

# Collaborative Facilities Management in Urban Regeneration Projects: Problems and Potentials

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## Abstract

*Urban areas are now being regenerated in great extremes to match with the local and global demand in Sri Lanka. Upgrading infrastructures, land and buildings are highly pressurized in urban regeneration projects given that it is critical to the economic, social, environmental, and cultural well-being of a country. However, there is a question of the sustenance of urban regeneration projects due to limited public funds and other resources. Collaborations between authorities responsible for urban development & maintenance and the private/public sector organisations in facilities management could be a solution for the above issues in Sri Lankan context, which has not been articulated yet. This study therefore aims to investigate the applicability of collaborative approach as a solution to stimulate the participation of private and public sector organisations in terms of facilities management in the regeneration project. The aforementioned aim was achieved through the literature review and case study methodology. Beira Lake Urban Regeneration Project (Phase I & II) was selected as the case study to determine the applicability of collaborative Facilities Management concept to Sri Lankan context. Observation and semi-structured interviews were carried out with the executives who are in responsible for urban development & maintenance and public/private sector organisations in the regenerating area. Case study revealed that the collaboration between Public Authorities (Urban Development Authority & Municipal Council) and private organisations in urban regenerations would uplift the value of physical environment and infrastructures of inner city. Further, Public Authorities can allow private organisations to use car park, recreation facilities, open spaces, and other developments with the agreement of maintaining and developing above facilities. On the other hand, private organisations would fulfill organisational requirements while contributing to corporate social responsibilities. It can be concluded that both Public authorities and private organisations can mutually benefit from the collaborative FM in urban regeneration projects.*

**Key words:** Urban, Collaboration, Facilities Management

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## **Introduction**

Urban regeneration is a way of reorganizing and upgrading existing built environment to revitalize urban life in modern society. The Governments which are responsible for urban lives, place a strong emphasis on regenerating or modernizing cities by initiating innovative methods and approaches. The development of urban facilities including recreation, parks, infrastructure, and other physical environment has mainly focused in urban regeneration context to upgrade the living standard of the urban life. Although, cities get tremendous opportunities for economic and social development through urban regeneration, unprecedented challenges of growth and management have led to a rapid deterioration in a quality of life of their citizens. Dwindling public finance, inadequate top down conventional urban planning and development and lack of services, became apparent in deteriorating urban fabric (Ogu, 2000). Further, enormous challenges and the difficulties of urban life are magnified when the public sector is weak (Glaeser, & Joshi-Ghani, 2013). In addition, ever increasing management and maintenance costs have a great impact on public assets and facilities. This situation has led to public criticism for the services provided by the government (Sani, Mohammeda, Misnanb & Awanga, 2012).

Therefore, organisations, such as local authorities, who are responsible for a large number of public facilities, need solutions to manage built environment and to invest their limited resources in most beneficial improvements (Jones, Patterson & Lannon, 2007). Hammami, Ruhashyankiko, and Yehoue (2006) suggested the collaboration of private sector organisation with local authorities and government as a solution for management and development in urban facilities. Thus, Private Public Partnership (PPP) is used as a common strategy in countries where governments increasingly consider PPP as an alternative or complementary way to finance complex infrastructure projects (Hammami, Ruhashyankiko, & Yehoue, 2006). Although PPP supports at the initial stage of redevelopment or construction, maintenance and management of urban facilities for remaining life has become critical for the responsible authorities. Organisations' contribution towards management of urban facilities would be a realistic solution for the above criticism. In fact, in cities throughout the world, private firms have demonstrated their ability to improve the operation of infrastructure services (Kumar & Prasad, 2004). Even though, this concept would be viable for both parties, this phenomenon is not well established among researchers as well as practitioners.

Therefore, this paper aims to investigate the possibility of private sector Facilities Managers' participation for the management of urban facilities in Sri Lankan urban regeneration context. Further, this paper highlights the possible urban facilities and its Facilities Management (FM) functions that can be shared between private organisations and public authorities responsible for urban development & maintenance (Urban Development Authority (UDA) & Municipal Council). The paper structure begins with a review of literature on urban regeneration, urban facilities and collaborative Facilities Management in urban context. The next section presents the research methodology followed by case study findings in section 4. The paper finally presents discussions and conclusions of the study.

