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Inter-Organizational Coordination of Drainage Management System in Dhaka Metropolitan City: A Case Study of Word 61 of Dhaka South City Corporation

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Abstract: *This study investigates the factors influencing inter-organizational coordination in the drainage management system of Word 61, Dhaka South City Corporation of Dhaka Metropolitan City. It argues that poor drainage systems contribute to flooding and result from a lack of coordination between organizations. RAZUK, Water Development Board, DSCC, DWASA, and Roads & Highway, amongst others, are key participants in the drainage management system. The findings indicate that inter-organizational coordination between government agencies in the drainage management system is poor due to a lack of direct contact, resource constraints, inadequate supervision, and institutional attitudes. According to public opinion, response activities implemented by various organizations have been ineffective.*

In the drainage management system, the state of inter-organizational coordination among government organizations was determined to require improvement. The effectiveness of related agencies' plans, activities, designs, and coordination could have been enhanced. The research indicates that direct contact, resources, supervision, reciprocal factors, and institutional perspective contribute positively to the development of inter-organizational coordination in drainage management. Coordination between organizations will enhance the drainage management system in the long run.

Keywords: *inter-organization, coordination, drainage management, water logging, direct contact, institutional perspective*

I. Introduction:

Coordination is a crucial tool for public organizations, as it helps reduce redundancy and contradictions in actions, ultimately achieving the common good. The public sector is now focusing on coordination in an inter-organizational context, aiming to minimize legitimacy, redundancy, and contradictions in policy matters. The main motto is to use limited resources best, bringing together stakeholders on different policy matters. Dhaka City is currently facing water logging during the monsoon season. Waste Management in Dhaka City has emerged as one of the most significant challenges faced by Dhaka City Corporation (DCC), which is now divided into two areas like; Dhaka North City Corporation (DNCC) and Dhaka South City Corporation (DSCC) authorities. DNCC and DSCC, along with The DWASA (Dhaka City Waste Authority), are facing severe problems in providing a satisfactory service to the city dwellers with their limited resources and poor management plan.

This research focuses on the rainfall-induced flooding in the Word 61 area, mainly due to governance issues, lack of proper drainage systems, lack of coordination among related organizations, and incompetent management. The research aims to identify the leading causes of water logging and its effects on the Word 61 area. Effective drainage management has become an increasingly important issue in the last two decades due to the escalating population and waste production in the Word 61. This research investigates the inter-organizational coordination among departments involved in drainage management in Dhaka city, including RAJUK, DNCC, DSCC, DWASA, and Water Development Board (WDB). The study aims to identify the current state of coordination failure among organizations, as inter-organizational coordination is a critical part of the drainage management system, as it involves multiple interacting organizations.

1.2 Statement of the Problem

The governance of Dhaka City has its roots in the conflicting relationship among the elected mayor of the DSCC, DNCC, DWASA, RAJUK, the Water Development Board, and the central government. The city's governance is weak and ineffective, particularly in Word 61, which faces severe drainage congestion and water logging. This leads to adverse physical, economic, social, and environmental effects, such as destruction of vegetation, disturbance of natural traffic, and damage to infrastructure. Low-income residents are particularly affected by water logging. Staminate stormwater can become polluted, mixing with clinical waste, domestic waste, solid waste, silt, and other contaminants, leading to waterborne diseases.

Monsoon rain, which is a normal phenomenon, has had a significant impact on the residents of Word 61, as filthy waste enters homes and causes foul odors, making waterborne diseases a serious health concern. Even a small mm of rain can turn Word 61 into a catastrophe situation.

1.3 Scope of the study:

The study focuses on Word 61, located in the DND area at DSCC of Dhaka city, to analyze inter-organizational coordination among key departments in drainage management. The aim is to measure the extent of coordination among these departments, which has been neglected for a decade. The Word 61 includes Old Dania, Dania East, Dania North & South, Nurbag, Paterbag, Rosulpur, Polashpur, Kutubkhali, Shorai, Kobirajbag, Noyapara, Daspara of Dhaka City.

1.4 Objective of the Study:

The main objective of the research is to explore and identify water logging problems in Word 61, examine the status of inter-organizational coordination in addressing water logging and the drainage management system, and mitigate the issue.

