The Multi-dimensionality of Scaling Extra Curricular Activities (ECA) Program In Public Schools Of Rautahat District

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This research report of Bachelor in Community Development, School of Arts, and Kathmandu University has been presented by Gatha Shree Dahal to the Faculty Advisory Committee in 2022 and approved.

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I am aware that the internship dissertation will become part of the library's permanent collection at Kathmandu University. I hereby permit the dissemination of my dissertation to any interested reader upon written request.

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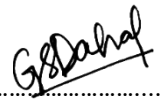
Declaration

I hereby declare that the report entitled “The Multi-Dimensionality of Scaling Extra Curricular Activities (ECA) Program in Public Schools of Rautahat District” is my own work and has not been submitted to any academic institution for any other degree.



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Abstract

This research explores the scalability of the Extra Curricular Activities After School' intervention in nine public schools located in Yamuna Mai Rural Municipality, Durgabhagwati Rural Municipality, and Rajdevi Municipality of Rautahat district in Nepal. Despite the mandate in Nepal Education Rule 2059 (2002) requiring extracurricular activities for students, many public schools in Rautahat face challenges due to limited budget allocation for ECA resources. In response, scaling science, an emerging paradigm, seeks to understand and address these issues and optimize the impact of scaling similar interventions.

The study assesses various aspects of scaling the 'Extra Curricular Activities After School' intervention, including examining scaling strategies, evaluating institutional readiness for scaling, assessing adaptability to scaling, and aligning the intervention with four dynamic principles of scaling science: moral justification, inclusive coordination, optimal scale, and dynamic evaluation. Using the Scaling Strategy Worksheet, Institutionalization Tracker, and Adaptation Tracker as tools, in-depth interviews were conducted with the initiative's innovator, education officers, and representatives from educational institutions, such as ECAs in charge and principals.

Findings of the study emphasize the promising scalability potential of the intervention program, which is attributed to the existing gap between policy and practice in Rautahat's public schools. To ensure successful scaling, the paper advocates for a focused approach that involves elevating the quality of extracurricular activities, aligning teacher values to emphasize the significance of such initiatives, fostering family support to encourage student participation, and strengthening governance within educational institutions.

By emphasizing these key aspects, the intervention can effectively bridge the divide between policy mandates and practical implementation, leading to increased student engagement and decreased student dropout. The scientific perspective employed in this study provides valuable insights into optimizing the scaling process for optimal impact in similar initiatives. This understanding will aid policymakers and education practitioners in formulating strategies that not only scale interventions but also ensure their effectiveness and positive influence on students' overall development. As scaling science continues to evolve, applying these principles to address the unique challenges of scaling social initiatives will be crucial to achieving lasting and meaningful impacts in the education sector.

Acknowledgement

I would like to express my heartfelt gratitude to all those who have contributed to the successful completion of this thesis. First and foremost, I am deeply indebted to my supervisor Dr. Binayak Krishna Thapa for his unwavering guidance, insightful feedback, and constant support throughout this research journey. His expertise and mentorship have been invaluable. I would also like to thank my senior Ms. Situ Shrestha for her guidance and encouragement in assisting me to navigate throughout this process.

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Abbreviations

DRM	Durgabhagwati Rural Municipality
ECA	Extra Curriculum Activities
GPE KIX	Global Partnership for Education Knowledge and Innovation Exchange
IDRC	International Development Research Center
KUSOA	Kathmandu University School of Arts
LIKE	Learning, Innovation and Knowledge Exchange
R4D	Research for Development
RDM	Rajdevi Municipality
RM	Rural Municipality
SSW	Scaling Strategy Worksheet
YRM	Yamuna Mai Rural Municipality

Chapter 1

Introduction

1.1. Research Background

The core meaning of scaling revolves around expanding and enlarging the reach, scope, and potential of a concept or approach. It refers to the process of increasing the size, scope, or impact of a particular intervention, solution, or system. The concept of scaling has been around for centuries, but its application and significance have evolved over time in various fields and contexts. Conventionally, scaling referred to moving from a smaller scale to a larger scale. Historically, the concept of scaling originated from the advances made in manufacturing, machinery, and transportation during the Industrial Revolution that enabled the mass production and distribution of goods on a larger scale than ever before.

Scaling is a new concept in the social sector as organizations aim to tackle major social and environmental challenges on a larger scale. Organizations such as the International Development Research Center (IDRC) are focusing on scientific scaling for more effective innovations. This systematic and principle-based approach is considered a science, aiming to enhance the impact of research or innovations for societal benefit. A growing trend among such prominent organizations involves encouraging researchers and practitioners to engage in research for development (R4D). This approach not only emphasizes research itself but also ensures its practical application, thereby contributing to community development. Implementing an innovation's scaling using the guiding principles of scaling science—moral justification, inclusive coordination, optimal impact, and dynamic evaluation—represents a potent strategy for advancing research for development (R4D). This approach effectively aligns research endeavors with tangible and impactful results, fostering a deeper connection between research and practical outcomes.

The purpose of this study, titled 'Exploring the Multi-Dimensionality of Scaling the Extra Curricular Activities (ECA) Program in Public Schools of Rautahat District,' is to investigate and comprehend the underlying principles that guide the expansion process of the 'Extra Curricular Activities after School' intervention. The primary goal is to decrease student dropout rates in public schools. By examining these guiding principles, the research aims to reveal the factors that drive the successful scaling of such interventions, focusing on their effectiveness, efficiency, and sustainability.