## **Literature Review**

### **Urban Facilities in Urban Regeneration Projects**

Cities are physical entities including governmental units and people (Glaeser, & Joshi-Ghani, 2013). The neighborhoods, communities, and in fact urban areas are sub-sets of the city. With

the rapid growth of cities, the number of facilities needed for urban life has increased, and the functions and structures of these facilities have become more complex (Lee, Jeong, Seuk Oh, Lee, Ahn, & Lee, Yoon, 2013). Hence, urban regeneration strategies are increasingly being applied in every city.

Urban regeneration is defined as the comprehensive and integrated vision and action, which leads to the resolution of urban problems and seeks to bring about a lasting improvement in the economic, physical, social, and environmental condition of an area that has been subject to change (Roberts & Sykes, 2000). Urban regeneration is not a single or individual aspect but it includes all the aspects and community. Urban regeneration involves the distressed urban areas revitalization through actions such as rehabilitation of historic areas, improvement of living conditions in residential districts, redevelopment of public spaces such as squares parks, urban furniture green areas creation, planting trees along the sidewalks and modernization of urban infrastructure such as water networks, gas, electricity, transport infrastructure (Alpopi & Manole, 2013).

Urban regeneration has become a means of transforming deteriorated areas but with a unique approach to be applied in every city and every location with the same rules and policies in Turkey (Guzey, 2008). According to Alpopi and Manole (2013), in countries such as Greece and Portugal, have created a new thinking and are approaching model in the urban development field. In Irish capital, Dublin, urban regeneration projects have been initiated, primarily due to inadequate design of buildings, poor management of buildings, poor noise insulation, heat and hydro. The UK Government has attempted to tackle the physical, social and economic consequences of these changes through a variety of mechanisms and policy initiatives in urban regeneration context (McDonald, Malys & Maliené, 2009). Therefore, modes of urban regeneration have varied from city to city and nation to nation, but the ultimate aim, which is to improve the quality of urban life and to enhance the urban image, has turn into common in every situation. In addition, it is witnessed that urban regeneration concerns a broad scale of activities. The concept propounds to social well being to physical development, public space, infrastructure, and all the aspects to regain cities with economical, social, physical and environmental wealth. Redevelopment and management of urban built facilities have given considerable interest in urban regeneration projects, given that it is essential to enrich urban lives and image. Therefore, this paper hereinafter discusses the urban facilities in urban regeneration context.

Urban facilities can be divided into public and private facilities in terms of the type and usage of a facility, but the personnel in charge of information generation and management can be further differentiated depending on the phase of the facility life cycle. For public facilities, central or local government agencies are in charge of management, however, private firms commonly execute the design and construction (Lee, Jeong, Seuk Oh, Lee, Ahn, & Lee, Yoon, 2013). According to the service/impact range, urban public facilities are subdivided into three levels: municipality, community and neighbourhood.

Local Government Authorities' main objective of building is to balance the requirements of maintaining and preserving public assets while providing appropriate and high quality services, which meet the needs of the community (Brackertz, 2006). Some municipalities are efficiently managing and maintaining the public facilities, despite their financial constraints (Yi & Komatsu, 2010). But, many public assets and government-owned facilities are not well maintained and are in poor condition. It is contended that the maintenance of community facilities is a critical issue

for Facilities Management, emphasized through the problems raised by many local councils in running facilities operations and their associated services due to the increase of ongoing costs each year (Alexander & Brown, 2006; Tobi, Amaratunga, & Noor, 2013). Therefore, local authorities and other responsible government authorities faced difficulties in managing urban facilities. Motivation of private firms in managing these facilities becomes key elements for local authorities to execute the functionality of such facilities with high standards. In this scenario, Facilities Managers in private firms would play a vital role performing FM functions in urban facilities through private public sharing agreements. The following section presents such agreement in urban regeneration contexts.

### **Collaborative Facilities Management in Urban Facilities**

Facilities Management may find inspiration trends in urban planning, and consider the urban context as a part of its facilities in order to facilitate creative environments (Larsen, Elle, Hoffmann, & Munthe-Kaas, 2011). Barrett and Baldry (2003) defined Facilities Management as an integrated approach of maintaining, improving, and adapting the buildings of an organisation in order to create an environment that strongly supports the primary objectives of the organisation. In general, FM focuses on individual building scale rather than urban context (Krklijes, Kubet, & Hiel, 2009). However, Kasim and Hudson, (2006) highlighted that future direction of FM might explore the changing priorities, potential scope, future functions, and impact of FM in providing services to support the local community needs and economy. Therefore, understanding of FM leverage should be extended beyond the impact on individual organisations and buildings, to recognise the full contribution that facilities make to the local economy and community (Alexander & Brown, 2006).