II. Review of literature:

Coordination is crucial for organizational success, as it is essential for effective management. Mary Parker Follett, a pioneer in coordination and integration, identified four principles for effective management: direct contact with responsible individuals, early stages of coordination, situational elements, and coordination as a continuous process.

Resources, such as funds and incentives, are crucial for policy implementation. Van Meter and Van Horn, (1975) found that for policy implementation, resources such as funds and other incentives are crucial. Panday (2006) found that imposing more financial control on local or urban bodies can negatively impact coordination among departments. Human resources require skill and knowledge, which can be achieved through proper training. Institutional viewpoints allow organizations to have their own guidelines, qualities, and standards, which impact basic leadership conduct.

Christensen and Lægreid (2008) indicated institutional viewpoints permit organizations to have their own institutional guidelines, qualities, and standards, which apply a free impact on basic leadership conduct. Individuals from open organizations can develop standardized organizational components, which can be adapted

to suit their needs and activities. This chapter aims to develop a theoretical framework for exploring and analyzing coordination in drainage management in Dhaka city. Literature on coordination has been reviewed, and attempts have been made to establish a relationship between coordination and factors affecting coordination, such as informal communication, resources, direct supervision, network-based coordination, and institutional perspective.

Table Error! No text of specified style in document.**-1: Different forms of Coordination**

	Horizontal Coordination	**Vertical Coordination**
Internal coordination	Coordination between different organization like RAZUK, Water Development Board, DSCC, DWASA etc.	Coordination between ministries and the subordinate agencies like Ministry of Housing and different organization like RAZUK, Water Development Board, DSCC, DWASA etc.
External coordination	Civil Society coordination, Private sector coordination, coordination with interest organization	Coordination upward to international organization for example ministries and the donor agencies like JICA[1]

III. Review of Drainage Plans

After British control, the then Pakistan government built up the Department of Public Health Engineering (DPHE) for the recovery of polluted water, waste, and sanitation framework for provincial and urban individuals. Dhaka WASA was established in 1963 as an autonomous organization under the East Pakistan mandate XIX. In 1989, the waste management of Dhaka city likewise gave over to Dhaka WASA from DPHE. Dhaka WASA's exercises have been rearranged by Dhaka WASA Act 1996. As indicated by this Act, Dhaka WASA is working as a semi-self-autonomous organization under a Board, and the line service is the Ministry of Local Government, Rural Development and Cooperatives (LGRD&C). Several flood control and stormwater drainage plans for greater Dhaka have been prepared by the Government of Bangladesh (GOB) with cooperation and assistance from various international agencies. However, the most significant drainage facilities were constructed after the 1988 flood.

The first master plan on flood protection and internal drainage of Dhaka city was undertaken by the DPHE in 1968. The master plan covering an area of 75 km2 included the construction of a dam around the city, a pump station, and other internal drainage facilities. The Water and power development authority (WAPDA) was assigned to construct the dam and pump stations, and the DPHE was appointed to build the internal drainage system; however, the plan needed to be revised. As a follow-up to the above Master plan, BWDB prepared a detailed plan covering an area of 144 km2, and DPHE also organized a separate program for the internal drainage system. In 1981, a study on Dhaka Metropolitan Area Integrated Urban Development Project was completed with assistance from ADB and UNDP. The study still needs to propose a detailed flood control and drainage plan. In 1989, DPHE handover the responsibility of stormwater management to the WASA. After that, WASA is the prime responsibility for Dhaka city's storm and sewerage management. WASA prepared Dhaka's sewerage and drainage map, but the growing population demand needs further modification of the map

according to the present needs. DSCC, DNCC is also responsible for drainage management in Dhaka city. Recently Dhaka WASA prepared a drainage master plan, but nothing is visible in the implementation process.

IV. Research Methodology

This qualitative research investigates the coordination gap among drainage management systems organizations, focusing on the reasons and processes behind coordination. The study uses a qualitative design, interviews, and participant observation to gather primary data. Open-ended questions and a standard questionnaire were developed to gather opinions from various groups, including general people, officials, and the general public. The research aims to understand the reasons behind the lack of coordination and its impact on the drainage management system.

V. Data Analysis

This chapter investigates drainage management causes in Word 61 using primary sources, informal interviews, and analysis and classification. Researchers use multiple methods, including participant observation, in-depth interviews, group discussions, and oral histories, to enhance the richness of the information.