Through a detailed analysis of the institution's readiness, the study intends to evaluate its capability and preparedness for scaling the intervention. This assessment will encompass various aspects, including organizational structures, resource allocation, and stakeholder involvement, all of which contribute to the institution's capacity to

facilitate the expansion of the intervention. Furthermore, the research will assess the institution's adaptability to scaling extracurricular activities after school. This involves investigating the institution's flexibility in adjusting its policies, procedures, and practices to accommodate the broader scope and impact of the intervention. This adaptability ensures the intervention remains responsive to the evolving needs and dynamics of the target student population.

By addressing these objectives, this study aims to offer valuable insights and recommendations for effectively scaling the ' activities after school intervention. Ultimately, this endeavor seeks to enhance educational opportunities and outcomes for students beyond regular school hours, with a significant focus on reducing student dropouts in public schools.

1.2. Problem Statement

In the current research landscape, there is a concerning trend where many studies are being conducted without adequately considering the genuine needs and requirements of the grassroots community they aim to serve. As a result, these studies often fall short of effectively addressing the real issues on the ground. Additionally, most research efforts are limited in scope and funding, focusing on short-term outcomes rather than long-term sustainability, retention, and effectiveness. This limited investment hampers the potential for interventions to make a lasting impact.

Furthermore, when interventions are scaled up, there is often a lack of proper justification and coordination. The decision to scale is made without conducting initial assessments to determine the readiness of the institutions involved. This oversight neglects crucial factors such as organizational structures, resource allocation, and stakeholder engagement, which are vital for successful scaling efforts. Without considering institutional readiness, scaling interventions becomes challenging as the necessary support systems may be absent.

Equally important is the need to assess the adaptability of interventions against existing policies, practices, and partnerships. Neglecting this evaluation hinders the intervention's ability to align with the broader context and needs of the community. Without such alignment, interventions may encounter resistance, face difficulties in implementation, or fail to integrate effectively with existing systems.

To address these shortcomings, there is a need for more comprehensive and community-centered research. This approach would involve actively engaging with grassroots communities, understanding their specific needs, and tailoring interventions to address those needs effectively. Additionally, scaling efforts should be accompanied by thorough assessments of institutional readiness and adaptability, ensuring the necessary structures, policies, and partnerships are in place for successful implementation and long-term impact.

By adopting these considerations, research and scaling efforts can be better aligned with the requirements of the community, leading to more impactful and sustainable outcomes. This study aims to provide a clear guideline for future innovators looking to scale their innovations, highlighting the essential aspects to consider before, during, and after the scaling process.

1.3. Objective

The objectives of research serve as the primary goals and guiding purposes that research aims to achieve. The primary aim of this study is to assess the scaling potential of the Extracurricular Activities After School program in Rautahat. To achieve this goal, the study focuses on the following specific objectives:

1. To examine the scaling strategies for the intervention 'ECA after school'.
2. To evaluate the institutional readiness for scaling the program.
3. To assess the adaptability of institutions towards the scaling of the intervention.
4. To examine the dynamics of guiding principles for scaling innovation in ECA after school.

1.4. Research Questions

The following research questions have been carefully developed to align with the four specified objectives of the study: Each question is designed to explore and investigate key aspects related to the scalability of the intervention extracurricular activities after school in the selected public schools. These questions serve as a guiding framework for the research process, enabling the study to explore deeper into the various dimensions of scaling the program in the context of Rautahat district.

1. What are the appropriate scaling strategies for scaling 'ECA after school?
2. How can schools institutionalize the program at scale?
3. How can the institutions adapt to scaling the intervention?
4. How does the program align with the four guiding principles of scaling?

1.5. Rationale of the Study

The purpose of this study is to delve deeper into the emerging paradigm of scaling science, aiming to enhance our understanding and knowledge of this relatively new concept. As the field of scaling science continues to evolve, this research seeks to contribute by applying the principles and frameworks of scaling science to practical contexts. By doing so, it aims to strengthen and validate the concept, providing empirical evidence of its efficacy and utility in addressing complex social and environmental problems. In addition to exploring the application and potential benefits of scaling science, this study also acknowledges the importance of understanding its limitations.

By critically examining the boundaries and constraints of the scaling science paradigm, the research aims to identify any challenges or areas where the concept may fall short. This comprehensive analysis is vital for refining and improving the concept, ensuring that it remains a robust and effective approach for tackling complex issues on a larger scale. Through this study, the goal is to contribute to the growing body of knowledge in scaling science, both by demonstrating its practical application and by providing valuable insights into its boundaries and limitations. Ultimately, this research aims to advance the field of scaling science, enabling practitioners, policymakers, and

researchers to make informed decisions and develop effective strategies for scaling interventions and solutions to societal and environmental challenges.

1.6. Limitations

Since it is an emerging concept, the research itself has many limitations. The language barrier emerged as a significant obstacle encountered during the data collection phase of the study conducted in public schools in Rautahat. A limited number of respondents in the study, specifically those who understood the marginalized Bajika language, faced challenges comprehending the questions asked in Nepali. As a result, they had to rely on their interpretation of key words, leading to potential variations in their responses. Another significant limitation within the study is that since scaling science is a budding concept, the tools used for data collection did not capture some aspects, particularly social and cultural aspects, properly. Likewise, limited time, budget, and access to resources may have restricted the depth and breadth of the research.