Study found several concepts and practical scenarios relevant to the management of urban facilities through the collaboration of private and public Facilities Managers in urban regeneration contexts. Following section addresses these scenarios. Urban FM, community based FM, community enterprise organisations and other collaborative urban projects demonstrated the private firm involvement in urban facilities.

The concept of urban FM is an emerging concept in finding new and innovative ways to manage urban facilities and community assets (Tobi, Amaratunga, & Noor, 2013). Robert (2004) defined urban FM as a logical extension of the need to reinvest in community facilities and systems, and provide a flexible platform, in which agencies and private sector can come together in a new and innovative setting for the benefit of the community. According to the author, urban FM provides following advantages:

- The introduction of the techniques of business management, in particular efficiency improvement to public services;
- The introduction of market mechanisms and competition into public life; and
- A greater service and customer orientation within public services

Tobi, Amaratunga, and Noor (2013) mentioned that social enterprise principles and their relationships could be achieved within an urban FM setting. A social enterprise is a business that trades primarily to achieve social aims, while making a profit. Social aims might include job creation, training, and provision of local services (Alexander, 2008). The concept of urban FM and social enterprise could be applied to better management of community facilities that integrate organisational support services and the community support services (Kasim & Hudson, 2006; Tobi, Amaratunga, & Noor, 2013). For example, the Disney Corporation following the

principles of new urban design developed town of Celebration in Florida. The management of community services used best practice approaches in cleaning, waste disposal and the management of public areas. Privately managed urban environment resulted delivering a better public service in terms of both quality and cost while adding more indirect benefits such as appreciation of asset value in these areas (Robert, 2004).

Moreover Alexander and Brown, (2006) mentioned that the community based FM (CBFM) that involves the management of facilities and the delivery of services to reflect the community and environment in which firms reside and operate. Author defined CBFM as the process by which all the stakeholders in a community work together, to plan, deliver and maintain an enabling environment, within which the local economy can prosper, quality services can be delivered, and natural resources protected, in order that citizens can enjoy a quality life. This involves major shift of direction as:

- Organisation to community;
- Workplace to neighbourhood;
- Business service to community resource; and
- Advocate of the user to advocate of the citizen.

Community enterprise organisation is also a similar concept which emerge from local communities at the neighbourhood level, work in partnership with the public and private sectors, and provide a range of services to meet social, economic and environmental needs (Bailey, 2012). These organisations acquire assets of land and buildings in order to develop their local communities in UK and USA. According to Alexander (2008), community organisations provide opportunity for community groups and local authorities to transform assets like community centers and other buildings into more vibrant and valuable resources for the whole community as longer-term benefits. Well-managed and well-maintained transfer of ownership or management of community assets can be a win-win situation for local councils and local communities. Thake (1995) presented that community enterprises could make a major contribution to community regeneration by forming partnerships between other organisations in the voluntary and community sectors and public sector bodies.

Ogu (2000) reported the sustainable Ibadan Project in Nigeria, which takes a systematic approach to mobilization of a cross section of public and private organisations in Ibadan to plan and manage the urban environment such as waste management and water distribution system. According to the author, government's capacity to invest in such a programme is limited. Hence, private public partnership in investing and managing environmental services ensure sufficient improvement of the urban environment and cognizance of local potentials, circumstances, and problems.

According to Krkljes, Kubet and Hiel (2009), buildings, which are situated directly next to public spaces, have clearly defined interrelationship with surrounding public spaces. Authors further mentioned that interaction between built environment and public space is required to uplift the employee and public life even though it is an isolated built environment. As a result, buildings have clearly improved the built structure of urban blocks and created quality environmental micro-spaces (Krkljes, Kubet, & Hiel, 2009). Therefore managing nearest public space or urban facilities would be a favorable solution to uplift their own building as well.