5.1.1 View of resident on water logging – A view is from below

Residents in Word 61 of Dhaka city view water logging as a significant problem, causing prolonged encroachment of natural bodies and disrupting livelihood patterns. The issue has been unresolved for years, highlighting the need for visible solutions.

Case 1: Word 61 in Dhaka city has been experiencing severe waterlogging for half a decade, causing miserable living conditions. HaziSawkat Ali Roke, a resident, regrets leaving the area due to the problem. He has lived in the area for 17 years and believes the problem is acute. He feels more time is needed to drain rainwater from the road, as canals and open ditches are filled up.

5.1.2 A Problem with no cure

To measure the gravity of the water logging problem, residents are asked, "To what extent do they view water logging of Word 61 as a perennial problem, perhaps with no administrative cure?" Interviews with residents are presented below:

Case 2: Md Abu Raihan, who is a school teacher of Word 61. He lives in this area for the last 25 years. According to him, the Zia Sarani canal, linked to the Dholaikhal and Buriganaga, has been a subject of political manipulation. A risen political leader built a grocery shop beside the canal, which is unauthorized and causing water logging. The WASA is responsible for maintaining the canal, but they failed to do so, causing the canal to become unauthorized. A large pond in front of Dania College also helps in addressing water logging. Some local political big shoulders filled the pond and created 83 makeshift shops, with people paying an advance of around tk 3-4 lac. The area is owned by the Roads and Highway department and has a large business. The WASA recovered the land in 2007, but the situation worsened after the pond was filled, causing severe waterlogging and local drains not being able to channel water through the Zia SaraniKhal.

The story highlights coordination failure in drainage management, leading to severe water logging issues. Economic, political, and local biases contribute to the issue.

5.1.3 Maintenance of drainage

Drainage maintenance is crucial for sedimentation, as seen in the story of MdHadiuzzamamn, who lived in Dania for 11 years. He experienced poor drain maintenance and found no organization like WASA or City Corporation for the area. Coordination between local residents, organizations like WASA, and the Roads and Highway Department can improve the situation.

5.1.4 A Problem of Coordination

The coordination of drainage management organizations like WASA and DSCC is weak, resulting in unsolvable water logging problems. The Councilor of Word 61 has experienced numerous complaints about water logging issues. He met with a local MP to address the problem, but the situation remained unresolved. MdShahidul Islam Bipu, a member of the Sheikhdi area, also shares his experience of water logging issues.

Delays in drainage construction in Dania result from a lack of coordination among the departments and offices involved. The DSCC was supposed to construct a 3 km-long drainage, but construction was suspended for five months due to inadequate land size. The AC Land Motijheel office was responsible for resolving the land dispute. It is the collective responsibility of both the DSCC and AC Land office to ensure adequate land size before issuing construction permits.

This issue is common throughout Word 61, and more time is needed to solve the problem. No house is constructed according to the law in the DND area, and most cases violate building construction regulations. The problem highlights the need for better coordination among local people, WASA, Roads and Highway Department, political leaders, City Corporation, Councilor, and political leaders.

5.2 Views from the Officials

A total of 24 professionals were interviewed to understand their perceptions of water logging in Dhaka's Dania area. They provided suggestions for managing the drainage system and water logging issue. Data on natural drainage systems were collected from various sources, including DSCC, WASA, RAJUK, and Water Development Board.

5.2.1 Coordination of existing natural drainage to manmade drainage

Water logging has been a significant issue in the Word 61, with some claiming there are three or more canals connected to the Dolaikhal canal. A senior official from WASA was asked about the coordination between natural and manmade drainage. The city's sewerage framework includes maintenance and confinement ranges, including canals connected to surrounding streams. In the Word 61, four main canals are closely associated with these canals, such as lakes and low-lying lands. The Dholai Canal, once a vital navigational conduit, has vanished due to four years of wrong city organization arrangements. The DSCC and other officials have confirmed that all-natural canals have been destroyed and encroached on, highlighting a clear coordination gap between natural and manmade drainage.