Literature Review

The following chapter delves into the evolution of scaling, tracing its transition from traditional sectors to its application in the social sector in depth. It explores various types of scaling and introduces the four guiding principles of scaling, providing the conceptual framework for this study. The information presented here is sourced from two significant works authored by John Gargani and Robert Mclean. The first source is the 'Stanford Social Innovation Review,' published in 2017, while the second is the book 'Scaling Impact: Innovation for the Public Good,' published in 2019. The idea of scaling science was primarily explored and researched by the IDRC after its involvement in the 2014 Ebola virus outbreak. Throughout the chapter, the terms 'initiative' and 'intervention' are used interchangeably, referring to the innovation or program being scaled.

2.1 Evolution of Scaling

The idea of scaling an innovation has existed since the 19th century's industrialization period, when scalability was compared to the ability to grow in size and numbers while decreasing costs. This idea of traditional scaling paradigms has transferred through time in the form of industrial scaling, pharmaceutical production rights, and lean scaling paradigms that cater to the need to grow rapidly in a competitive capitalist economy. The industrial scaling paradigm emphasizes high-volume production at low costs, emphasizing operational scale. This approach has been adopted by the non-profit sector for replication, franchising, and the training-the-trainer model.

On the other hand, the pharmaceutical scaling paradigm focuses on obtaining exclusive rights to an approved innovator, known as the authority to scale. Lastly, the lean scaling paradigm prioritizes rapid growth in competitive markets. It involves developing a minimum viable product, launching it, learning from customer behavior, making modifications, and repeating the process. Despite their differences, all three scaling paradigms share a common trait: they primarily associate scaling with growth and expansion, measured by increasing numbers.

While all three scaling paradigms can be applied to social impact, a more nuanced approach with a focus on the public good should be prioritized when applying them in social science. In social sectors, the objective may not always be growth and expansion, as it is essential to consider the broader impact and sustainable benefits for the community. In the 21st century, the applicability of scalability to the social sector is gradually being studied, not just to scale up to grow but especially to increase and deepen the benefits for people to make a positive impact.

This emergence of scaling science for social impact was kicked off by the Ebola virus in early 2014, during which West Africa suffered terribly due to the unprecedented crisis. Although the Ebola virus was not new, it took a whole two years to be controlled and killed far more people than any other outbreak due to a lack of pre-existing scientific solutions and weak institutions to combat the outbreak. meaning there was not enough reliable solution to scale the production and distribution of vaccines. Here, the term 'scale' is synonymous with expanding and outcomes. However, scale in the social sector incorporates both growth and regression and prioritizes the process and the impact. Scaling refers to the process of conducting innovative interventions that are justified by the needs of the community in order to achieve optimal impact and benefits.

In cases like the Ebola outbreak, scaling depends on 'research and innovation'. The emergence of scaling science occurred due to the rising popularity of R4D (research for development). R4D refers to conducting applied research that achieves positive impacts.

2.2 Scaling Science

In the absence of reliable solutions, scaling occurs through innovations by innovators who are well-soaked in the system. Scaling is much more than resource allocation. Its innovations are justified by assessments of risks made by those at risk. Scaling enhances the comprehension of how research outcomes can effectively translate into actionable solutions, ensuring that the intended beneficiaries not only experience the positive impacts but also become advocates for the solutions. Scaling science is a new and emerging paradigm that aims to understand and address the challenges of scaling interventions to solve social and environmental problems and generate optimal impact. This approach becomes scientific by encompassing two crucial aspects of scaling: first, referring to the objective of the results of scaling scientific research for achieving **impacts that matter,** and second, the development of systemic scaling science that can **increase the innovations** that will benefit society.

2.2.1 Scaling Impact

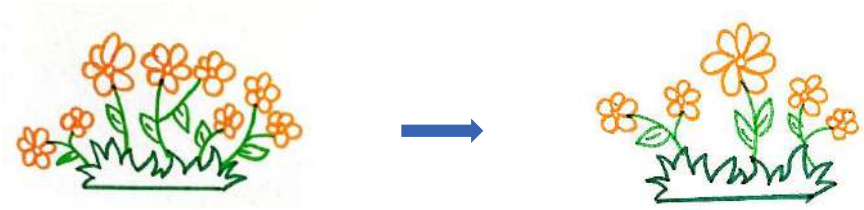
Scaling science depends on the scaling impacts of an intervention. Impacts are negative or positive changes that are observed directly or indirectly and experienced as an outcome or at different levels of intervention. Scaling impact rejects the traditional scaling idea of 'more is better'. It bases the scaling process on its moral justification and encourages achieving optimal impacts through coordinated efforts. Further, the entire scaling process must be dynamically evaluated with evidence. Thus, the scaling impact incorporates the four guiding principles of scaling science: moral justification, inclusive coordination, optimal scale, and dynamic evaluation.

The process of scaling can vary depending on the impact envisioned. Using the metaphor of a garden with few flowers, the relationship between scaling processes and scaling impacts can be understood.