In private firms', Facilities Mangers have been involved in conducting FM in urban facilities while performing their own role. Although, different scenarios are executed, the ultimate aim, which is

to deliver better services to community while both public and private parties fulfilling their main prerequisites, is well achieved. According to Kumar and Prasad (2004), private sector participation could help to bring technical and managerial expertise, improve operating efficiency, large-scale injection of capital, greater efficiency in using the capital, better responsiveness to consumer needs and satisfaction. The provision of public goods or services through partnerships is based on two different motives. Private firms focus is to earning money through building public goods and delivering services, while governments are concerned with saving money through private participation (Hammami, Ruyashyankiko, & Yehoue, 2006). Accordingly, public sectors can transfer certain risks, and specific private sector and private developers will receive the rewards that are commensurate with the amount of risks to be born.

### **Concept of collaborative FM**

According to the above scenarios, it is clear that individual firms have capacity to collaboratively perform FM role in urban facilities. This concept therefore would convey synergy for both private and public sector authorities. The private firms use various approaches and methods to accomplish FM functions in different urban facilities. However, these ad hoc practices clearly emphasize the need for detail investigation on this subject area. Further, lack of definition for the approach would also misjudge this concept. Having considered the above scenarios, the *collaborative Facilities Management can be defined as the public and private sector organisations collaboration for the Facilities Management of urban facilities in urban regeneration projects*. This study therefore aims to identify the potential urban facilities that can be collaboratively managed to perform Facilities Management in Sri Lankan urban regeneration contexts.

### **Urban Regeneration and Urban Facilities Management in Sri Lanka**

The country is experiencing a speedy urban regeneration Projects particularly after the end of civil war. Various development projects have been implemented in urban regeneration in Sri Lanka aiming at sustainable urban development and minimizing growing congestion in cities and to improve accessibility for basic urban facilities. The present government is initiating various urban regeneration projects to enhance economic, social, environmental and physical developments in urban life. Mainly, road networks, pedestrian paths, recreational facilities, housing schemes and other social, and welfare facilities are under construction. The government is realizing its potential to embark on the project to restore and develop the area to facilitate public access.

The Urban Development Authority, one of the agencies under the Ministry of Defense and Urban Development, is responsible for the planning and development of urban areas throughout the country. The amendment made to the UDA Law 41 of 1978 made it mandatory for the UDA to prepare Development Plans for all areas declared under Section 3 of UDA law and authorized it to carryout physical development in such areas (UDA, 2009). Local authorities are responsible for providing comfort, convenience, and well being of the community. Presently in Sri Lanka, the local government is operating under three entities namely municipal councils, urban councils and pradeshiya sabha. The functions assigned to all three types of local authorities include:

- Public health and environmental sanitation
- Public thoroughfares
- Public utility service including the provision of civic amenities

Further, Local Authorities are vested with powers to provide;

- Welfare Services
- Educational Services
- Religious and Cultural Services
- Provision of Facilities for Leisure and Entertainment

The extent to which these functions are performed would vary in accordance with their financial and other capabilities (Leitan, 2010).

Beira Lake Restoration, Independence Arcade, and Diyatha Uyana are few of the projects implemented by the UDA. Further, Metro Colombo Urban Development Projects structured to upgrade public facilities within the Colombo. According to Wijewardena (2011), government has not sufficient resources to undertake the infrastructure facilities and therefore choose to get private entrepreneurs to finance those projects under a new economic development model in which the public and private sectors would team up in providing essential infrastructure facilities. Thereby, new models of both private and public sector getting together and initiating large development projects have now been established. One of the main criticisms is that, local authorities are incapable of maintaining above facilities with their limited resources. Hence, the above partnerships can extend to FM phase of the built environment as a mean to uplift the quality of the urban facilities.

## **Methodology**

A comprehensive literature review was carried out using journals, conference proceedings, and books to investigate the private and public collaboration for Facilities Management in urban facilities. When considering the aim and the nature of the research study, it was obvious that this study needs holistic and in depth investigation into these collaborative FM approach for urban facilities in Sri Lankan urban regeneration context. Yin (2003) mentioned that case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. Having considered the exploratory nature of the study, a single case study is selected to explore the research aim. Further case study involves the study of a phenomenon in its real-life context (Yin, 2003) and incorporates the views of participants in the case under study. Therefore, study selected one of the urban regeneration projects in Sri Lanka that involves private and public collaboration ad hoc manner for Facilities Management in urban facilities. The selected case study was “Beira Lake project” which is an urban regeneration project developed by the UDA. Project Coordinator, Firms’ Facilities Managers and responsible parties for urban facilities were interviewed to collect realistic information. Following section presents the findings, analysis of collected data and discussion.