5.2.2 Box culvert is the wrong planning decision.

Box culverts are structures that allow water to flow under streets, railroads, or impediments. They are typically made of pipe, strengthened concrete, or other materials. Water logging is often seen as the coordination of making the box culvert without any future effect. In Dhaka, the idea of box culverts began after the 1988 surge when most of the city went under waterlogging. A powerful board of administration presented a report in 1989 to relieve the issue.

In Dania territory, water sections remain stopped due to a lack of maintenance. Dhaka City Corporation and WASA built the box culverts in the 90s and early this decade. Architect Iqbal Habib, joint secretary of Bangladesh ParibeshAndolon, said the development of box courses is off-base and causes water stagnation. The current acute water logging is the major engineering failure of making the box culvert.

5.2.3 Maintenance of Box Culvert: Another Coordination Problem

After 1990, various drainage management organizations built box culverts in Dhaka city, but there is a lack of coordination regarding maintenance. A senior-level engineer from WASA stated that these culverts destroyed the city's 200km canal network and caused problems for WASA due to their inability to clean them properly.

The majority of the box culverts remain filled with solid waste, reducing water-carrying capacity. If authorities cleaned the culverts properly, the water logging problem in Dhaka would significantly reduce. Different organizations started maintenance at different times, but a coordinated approach would lead to significant improvements in the box culvert channel. The lack of coordination among related agencies and the improper cleaning of the box culverts highlight the need for better coordination and management in the drainage management sector.

5.2.4 Losing wetlands, clear coordination gap among authority

In the Word 61, water bodies have historically provided water and fish cultivation, but they are now being destroyed by filling and grabbing by local people. An elderly professor of Water & Resource Engineering, BUET, stated that half of the present Dhaka was low-lying water bodies and that Dhaka must have 20 lakes of Hatirjheel size to handle monsoon water. The Dhaka Metropolitan Development Plan (DMDP) considered holding no less than eight surge stream zones undisturbed, but around 1,000 lakes have been completely crushed. Eight hundred sections of land in five waterways, including Buriganga and Sitalakkhya, have been wrongfully snatched, disregarding the Wetland Protection Act of 2000. In the Word 61, four major canals are almost filled up, causing water flow loss.

There is no coordination among agencies to follow the Water Body Conservation Act 2000; sometimes, they flout rules and regulations. Water bodies offer valuable environmental and recreational assets for the area, but their natural water supply and drainage system are being almost destroyed.

5.2.5 Lack of Coordination to Control the Development of Dania

Development control is crucial for the city's future existence, but there is a lack of effective coordination among the various organizations. Rainfalls on undeveloped land often douse into topsoil and course through dirt to nearby waterways or groundwater. The water development board is responsible for developing areas, but they have failed to implement proper planning. RAJUK's master plan and detail area plan failed to take into the practice ground, and WASA failed to create a drainage plan. The study area is now under the DSCC, but they are reluctant to solve drainage management plans. This highlights the difficulty in addressing flash rainfall-induced water logging when natural catchments are developed.

5.2.6 Lack of Coordination among ministries to take any decision

Drainage problems in Word 61 are caused by various factors, with different organizations working on the issue. However, there is a lack of coordination between these organizations, as they are accountable for different ministries. In case 14, a senior official from the Ministry of Housing and Public Works found a coordination gap among related agencies responsible for drainage management. These organizations are under different ministries, such as WASA, RAJUK, DSCC, DPDC, UDD, Water development board, District Administration, and PWD. WASA declined responsibility for stormwater management, citing pressure and an insufficient workforce.

5.2.7 Coordination regarding implementation

Drainage implementation plans are being implemented by various organizations, including WASA and DSCC, to mitigate the water logging issue. However, there is a lack of coordination between these organizations, resulting in road filling and digging. This results in accidents during rainy seasons and increased costs for the government and citizens. To address this, coordination between these organizations is crucial, as there is a clear gap in the implementation process, resulting in significant financial losses for both the government and the citizens.

5.2.8 Coordination of planning

The coordination of planning in drainage management is lacking in various organizations, including RAJUK and WASA. RAJUK is responsible for creating master plans for Word 61, but WASA blames RAJUK for not noticing. The lack of proper planning standards, such as the Building Construction Act 1952, Land Developer's Act 2004, and Wetland Conservation Act 2000, contributes to the lack of open space for water to enter the aquifer. City Corporations also show their disapproval of RAJUK's DMDP master plan and detailed area plan, but WASA and City Corporations do not follow these rules. RAJUK is seen as failing to control development plans, and the situation worsens due to the lack of coordination between RAJUK and WASA.