2.2.1.1 Scaling up

Scaling up increases output within the same area. The following Figure 2.2.1 shows how one garden, when scaled up, produces more output, that is, more flowers. The strategy of scaling up is commonly implemented to change policies, rules, or guidelines at an institutional level.

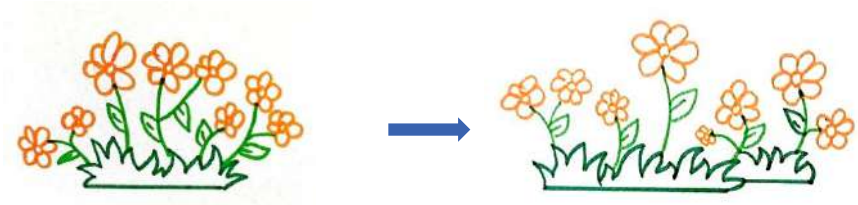
Figure 2.2.1 Scaling up: One garden, same garden, more flowers



2.2.1.2 Scaling out

Scaling out enlarges the geographical coverage, thus impacting greater numbers. Figure 2.2.2 represents the idea of scaling out, where the same garden is scaled out into a larger area to increase the output and thus produce more flowers. An example of scaling out an initiative is replicating the same intervention in different communities and institutions and reaching more people through it.

Figure 2.2.2 Scaling out: One garden—larger garden, more flowers



2.2.1.3 Scaling deep

Scaling deep enhances depth and quality. Figure 2.2.3 portrays how when a single garden is scaled deep, only the size and attributes of the flower are enhanced, implying an increase in the quality and character of the intervention. Scaling deep occurs when the impact of the intervention has to penetrate the culture of the community in which it is taking place. Scaling deep prioritizes transformation from within rather than increasing quantity.

Figure 2.2.3 Scaling deep: one garden, same-sized garden, enhanced flowers

2.3 Guided Principles of Scaling Science

McLean and Gargani (2019) have suggested the following four guiding principles as the foundation for scaling an intervention: These principles provide innovators with a foundation to base their interventions on for scaling.

2.3.1 Moral Justification

Moral justification prompts innovators to validate scaling by addressing questions such as whether replication is both reasonable and responsible, supported by solid evidence of effectiveness. This assessment involves determining if the scaling aligns with an "acceptable impact risk," which evaluates impact against scaling size, considering factors like risk level, problem urgency, failure costs, diverse perspectives, availability of competing solutions, and potential negative outcomes. Additionally, moral justification hinges on the innovation's effectiveness, serving as the empirical foundation for an innovator to substantiate the need for scaling.

Justification incorporates both technicality and morality. Technical justification enables innovators to scale because it can create specific impacts. This is incomplete because just because an innovator can do something does not mean they should. Combining morality ensures the necessity of scaling the innovation, considering both values and evidence that it should create impacts.

When justifying scaling an innovation, innovators must ensure the following three rationales: the choice of scaling must be justified and should be within acceptable impact risk; the scaling must align with personal values and be backed by evidence; and the choice to scale should be made by both innovators and directly impacted people. An innovation can only be scaled if these justifications are accounted for.

2.3.2 Inclusive Coordination

An important aspect of the scaling process is coordinating efforts and upholding responsibility between different stakeholders by the innovator to ensure a smooth sailing process. However, it is imminent that coordination will not occur as planned due to countless barriers. In such cases, undirected coordination can be successful where different actors work independently, but an organized system forms holistically anyway. When applying coordination efforts, it is crucial to understand the multidimensionality of factors such as people and places affected by scaling, which each have their own purpose in the process. Respective purposes can differentiate the characteristics of actors. The characterization is made in four ways:

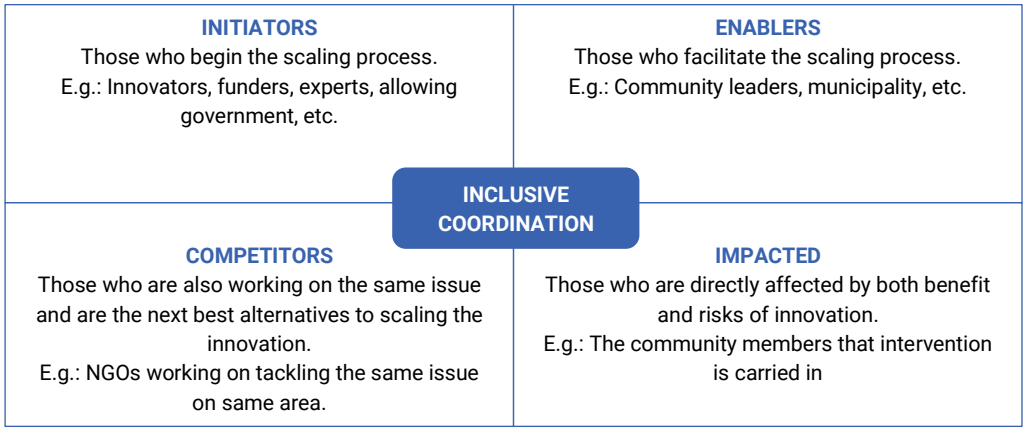
1. **Initiators:** Initiators are beginners in the scaling process. They can be innovators, funders, willing communities, allowing governments, and experts. Before scaling starts, these actors will already have allowed and accepted the innovation.
2. **Enablers:** They are the facilitators in the scaling process. They can be people, places, or a combination of both. Some examples of enablers are policymakers, government agencies, the community, professionals, etc. In this intervention, enablers are teachers, principals, students, ward officers, parents, etc.
3. **Competitors:** Competitors are the next best thing or alternative to scaling innovation. They can be people, places, or things. They help to provide more

efficient or effective ideas that can benefit them and provide important insight into improving the scaling process.