## **Discussion**

### **Introduction to the Beira Lake Urban Regeneration Project**

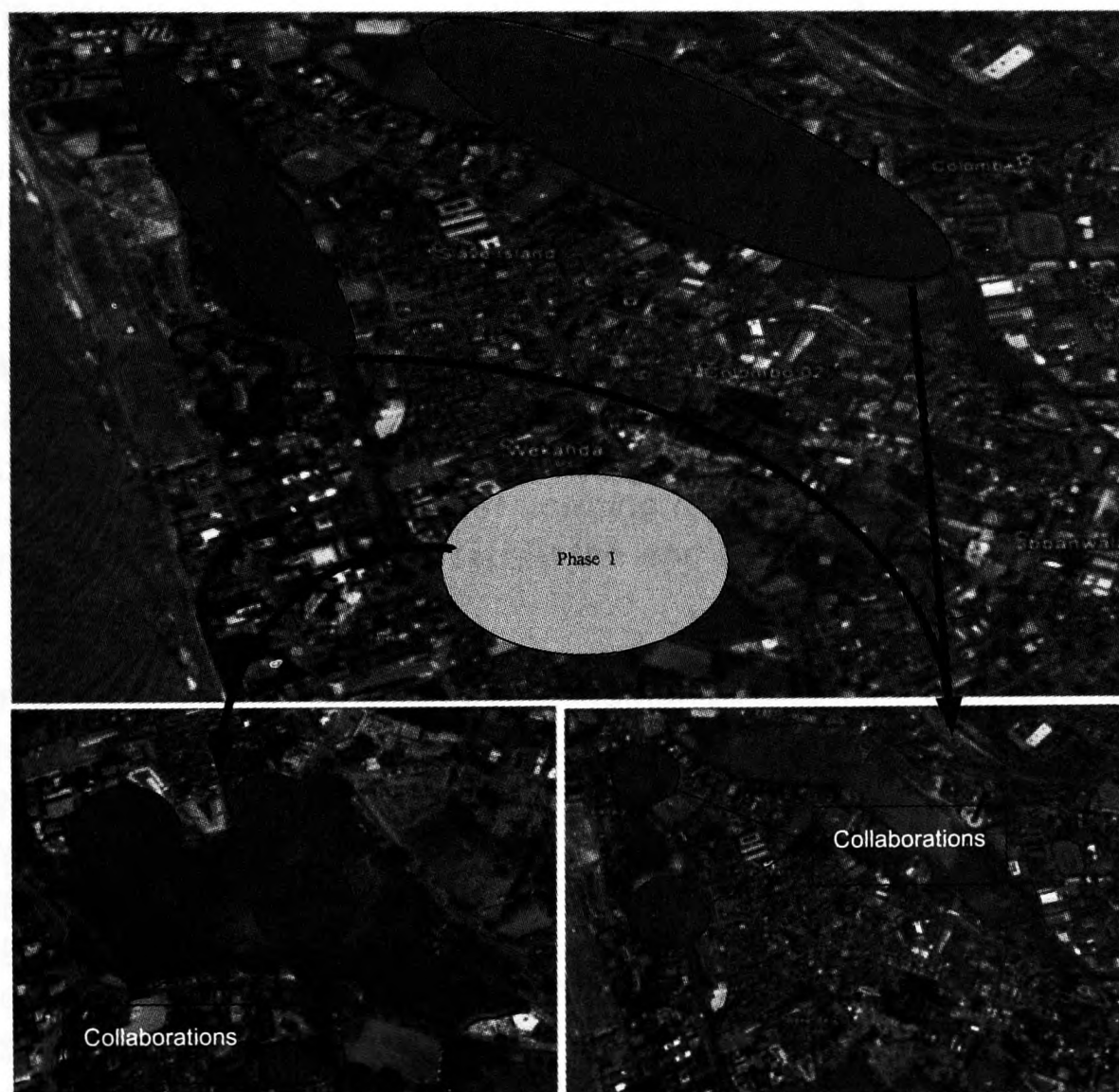
After end of civil war, Sri Lankan government is initiating urban regeneration projects aiming to uplift society. The study selected one of the urban regeneration projects; “Beira Lake” in Colombo area which exist several informal collaborations as well as potentials for the above phenomena. The Beira Lake originally spreads around 165 hectares of land in the city was created by the Portuguese in 1521 to protect their Fort from the locals. Later the lake was used for economic purposes by the British and now the lake covers about 65 hectares. However, the