5.2.9 Coordination of Development control

The water logging issue in Word 61 is not a new issue, but it has worsened over time. Development control is crucial to curb unauthorized structures in the area. RAJUK, a key role in Dhaka's development, has a bureaucratic structure and lacks public representation in policymaking, planning, and execution processes. The organization is accountable to its higher tier of authority, particularly the Ministry of Housing & Public Works. The bureaucratic nature of RAJUK makes it difficult for it to carry out its prescribed jobs with limited manpower and logistic support. The urban affairs of Dhaka involve 20 out of 38 ministries and 41 organizations, but RAJUK has the authority to develop and control strategic policies.

5.2.10 Coordination of making drainage master plans

RAJUK, responsible for the Dhaka metropolitan development plan, has accused WASA of creating a master plan without considering drainage. RAJUK officials argue that WASA lacks the capacity to create a drainage master plan or should link with the Dhaka Metropolitan Development Plan (DMDP). WASA claims the drainage master plan is ready but has not implemented it yet. RAJUK officials claim that WASA is reluctant to consider the Detail Area Plan (DAP) and has conflicting proposals from DSCC and DNCC. This creates a coordination gap among RAJUK, DSCC, DNCC, and WASA, leading to a void master plan project and a delay in water logging solutions.

5.3 Participant observation

Participant observation is a strategy used in qualitative studies to gather information about social interactions or phenomena. This involves developing close interactions with members of a group or living in the situation being studied. An observation is recorded in a descriptive format, which can be a combination of categorization and description or categorization accompanied by a descriptive explanation.

One example of participant observation is the creation of a signboard to avoid liability, but the encroachment continues beside the signboard. WASA officials are working on creating a boundary wall beside the wall, but the people of the political banner resist at the beginning of the working process. WASA has sent letters to the Dhaka DC office for the removal of encroachment, but the DC office does not make any response.

In Word 61, there are currently four canals in the study area, and the encroachment process is ongoing. WASA is sending letters to the Dhaka DC office to remove illegal structures from the canals, but the DC office does not make any response. After removing the illegal structures, WASA plans to dig the canals again and create a boundary wall to save the canals in Word 61. However, the DC office has not had enough manpower to take on the operation suddenly, and it takes time and requires the consent of the political master.

Another example is the coordination gap between the WASA, Dhaka DC office, political masters, and local residents. The drainage system is maintained by various organizations, but there is no clear boundary for the system. The RAJUK authority does not make any concern for housing projects in Word 61, and WASA faces problems in linking with the main drainage system.

The WASA official claims they have only responsible for a 325 km drainage line, but the total drainage line of Dhaka city is 2400 km. The Water Development Board is responsible for the DND project, but they have no

funds for drainage maintenance. The city corporation and water development board also hold responsibility for the drainage system.

The coordination failure among these organizations is a result of acute water logging in Dhaka city.

5.4 Important canals in the study area

Canals are natural channels that carry rainwater during excessive rainfall and channel water from roads to the river body. They were used for natural drainage systems. Some important canals in the Word 61 are filled up by influential local people, while others have vanished. The Zia Sarani Canal, an important canal in Word 61, has almost lost its identity as a water body due to ruthless encroachment and bamboo structures under the sponsorship of influential local people. The canal had a direct link to the Buriganga and Shyatalakhya through the Dholaikhal Canal.

The Dholaikhal Canal 1 and 2 canals significantly impacted water logging in the study area. The tributary of the Dholaikhal channel connected to the Dholpur canal through the kutubkhali waterway. In the 90s, the DSCC officials transformed Dholai Canal 1 and 2 into box culverts. The Dhlolpur, Golapbagh, and Shyampur-kadamtoli canals had a link to the Dholai Canal canal and the Zia Sarani Canal. The canal was turned into a road in the 90s, and it was a huge canal with connections to Segunbagicha and Arambagh canals.