4. **Impacted:** Impacted are those who are directly affected by the innovations benefits and risks. They determine the success or failure of the scaling process.

Figure 2.3.1 displays the different characterizations of actors and their responsibilities in brief.

Figure 2.3.1 Characterization of actors involved in the scaling process



Coordination aims to utilize the power within the system or the community to maximize the impact created. Coordination does not only refer to coordination among actors and stakeholders. It also incorporates coordinating the whole scaling process. At different stages of scaling, the actors evolve accordingly within a connective structure.

2.3.3 Optimal Scale

The idea that solutions to any social or environmental problem can rarely be guided by the idea that 'bigger is better' is addressed by optimal scale. This third principle implies that implementing an innovation in the most effective and efficient way will help maximize the impact of the initiative, thereby achieving optimal impact. It emphasizes three major ideas for guiding innovators to understand their innovations optimal scale. First, optimality relates to the level of impact that should be reached, and we should be smart about how we measure that impact. Second, it requires deep thinking and an understanding of the collective impacts scaling creates. Lastly, it requires innovators to critically address the four dimensions of change:

1. **Magnitude:** It is the numerical statistics of the innovation, such as the number of people involved and affected, the degree to which they are affected, and the geographical coverage of the innovation.
2. **Variety:** Variety is the different variables within the innovation, such as the different impacts of the innovation, the levels at which the impacts affect, or the different interventions to produce an impact.

3. **Equity:** Equity relates to fairness in the distribution of the impact received. This helps innovators identify unequal access, discontinue practices of inequality, and produce an equitable impact that benefits everyone.
4. **Sustainability:** Sustainability refers to the duration of impacts retained by an innovation, how much time it takes for the innovation to be ineffective, and how much effort or intervention is needed for the innovation to continue long-term.

When planning an intervention, both quantitative and qualitative impacts are linked, sometimes in a covert way. Hence, when outlining impacts, their optimal scale should also be cautiously determined to avoid undesirable impacts. Similarly, direct stakeholders should be involved in the whole process of scaling to decide whether an outcome is positive or negative and, thus, dictate the optimality of an impact. This will also determine whether the impacts' intentions align with the desires of the beneficiaries and push innovators to incorporate their values and beliefs into their innovation early on. When defining the impacts, it is easier for the innovators if they classify their impacts within the DIA (desirable, intended, and anticipated) in order to map their desired outcome with clarity. An innovation can have its optimal impact when all four dimensions of change balance with the optimal capacity of the innovator and direct stakeholders.

2.3.4 Dynamic Evaluation

Dynamic evaluation is a process of continuous learning and evaluation in which the action of scaling itself is an intervention. It does not have fixed periods for evaluating the scaling process, such as before, middle, or after. Rather, it occurs continuously from the idea of scaling to the end. It looks at both the innovation's impact and its scaling effects. Scaling effects can be linear and non-linear or quantitative and qualitative. Observing the entire scaling process, dynamic evaluation analyzes how actions taken during scaling produce scaling effects that alter the collective impacts.

The reason dynamic evaluation is 'dynamic' is that it demands flexibility in approaches, tools, methods, frameworks, and alternatives to evaluate varying processes within scaling. This fourth principle leads the justified journey of scaling to have inclusive coordination and produce an optimal impact of scaling. The limitation of traditional evaluative tools is that they mainly focus on understanding the innovation's impact and are insufficient to understand how the impact changes if that innovation is scaled. The aspects that dynamic evaluation bases its evaluation on are the innovation's benefit to the impacted, it's worth, and its significance. It not only evaluates the impact observed from the innovation during different levels of scaling but also directly observes the scaling impact as well.

Dynamic evaluation helps in the process of producing an optimal impact by helping involved actors understand the scaling effects continually throughout different processes. For that, these concerned parties must constantly measure the scaling effects. It must be applied in such a way that the ever-changing nature of scaling actions and their effects are not only acclimatized to but also questioned throughout various levels of scaling processes. The main objective of the dynamic evaluation is to continuously measure the scaling impact against the scaling action to gauge the returns.

Furthermore, dynamic evaluation overlooks the impacts of the scaling actions and evaluates the result of the system impacted by the scaling. Scaling effects are an important attribute of dynamic evaluation; hence, they need to be periodically monitored in order to differentiate whether the impacts produced are due to the scaling action or external factors indirectly associated with the innovation.

The optimality of scaling's impact may change as scaling proceeds. Dynamic evaluation plays a role in understanding the constantly changing optimal scale and guides the process of scaling better. It does not have a fixed guideline for evaluation. The guideline itself is dynamic and depends on the modality of how the scaling process moves forward.