government is realizing that it has potential to restore the lake and develop the area to facilitate public access. The project was designed with two phases. Phase I (West Beira) had already been implemented. Phase II of the project has been started by the UDA under the Metro Colombo Urban Development Project. Figure 1 presents the regenerating area of phases I and II.

The Table 01 presents the objectives of Beira Lake Project.

**Table 1: Objectives of Beira Lake Project**

Plan	Objectives
Water Management	<ul style="list-style-type: none"> <li>• Dredging of Sediment/Sediment treatment</li> <li>• Cleaning of Water</li> <li>• Disconnect the Waste Water Outlets</li> <li>• Monitoring Water Quality</li> </ul>
Environment Improvement	<ul style="list-style-type: none"> <li>• Dredging of the lakes</li> <li>• Development of linear parks and nodal parks</li> <li>• Development of a scenic drive</li> </ul>
Business	<ul style="list-style-type: none"> <li>• Relocation of existing inappropriate uses to suitable locations</li> <li>• Construction of a new road over the Lake</li> <li>• Redevelopment of lands for more productive uses, such as offices, apartments, banks, commercial establishments, etc</li> </ul>



**Fig. 01: Beira Lake Urban regeneration Project Phase I and II**

Project is targeted to develop following areas;

- Redeveloping Beira lake,
- Linear parks along the Beira Lake with a width of six meters,
- Jogging track around the lake,
- Model parks in several places along the Beira Lake for public use,
- Housing units with more facilities in the condominium housing schemes, and
- Relocating warehouses and garages

### **Urban Facilities**

The selected project area is inclined with office complexes, residential area, super markets, and road and railway networks. Government has provided various new and modernised urban facilities in this area through the urban regeneration project as means to enrich the urban environment. Car parks, recreation facilities, linear parks are some of the added urban facilities. As usual, responsible agencies are facilitating utilities such as electricity, water distribution, and other functions including sewerage distribution, waste collection in this area. UDA is responsible for planning and development of the urban assets. Management and maintenance of the urban facilities is also a responsibility of line agencies and municipal council. Private and public organisations are entitled in maintaining their own premises while adhering to the government rules and regulations. Figure 1 illustrates the area of Phase I, which has already completed and the area of Phase II, which is implementing presently.

### **Existing Facilities Management Functions in Urban Facilities**

The research focused to investigate the collaborative approaches of individual firms and public authorities (UDA & Municipal Council) to perform FM functions in micro and macro built environments. The individual firm in this paper is considered as any private or public sector organization performs in various businesses. This study observed various interrelationships between entities such as public authority – individual firms, and individual-individual organisations to carry out FM functions. However, study focused on investigating the public authority-individual firm relationships in performing FM function. Interview discussions were held with urban regeneration project coordinators and the professionals who are responsible for managing buildings and premises. The study revealed several scenarios with reference to collaborative FM and these areas are highlighted with circles in Figure 1. In addition, discussion presents in followings sections.

### **Sharing Facilities/Equipments**

One of the organisations is providing equipment and other physical resources to maintain public road located in front of their premises. Municipal Council is responsible for the maintenance of the road network in the particular area. It is discovered that as per the request of the responsible authority for the urban development, individual organisation is providing cleaning resources to the workers who involved in cleaning the roads. According to the respondent, this would support continuous maintenance of the outer perimeter of the building. Further, the organisation has considered this as their one of the corporate social responsibilities. Respondent stated that *“responsible public authority asked us to provide these equipments on monthly or semiannual basis. We decided to provide them, because we really need to keep our front space clean and clear.”* However, this is an informal arrangement in sharing resources between organisation and public authority.

### **Sharing Car Park Facilities**

Regeneration project has developed a number of car parking facilities in this area and hence the capacity of public car park facilities has increased. In some cases, it is found that public authorities responsible for urban development & maintenance have informally transferred parking spaces/slots for individual organisations. According to the informal agreements, public also allow to use these car park slots. The car park spaces are located near to the individual organisations and therefore the maintenance of these spaces is performed by those organisations. Space for the vehicle parking is one of the critical issues for any organisation. These informal agreements have minimized the car park issue of the organisations located in surrounding area. Further, some institutions have been paid small amount to the relevant public authority for maintaining purposes.