VI. Research Findings & Recommendations:

This study analyzes the effectiveness of coordination among different organizations in Dhaka city for drainage management. It focuses on the theoretical frameworks and operational questions of coordination and its potential improvement. The study uses Mary Parker Follett's theory of coordination, which is essential in administration, emergency management, and inter-organizational coordination. The study selects study variables from this theory, which is essential in administration, emergency management, and inter-organizational coordination. Hypotheses are formulated to assess the relationship between variables and tests based on empirical findings.

6.1.1 Direct contact

Direct contact is an essential tool for coordination. It is revealed that coordination becomes problematic due to the lack of direct contact. In most of the cases, it was observed that organizations are reluctant to share information they have.

6.1.1.1 Nature of interaction

The formal interaction format in WASA is fragile due to a lack of communication culture and weak informal communication. Senior officials inquired about the forms of contact with ministries, which are letters and proposals in written form. The church has limited time to address drainage management issues in the Dania area. WASA attempted to discuss the issue of Dania water logging, but no visible solutions were made. This suggests a weak vertical and horizontal relationship among the organization.

6.1.1.2 Psychological strength

It is revealed that, in most cases, junior employees failed to reach their senior colleagues due to some psychological barrier. Junior employees generally suffer from the hierarchy effect. If any kind of mismatch is found in any decision, they typically hide the issue rather than discussing it with the senior officials. As a result, the primary purpose of the matter is not solved. This barrier is the main obstacle to coordination.

6.1.1.3 Workers satisfaction

Workers' satisfaction is very weak in the Govt. organization, affecting inter-organizational coordination. It is found that employee engagement in the organization is very poor. Employees do not feel passionate about their jobs, are not committed to the organization, and put discretionary effort into their work. So there is found hardly any contact among the internal official about the issue of solving the drainage management problem in Word 61 of DSCC.

6.1.2 Understanding resources in early stages

In this study, the resource was considered as a study variable under the theoretical grounds of Mary Parker Follett's (1866-1933) theory. Based on this theory, this study mainly envisaged willingness to exchange or share resources to fulfill the resource gap and better up inter-organizational coordination in difficult situations.

6.1.2.1 Internal resource

Organizations often lack knowledge about their internal resources, such as WASA officials who were responsible for drainage management in Dhaka in 1989. Strategic management is crucial for creating value and earning high returns. WASA is currently handing over responsibility to City Corporation, but this lack of planning hinders future planning. The Water Development Board, the core custodian of DND, is struggling to control development due to insufficient resources and a lack of financial or manpower resources. RAJUK, responsible for development control, has a jurisdiction area of 1528 sqm but lacks the resources to control the entire area.

The ministry is unaware of the capacity of its organizations and lacks the manpower to effectively manage them. The role of resources, capabilities, and core competencies in developing sustainable competitive advantage is weak in drainage management.

6.1.2.2 External resource

Government organizations are reluctant to share resources like human, information, and finance, leading to a weak state of resource exchange and sharing. This weakens inter-organizational coordination and creates duplication and waste of time in drainage management. While respondents emphasize the importance of resources and are ready to exchange and collaborate, field observations do not show any events or activities in collaboration and resource sharing. The study highlights the need for better communication and transparency in resource sharing and collaboration among organizations in the drainage management sector.

6.1.2.3 Optimization

The study highlights issues with resource optimization and inter-organizational coordination, such as low trust towards counterpart organizations, goal harmonization, and credit-sharing crises. Resources like human, information, technical, and financial are crucial for managing water logging. Despite resource gaps, most organizations participate in drainage management in isolation, resulting in weak coordination. However, respondents agree that effective drainage management requires coordination among organizations rather than individual and isolated approaches.

6.1.2.4 Competencies and capabilities

The research reveals that organizations lack a systemic training policy for human resource improvement, leading to unintended politicization and work discontinuity. This lack of understanding of capacity building is common in drainage management-related organizations. Job-related training is often overlooked, and policy selection is often biased based on politics and personal welfare. To improve the human resource management system, sufficient budget, responsive programs, integrated linkages, and updated physical infrastructure are needed.

6.1.3 Continuous direct supervision

Lack of direct supervision negatively impacts drainage management, affecting capacity, workforce stability, confidence, competence, and morale. Supervisors are crucial in maintaining group unity and communication among employees. However, Word 61 of DSCC in the DND area failed due to inadequate supervision, leading to the construction of structures without following rules and regulations. Encroachment on natural canals is also a concern, as natural canals are often grabbed by encroachers. Factors affecting supervision include lack of training, lack of communication, and lack of proper training.