2.4 Scaling Theory of Change

Traditionally, the theory of change simplified the process of how changes occur linearly in a program to achieve impact at different levels of scaling. The traditional theory of change, also known as 'program theory of change', is often a stagnant process of assessing the variability in activities, outputs, and outcomes and the impact their combination produces. Contrary to observing changes in activities or impacts, the scaling theory of change explains how the method of scaling itself will change depending on the impact observed. Hence, it aspires to encapsulate the varying nature of innovation.

The scaling theory of change consists of three components: the path to scale, the response to scale, and the partners for scale. As the name **'path to scale'** suggests, it is the pathway through which an innovation is predicted to pass in different stages of scaling. The initial stage commonly starts with generating the idea of a solution, leading up to achieving the impact at scale. The path to scale can be utilized for policy scaling, program scaling, practice scaling, or scaling through products. The second component of the scaling theory of changes is the **'response to scale',** which explains the type of impact observed at different scaling stages and captures the responses to it. It focuses on gauging the changes in magnitude, quality, and type of impact. 'Response to scale' is inclusive of both negative and positive collections of impacts. By understanding the stakeholder's response to it, the innovator identifies the optimal point and proceeds ahead.

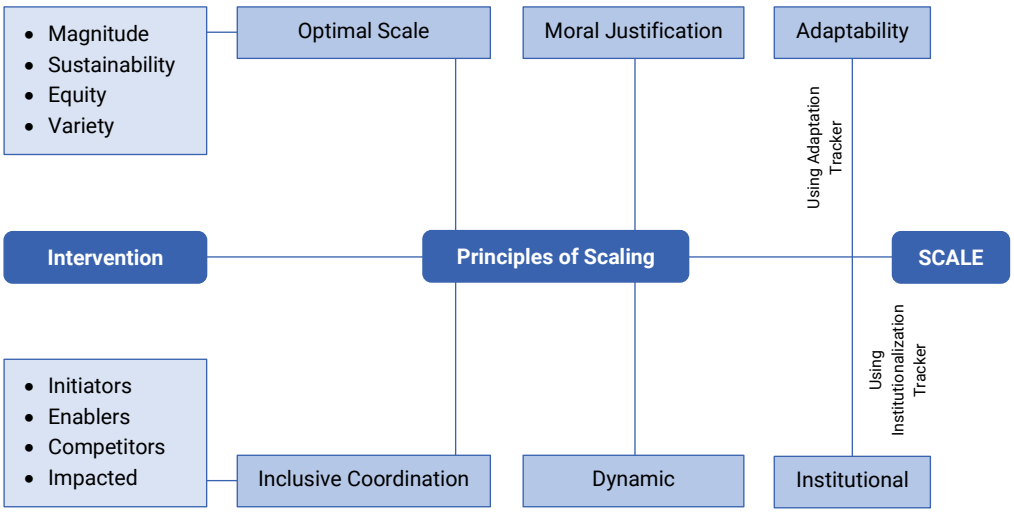
Lastly, **'partners to scale'** defines the evolving roles of partners involved in scaling the intervention. It understands the importance of coordination within the scaling process and categorizes it into direct partners and implementing partners. Direct partners are often the initiators of the intervention and are seen as collaborators in the research and development of the idea. Likewise, implementing partners are enablers of intervention who are directly involved in the scaling process. Understanding partners to scale assists the innovator to visualize the optimal point of impact, smoothly transfer responsibilities from one partner to the next, and increase the chances of successful tradeoffs to arrive at an acceptable compromise from all sides.

2.5 Conceptual Framework

Figure 2.5.1 represents the conceptual framework of the study, showcasing the relationship between the guiding principles of scaling with the tools and the

intervention. As shown, the intervention advances by assessing whether the scaling is morally justified and examining the optimal scale of the research by looking at the optimal magnitude, sustainability, equity, and variety for the intervention to scale. As for the engagement of the initiators, enablers, competitors, and impacted for inclusive coordination, it occurs prior to starting the intervention as well as during the scaling process.

Figure 2.5.1 Conceptual Framework for This Study



Lastly, the intervention being scaled will undergo dynamic evaluation to ensure continuous learning. These guiding principles were examined on the basis of the findings derived from the three tools, such as the Scaling Strategy Worksheet, Institutionalization Tracker, and Adaptation Tracker. While the Scaling Strategy Worksheet provides an idea of whether the intervention can be scaled or not, the latter two tools provide more in-depth information to better understand the intervention. Although the graph presented in this study illustrates the relationship between the variables, it is important to note that the relationship is not linear.

Research Methodology

The following chapter presents general information about the research regarding the chosen site, study duration, different tools used for data collection, and respondents.

3.1 Study Site

The initiative is implemented in the Rautahat District, particularly within two rural municipalities: Durgabhagwati and Yamuna Mai, and one municipality: Rajdevi Municipality. The initiative involved two schools in Durgabhagwati, three schools in Yamunamai, and four schools in Rajdevi municipality. Among the 77 districts in Nepal, Rautahat has the lowest literacy rate in Nepal (Pokharel, 2022) and the highest student dropout rate (Nepali Times, 2019), indicating the need for such intervention that retains students in schools.