### **Shared Maintenance of Front Urban Spaces**

Urban regeneration project is planned to implement various urban beautification sub projects to enhance the quality of the land. It is observed that various urban facilities are maintained by the Private organisations. Further to the discussion with the Project Coordinator, it was found that urban regeneration project planned to delegate the maintenance of certain urban facilities such as parks, ponds, and other landscaping areas to private firms. This is designed to implement in Phase II. In addition, some of the firms have agreed to perform both construction and maintenance of urban spaces, which locate close to their premises with formal agreements. This scenario is highlighted in Phase II. However, some of the private firms have already agreed for these arrangements whilst, some have rejected the concept. Delegating maintenance to the individual firms would be a cost effective method for the public authorities and the central government. Further this will benefit to the people who use this facility.

Further, study found that the authorized public institution also has rejected some sharing agreements proposed by the individual firms. Respondent of one private organisation stated that *"we have requested permission to maintain landscaping area located in the middle of the road and it was rejected"*. According to the respondent, this area is a suitable place to advertise their organisational products and image. It is also observed that some urban facilities are maintained by the individual firms. Project Coordinator stated that *"we will give authority to maintain public assets to those who are not harming it's end user expectation"*. Therefore, it is clear that sharing agreements needs to satisfy the end user expectations instead of individual purposes.

Almost all the Facilities Manager's intention is to provide clean and attractive environment for the organisations. Interview discussion revealed that most of the individual entities are willing to decorate urban spaces to add value to their premises. For example, one of the firms has constructed a public garbage collector bin in front of their building. Therefore, it is apparent that most of the individual firms are dedicated in supporting public authority at their own cost. However, lack of authorities and poor negotiation has acted as barriers for such scenarios.

### **Open Places for Private Gatherings**

Through the observations, it was identified that the regeneration projects have constructed in eye-catching places, which are suitable for the public to spend their leisure time. Specially, wedding ceremonies and other special occasional functions can be arranged in most of these places. It is found that some of the employees who work close to this area are using these places

to celebrate their special occasions such as birthdays, annual get together and family get together. Human Resource Manager in one of the organizations stated that *“our annual get together was held in that place, at a lowest cost and it was convenient for all of us”*. In contrast, Facilities Manager in another organisation mentioned that *“we don’t use these places as we have our own auditorium.”* Therefore, this scenario can be interpreted in different angles. Organisations, which do not have sufficient resources, are interested in using public facilities while others use their own facilities. However, it is revealed that using public facilities for private purpose would receive benefits for both parties. It would be an income and service for maintenance authorities, while individual firms fulfill their expectation in a cost effective way. Similarly, it is found that with the regeneration project, sharing agreements between organisations and authority that is responsible for urban development have been increased. Municipal Council is also expecting to support and cooperate for individual firms to manage and maintain the attractive urban environment. Moreover, individual firms devoted on supporting authorities as to gain several indirect benefits and as a social enterprise. In additions, various reasons entails for organisations and public authorities to integrate different types of FM functions and Infrastructure. However, it is apparent that the current collaborative approaches are happening in ad hoc manner and most of the sharing/partnerships are informal. The systematic, formal, and structured partnerships would create more opportunities or both parties in urban regeneration context.

### **Potentials for the collaboration**

One of the objectives of this study is to identify the potential FM functions and approaches that can be collaboratively performed by the public authorities and individual entities. It is apparent that various collaborative FM opportunities have arisen with the urban regeneration projects. In interview discussion, the expert expressed their thoughts on potential urban facilities and approaches that can be performed through cooperation. Accordingly, following approaches were identified as potential collaborations FM functions in Sri Lankan urban regeneration projects. The aforementioned approaches including

