathirana, 1990: 70). Another example suggested that total 564 labor days including 110 skilled labor days and 454 unskilled labor days were

created by the drainage construction work in Suwarna Road Stage II community, which resulted in total sum of SLR. 130,610 (US\$ 130.6) circulating within the community

Even though women's participation was less in the construction work when compared to the men in the community, still it can be seen they worked as unskilled laborers in specific projects. As an example, about 30 percent of the unskilled laborers worked in Purwarama drainage construction work were women from the same community, and it provided them an additional income earning opportunity.

Moreover, experience suggests that community contract system helped to retain public funds within the low-income communities, thereby generating additional income opportunities for other residents in the settlement who were not directly involved in the project. In the case of Suwarna Road Stage II project, a young man who owned a small tractor was hired by the community to transport the building materials from near by hardware shop to the site. In another case, community bought all the construction materials from the hardware shop owned by one of the women member in the adjoining low-income community who are the member of same women saving and credit network in the community. It was found in many cases that some families earned additional income by selling foods and drinks to the laborers involved in the construction work, and three-wheeler drivers in the community was also able to get some additional hires from the members of CDC and project staff, because of the project.

In addition to that, experience suggests that 52 percent of community contracts were profitable. Another 25 percent of contracts were able to cover the estimated cost of the work, while only 9 percent contracts were lost (Pathirana, 1990: 42). Most of the communities saved money and increased its profit by using free labor from within the community. In the case of Suwarna Road Stage II community, 50 people provided free labor for the preliminary excavation and site clearance for the construction of a drain. This community was able to save SLR 40,000 (US\$ 400) from the construction of main drainage system in the community. In another case, the Aramaya Place community made a profit of SLR 9,473 (US\$ 94.7) from the construction of footpaths in the settlement (Yap, 1994: 19). In some cases, the laborers employed for the construction of amenities had to pay back a fixed amount (as an example SLR. 5 rupees (US\$0.05) per day) from their daily wages into the Community Fund as a sort of tax (Pathirana, 1990: 70). Moreover, some communities like Dabare Mawatha kept some profit margin (2.5%) from the project in giving the sub-contract.

The experience suggests that most of the communities used this profit for future development activities in the community or operation and maintenance of the improved amenities, which the public utility agencies or municipal council then does not have to do. The Seevalipura community used their

profit to construct an additional drain. In Purwarama, community used their profit for obtaining individual water connections to the community. Moreover, Gajabapura community used their profit for renovate the existing community center and to start the pre-school and a library for the children in the community. The Kalinga Mawatha community also used their savings from the community contract works for buying the necessary equipment for the community center and to construct a small shrine in the community.

The experience has shown that every community which involved in implementing the community contracts gained some lessons, whether it was a successful or bad experience. In general, communities consider the upgrading community members skills as one of the most important aspects of the community contact system. In the case of community contract system, most laborers are recruited from within the community, and they gained new skills such as grading, leveling, and the ability of reading technical plans and BOQs by on the job training. Even though, permanent employment for majority of the community members as a result of the project will be difficult to achieve, training can improve skills and therefore increase employment opportunities for unemployed labor force in the community.

There was evidence to suggest that a certain proportion will gain enough skills to begin or expand small enterprises and that individuals will gain employment beyond the community works. For example, in many projects, unemployed youth were trained as masons and later on found works in other settlement upgrading programs or in private construction firms. In another case, a community leader who was served as a foreman of the construction work was trained in the labor-based methods and basic technical issues such as how to setup a system to record the laborers on the site, prepare a payroll, and record the progress on the work, and control the materials and equipment on the site later became a registered micro-contractor of the municipal council and found small construction works in the city.

Moreover, the experience suggests that community organizations gained adequate strengths to manage their own affairs and to enable them to negotiate with outside institutions and authorities for civic services as a result of being involved in contact work. In most of the case, the CDC successfully carried out the management of the important functions of the project, such as deciding priorities, locations, types of technology, standards, collecting community contribution, signing community contract with implementing agencies, executing the construction work, resolving the internal disputes, and dealing with formal financial institutions and other authorities.