Figure 3.1.1 Rautahat District and its municipal divisions

Source: The Kathmandu Post

The initiative "Extracurricular Activities after School" is a branch intervention of the study "Effectiveness and Scalability of Programs for Children Who are Out of School and at Risk of Dropping Out in Bangladesh, Bhutan, and Nepal. Like Innovation and Knowledge Exchange Lab (LIKE Lab) undertook the initiative in collaboration with the Global Partnership for Education Knowledge and Innovation Exchange (GPE KIX) and IDRC.

3.2 Duration of Study

The duration of the intervention 'Extra Curricular Activities after School' was around six months, from September 16, 2022, to March 10, 2023, while the duration of this research was from March to August, 2023.

3.3 Methods of Data Collection

Three tools were used for data collection: the Scaling Strategy Worksheet, the Institutionalization Tracker, and the Adaptation Tracker. Using these tools, in-depth interviews were conducted with the innovator of the initiative, education coordinators, officers, stakeholders, and representatives of the educational institutions.

3.4 Tools

The three tools below were developed in July 2021 by Jenny Perlman Robinson, Molly Curtiss Wyss, and Patrick Hannahan at the Center for Universal Education (CUE) in Brookings.

3.4.1 Scaling Strategy Worksheet

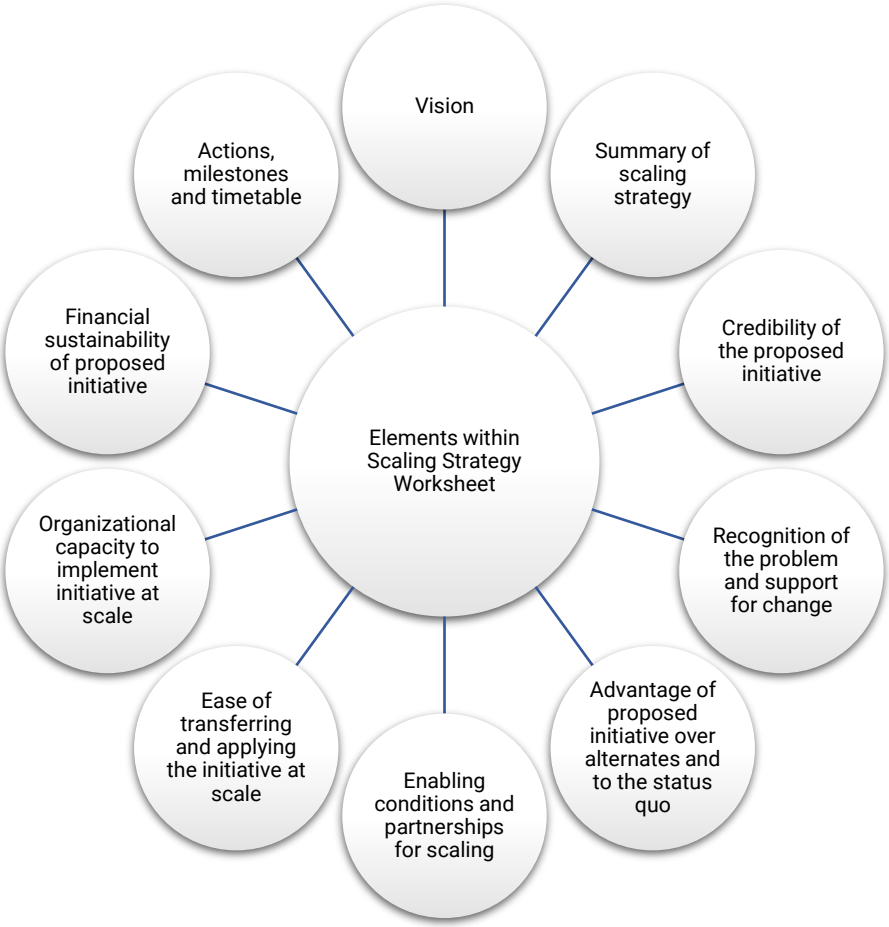
The Scaling Strategy Worksheet is a tool to assist initiators in planning the scaling process of their initiative as well as analyzing its scalability. The key users of the tool are practitioners, policymakers, and funders supporting scaling the initiative. The scaling strategy worksheet explores numerous elements of the initiative to help innovators understand the initiative's capacity to scale better and receive updates about new variables, changes, or data.

Figure 3.4.1 portrays various elements of the initiative that the scaling strategy worksheet focuses on, such as clarity in the initiative's goal for scaling, its vision, scaling strategy, feasibility and sustainability of the initiative, the enabling conditions and partnerships for scaling, and its ease of adapting the initiative to meet the requirements of different actors and conditions.

For this study, a scaling strategy worksheet was used to evaluate the scalability of the initiative 'Extra Curricular Activities after School' by understanding the scalability goal, the recognition of the problem, funding and resource sustainability, the support of the enablers, the integration of inclusivity, and its alignment with the policies and local culture.

The involvement of various actors and stakeholders in the scaling process differs according to the level of scaling, the stage at which the initiative is, and the context in which it is functioning. Developing and perfecting scaling strategies is a continual process that requires drawing information from discussions, experience, and existing data with stakeholders and from analysis of the political economy.