6.1.3.1 Leadership skill

Key respondents emphasize the importance of leadership skills for efficient supervision, as top officials often struggle to effectively coordinate, control, and supervise subordinates. This leadership gap is prevalent in most organizations, highlighting the need for effective coordination and supervision.

6.1.3.2 Operating skills and managerial knowledge

Senior management lacks operating and technical skills, limiting adequate supervision. Officials lack understanding of the organization's working procedures, resulting in ineffective leadership by senior officials.Most organizations lack strong managerial knowledge, causing officials to struggle with policy-making, planning, rules, and regulations, often struggling to handle subordinate problems.

6.1.3.3 Communication skill

Communication skill is found to be very weak in most of the organization. There is a psychological barrier to making contact with another organization. Every respondent ensures that communication is the essential factor that provides effective supervision. The study revealed that a senior official sometimes gives the order in such a way that demotivates the employee. Without communication skills, no effective leadership is possible in the organization. The supervisor must demonstrate the capability of communication. When the top management cannot convey the information or needs help understanding the info, leadership cannot be effective.

6.1.3.4 Motivating power

It is found that all organizations have different individuals with different emotions, statements, and attitudes. The study found that it is very much essential to realize human emotions and sentiments. The higher official must treat the subordinates as human beings and must develop good human relations. The higher official must have the skill of motivation and must be able to motivate the subordinates, and subordinates' efforts are effectively used for the organization.

6.1.4 Understanding reciprocal factors

Follett pioneered discussing stakeholders in drainage management, focusing on managing human relations between local people and the organization responsible for the management. He proposed a method for integrating the interests of various interest groups, such as local people, representatives, service organizations, donor agencies, and controlling organizations. Follett's approach to conflict resolution involves integrating and coordinating agencies responsible for drainage management. This approach deepens our understanding of common factors and provides direction for extending and implementing solutions to these factors.

6.1.5 Institutional Perspective

Christensen and Laegreid (2008) introduced two dimensions of organizations: instrumental and institutional. They found that all organizations are instrumental, with decisions relying on the leader and no institutional culture. They depend highly on ministries and have mismatched activities, needing a complete citizen charter. Routine work is essential for any institution, but non-responsiveness is common. The lack of institutionalization

in urban development ministries hinders the formation of these organizations, which are dependent on the leaders at the top. This results in a gap in responsibility and a failure to develop an institutional culture.

6.2 Theoretical Implications

Reciprocal factors and institutional perspectives also play a role in improving inter-organizational coordination. High levels of understanding of common factors among organizations enhance coordination. However, the state of coordination from the reciprocal factor aspect was weak. Institutional perspective, dependent on leaders' will, is crucial for effective inter-organizational coordination. In the case of the DND area, the water development mainly depends on the leaders' choice, hampering the coordination process.

VII. Conclusion

This study examines the factors affecting inter-organizational coordination in the drainage management system of Word 61, Dhaka South City Corporation of Dhaka Metropolitan City. It argues that poor drainage systems result from poor inter-organizational coordination, leading to water logging. Key players in the drainage management system include RAZUK, Water Development Board, DSCC, DWASA, Roads & Highway, and others. The study uses Mary Parker Follett's theory of integration and Christensen and Laegreid's theory of integration to study the relationship between organizations in the Dhaka city drainage management system. The findings suggest that inter-organizational coordination between government organizations in the drainage management system is weak due to a lack of direct contact, resource constraints, lack of proper supervision, and institutional attitudes. Public views show that different organizations' response activities have been ineffective.

The study found that inter-organizational coordination among government organizations needed to be stronger in the drainage management system. Plans, activities, designs, and coordination among related agencies could have been more effective. Qualitative research investigated factors with a specific arrangement region as the primary case. The hypotheses proposed in the study suggest that direct contact, resources, supervision, reciprocal factors, and institutional perspective positively impact the improvement of inter-organizational coordination in drainage management. Proper coordination among organizations will ultimately solve the problem of the drainage management system of Word 61, DSCC, Dhaka Metropolitan City, and meet the research objectives.

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