In addition to that experiences suggest that capacity building found a place in project design due to the concern for the long term sustenance of facilities provided by projects and considerations of operational and maintenance. Majority of the communities (87%), those which involved in implementing the community

contract system performed relatively simple operation and maintenance functions which were within their reach collecting money from community members (Pathirana, 1990: 57).

It was identified that half of the communities involved in community contract projects received training, which included: (a) training in the construction of the planned infrastructure improvement; (b) training for operation and maintenance; and (c) training of organizational, negotiation skills, management and book keeping (Pathirana, 1990: 62). These communities performed better when compared to the communities didn't receive any training from the project. Due to lack of training, many communities did the mistakes in implementing the community contract projects. Most of Communities started the work before it had signed the agreement or received the plans. Some communities did extra work and spent extra money without prior approval by the officials and faced difficulties in recovering money for those extra works. Many communities had the problems in understanding the contract document, the bills of quantity, and the designs. In most instances, where NGO involved in the community contract projects, communities received more training than others. As an example, SEVANATHA, a local NGO involved in highest number of community contract projects in Colombo used different types of training techniques to capacity building of the community members for a smooth implementation of community contracts. Mostly be done through on the job training, workshops, meetings, and exchange visits, rather than conventional class room training.

Moreover, the experience has shown that community contract system was successful than the conventional tender contract system in creating or re-activating social capital within the low-income communities. Many experiences suggest that community contract system created opportunities for all members in the community through its infrastructure investments to participate, interact and work collectively for achieving a common goal. In general, all community contract projects in Colombo encourage some degree of involvement of the benefiting community in the planning (identifying the most pressing problems they faced, and take a decision on how to solve the problem, how the infrastructure amenities is designed, how it is constructed, who should work on the construction, levels of pay, and what types and amount of assistance they need to meet their target), and implementation of construction activities.

Different types of tools and techniques were adopted to make people together, interact and to work in collective manner. Most of the community contract projects applied the community action planning workshop and a community meeting as a common tool for giving people an opportunity to interact and to take all important decisions related with the project and also to share the information. Some communities organized different types of community activities such as Sramadahana, entertainments, and religious events to give community members an opportunity to work together as part of the project. Some cases,

neighborhood groups were formed in lane or cluster wise to give opportunity to people to meet regularly and to get involve in the project implementation activities collectively as a group. These collective actions have been led to changing attitudes, social interactions, feelings of trust and safety, neighborhood connections, and forming some formal and informal networks, and community organizations for addressing other social, economical and cultural issues in the community. For example, in Suwarna Road Stage II community, some women members in the community got together and formed a micro credit program to provide easy access to credit for its community members. At first, they started to save money for giving their family contribution to the construction of drains in the neighborhoods, because the amount requested by the project was not an easy to pay once. But, this small initiative gradually built trust and confidence among the members in supporting each others searching solutions together. Currently, they are part of the city-wide community savings and credit program. In another case in Kalingamawatha, community built a shine using part of their profit of the community contract project and established a committee including both young and elderly members in the community for carrying out the religious activities as part of the community development activities in the settlement. This has led to create new value of life in the community. According to the President of the community development council, people proud to live in this community and it's free of many social issues which can be commonly seen in other low-income settlements. No drug sellers or drug addicts, prostitutes, and regular quarrels within family members and between neighbors.

Moreover, it was identified in many cases where community contract project was initiated that community was able to build up strong partnership and networks between service provider agencies, municipality, NGOs, and politicians through working together in concerted collaborative action which has led to obtain number of other infrastructure services to the settlement.

(f) Impact on Sustainability: The numerous experiences has established that community contract system led to ensure the sustainability of the project than the conventional tender contract system by improving operation and maintenance of the provided infrastructure amenities and also cost sharing. As mentioned earlier, at the beginning cost sharing was not an important objective within the agenda of the NHDA. The NHDA provided 100 percent cost subsidies for the construction of the infrastructure services in low-income settlements in view of the low paying capacity of the residents in these communities. This is one of the reasons that community contract system has not been sustainable within the context of the NHDA. As long as NHDA received financial assistance from the government, the system flourished well.