- **Sharing facilities/equipment:** In present Sri Lankan context, only few resources have been informally shared between parties. However, this can be extended to share other tools and equipment as well as labour force with formal agreements. In addition, this can be extended not only to cleaning and maintenance activities but also to, infrastructure renovation, repairs and other related functions.
- **Sharing car park facilities:** Public authorities can delegate maintenance and usage of car park to private organisations in order to eliminate the traffic congestion while allowing access to general public.
- **Open places for private gatherings:** Collaborative approach of public authorities and individual organisations can create gathering places such as auditoriums, parks, jogging tracks, walkways, pavements, playgrounds and other recreational areas. Municipal Council can hand over the maintenance of these places to individual firms, while allowing private organisations and general public to use them.
- **Shared maintenance of front urban spaces:** The study found that most of the organisations in this case study would prefer to maintain and moderate the public area, which is located in front of their premises. Hence, this motivation of the private sector should not be limited to landscaping, but also to construct and maintain bus stops, ponds, parks, roads and other infrastructure facilities.

- **Shared waste management system:** Sharing waste management with private sector organisations would be a favorable solution to uplift the beautification in urban areas. Private organisations could support this by implementing waste collection and recycling strategies. Further, private organisations could combine public wastewater system with their wastewater treatment plant. This similar collaboration has found in community enterprise organisation and sustainable Ibadan Project (refer 1 literature).
- **Sharing utilities such as electricity, and water distribution systems:** Private firms could support responsible agencies by sharing utilities such as electricity and water. For example, additional electricity generated through solar power or other renewable sources can be transferred to the national grid.

Some of the above collaborative approaches discussed were implemented informal and voluntary basis agreements. Majority of the respondents highlighted the importance of formal agreements for the collaborative approach. Interview discussion highlighted that, private public partnerships (ppp), private financial initiatives (PFI) and other agreements as a suitable approaches for effective collaboration. Hence, respondents suggested to initiate more systematic collaborative approach for FM in urban regeneration project.

### **Enablers and Barriers for the Collaborative FM**

Study highlighted the fact that few individual firms have initiated the informal public and private partnerships as a collaborative FM. One of the objectives of the study is to recognize the enablers and barriers of the above concept. Interview revealed that a relationship between parties is an important requirement for the integration. Public authorities maintain relationships with the government sector organisations than private sector organizations for the collaboration. Moreover, the top management commitment strengthens the collaboration. Hence, this informal, formal, and voluntary relationship can be considered as another enablers of the concept.

With the urban regeneration project, number of opportunities has been created to arrange public private partnerships for FM. However, these opportunities need to be negotiated or discussed within the parties. The study found that, without a proper need, firms are not interested for the collaborations. Most of the private firms ignore this concept, as there is no requirement or suggestions from either party. In addition, positive attitude towards the parties are essential for collaborations, as most of the firms prefer individuality in operating their business. Private firms are profit-oriented organisations while public authority intention is public welfare. Hence, both parties need to fall upon with their own benefits to initiate such concept. Therefore, it is revealed that public authorities and organisations accept sharing agreement only where there is a win-win situation. Moreover, it is also observed that most of the individual firms intend to share public facilities, which is closure to their premises. The geographical proximity has encouraged the collaborative FM functions. Therefore positive attitudes, close relationships, need, distance, and win-win situation reinforce the collaborative FM concept. The challenge for public authorities or organisations is to ensure that new partnerships are developed for the benefit of all.

### **Conclusions, recommendations and future directions**

The speed and scale of cities expansion are unprecedented and nowadays, cities find their own solutions to upgrade the urban life and urban fabric. This paper explores one of the sustainable solutions to manage urban facilities by introducing the concept of collaborative FM. The paper

defined collaborative *FM as the public authorities and private sector organisations collaboration for the Facilities Management of urban facilities in urban regeneration projects*. Urban facilities such as car park, landscaped area, gathering places, recreation facilities, and sharing resources could be favorably handled through partnership agreements. Moreover, delegating functions of FM in urban facilities for individual organisations is optimistic opportunity for public authorities to manage urban property effectively. Private public partnership and private finance initiative are ways of creating collaborative FM approach more systematically. In addition, positive attitude, top management commitment, distance, win-win situation persuade worthy of collaborative FM approach. The next step of this project is to develop systematic collaborative FM approaches, which can be successfully implemented in urban regeneration context. In a society, individual firms no longer compete as a sole entity rather works in clusters to gain competitive advantage. It is apparent that collaborative approaches are rising among urban communities as sustainable solution for their issues. In fact, applying this concept would eventually construct world-class urban facilities to match the global demand in urban regeneration context.

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