However, this policy has been changed gradually and the institutions involved in implementing the community contract system in recent days encouraged the

benefiting communities to make a community contribution towards the cost of the construction. According to the experience of 12 community contracts pilot projects implemented by the CSPU and USIP programs reveals that the idea of cost sharing is not unrealistic in the context of low-income settlements in Colombo. The experience further suggests that contributions from beneficiaries were encouraged both to reduce the share of public costs for providing infrastructure services in low-income settlements, and also instill a sense of ownership in the people, thus they felt more responsible in operation and maintenance of the constructed amenities. It was identified that both of these projects succeeded in mobilizing community contributions up to 20 percent of the cost of the total construction. However, it was not an easy task to mobilize the community contributions due to several reasons in low-income communities: (a) a feeling of insecurity due to delays in policy implementation, (b) lack of guarantee of adequate quantity and quality of infrastructure services, (c) inadequate communication and information dissemination to beneficiaries about project, (d) lack of transparency of the CDC on financial matters, and (e) bad experiences and lack of trust in working with external agencies. Therefore, a set of effective strategies were implemented by the projects that contributed to mobilize the community contribution by overcoming above constraints: (a) detailed dialogue with beneficiaries prior to implementation, (b) field workers accessible to assist beneficiaries with information and problem solving skills, (c) a system of investigation and negotiated action in default cases, and (d) a monitoring system that kept track of payments and proposed immediate action in case of default.

Moreover, it was identified that communities involved in implementing the community contract projects have developed certain strategies for operation and maintenance of the constructed amenities than the communities received infrastructure through conventional tender contract system; (a) collected money from community members; (b) shared by the user family; or (c) assistance from the municipal council. Among all of them, 77 percent of communities do operation and maintenance works by collecting money from the community without waiting until the city office will be carried out the work.

4. Conclusions

According to the overall evidence of the study, the community contract system in Sri Lanka can be used successfully as one of the alternative procurement systems to provide infrastructure services in low-income settlements. The study had found the ability and willingness of the low-income communities to work together with utility agencies to construct infrastructure services in their own neighborhoods no less efficient than the infrastructure services provided by conventional tender contract system. The community contract system successful in providing basic infrastructure services of good quality at lower costs

within a set period of time to meet with the beneficiary's preferences, local conditions and financial capacity. The study also details the effects that the community contract system can contribute to employment creation for both skilled and unskilled laborers within the community; and provide the opportunity for job training, in technical, administration, and management skills thus enhancing community's capacity building and restoring grassroots confidence and self-reliance. Moreover, community contract system can also be used as an instrument in creating or re-activating the social capital in the community. However, for the effective functions of the community contract system, the following conditions seem to be necessary:

The community contract system is more appropriate for those small, low-risks, routing infrastructure development projects which often characterized as tertiary (local level) or internal infrastructure services in urban upgrading programs in low-income settlements, where beneficiaries are a clearly identifiable group of households in the same community. It is less relevant in large, high-risks, primary (trunk) infrastructure development projects where community-management would be very complex.

The supportive government policies, attitudes, and political will in favor of community-management makes community contract system more effective. Because, for allowing the community groups to play a leading role in infrastructure service delivery process, the government agencies have to change its existing rules, regulations, standards and procedures. The officials and politicians have to change their attitudes from only single provider of the services to play a role of facilitator in provision of services. All these can be achieved under the supportive government policy.

Communities have a clear comparative advantage to do community contracts in situations where; a minimum degree of efficiency of the community organization exists; community have elected and trusted leaders; previous examples of community managed projects exists; communities have some degree of social cohesion; community organization has some kind of legal status; communities have responsibility for the projects operation and maintenance; and mechanisms for community capacity building are available.

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