Figure 3.4.1 Elements within the Scaling Strategy Worksheet



3.4.2 Institutionalization Tracker

The institutionalization tracker helps track the capacity of the initiative to become mainstream within the existing system. The term institutionalization refers to the process of an initiative becoming an organ of formal systems within society. The tracker was specifically made for assessing education-related initiatives in the existing system but can be incorporated for other themes as well. The tracker assists the initiators, implementers, and policymakers to identify and prioritize components that need improvements for vertical scaling. Rather than focusing on whether an initiative can be scaled or not, the institutionalization tracker measures progress on institutionalization at different levels of education authorities, such as the Ministry of Education (MoE), which represents national-level institutions, or schools and municipalities, which represent sub-national and local education authorities. The tool's

optimal utilization occurs by combining its use with CUE's 'Scaling Strategy Worksheet' to refine or advance the scaling strategy of intervention.

Scoring in the institutional tracker consists of a scale from 1 to 4, in which,

1 is low institutionalization.

2 is emerging institutionalization.

3 is significant institutionalization.

4 is full institutionalization.

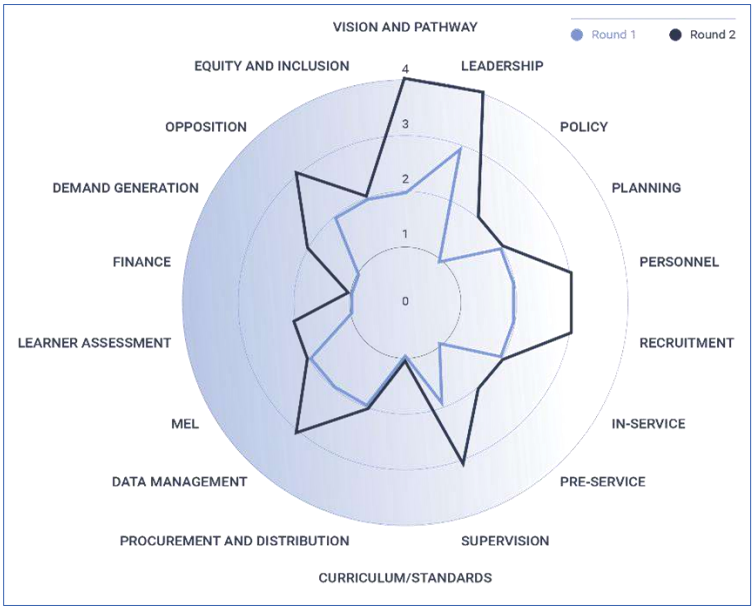
An important idea to remember is that the effort to move from a score of 3 to 4 is much more difficult than moving from a score of 1 to 2. The institutionalization tracker oversees 18 elements within eight system building blocks. Figure 3.4.2 highlights them.

Figure 3.4.2 Elements of the Institutionalization Tracker

Icons from flaticon.com

Each element within their system's building blocks is scored from 1 to 4 to properly track the scalability of the institute the intervention is based on. The scores of each element are computed on a radar graph to analyze and assess the readiness of the institution. Such a type of graph is best suited for displaying the scores in the institutionalization tracker, as it allows the viewers to easily understand the institution's strengths and weaknesses in various elements through visuals. In addition, it eases the comparative analysis between institutions and their representatives. Figure 3.4.3 is a sample of a radar graph for an institutional tracker.

Figure 3.4.3 Sample radar graph from the Institutionalization Tracker



Source: CUE's Institutionalization Tracker 2019

The primary goal of the institutionalization tracker is to evaluate the preparedness of the institutions that form the foundation of the intervention. This assessment of readiness can be approached in two key ways. Firstly, it involves evaluating the overall institutional readiness, considering factors that contribute to the institution's capacity for scaling the intervention effectively. Secondly, it entails a detailed examination of the elements encompassed within the institutionalization tracker, which helps determine the specific areas where an institution demonstrates readiness for scaling. For this intervention, both approaches will be undertaken to comprehensively examine the institutional readiness for scaling this institution. The institutions under examination for the intervention 'Extra Curricular Activities After School' are the schools as well as municipalities within the three municipalities (YRM, DRM, and RDM) in Rautahat.

3.4.3 Adaptation Tracker

The Adaptation Tracker helps initiators monitor and evaluate the adaptations made during the process of scaling an intervention to different contexts or settings. It assists in tracking and documenting adaptations made to interventions when scaling to different contexts or settings. This tool supports education actors in scaling initiatives by assisting in the planning, documentation, and learning from adaptations made during implementation. Scaling involves ongoing adaptation and learning, including modifications and simplifications to the initiative and scaling approach. However, these adaptations are often not systematically planned or well documented, leading to lost learning opportunities. Additionally, scaling processes often lack sufficient time for reflection and course correction based on data and environmental changes.

By using this tool, practitioners can regularly plan, document, and reflect on adaptations, strengthening efforts to scale and sustain education initiatives. The tool should be used alongside a broader scaling strategy. It allows individuals and

institutions to identify challenges, implement adaptations, document changes, and make informed decisions. The duration of iterative learning cycles depends on the adaptations, collected measures, and process stage. Short cycles ensure timely and relevant data for quick learning and decision-making. Following are the key steps for utilizing the adaptation tracker:

Step 1 (Identify): Define the scaling goal and identify a priority scaling driver. Scaling drivers are essential components or factors that help expand and maintain an initiative. The significance and effectiveness of these scaling drivers vary depending on the specific context and initiative.

Step 2 (Plan): Assess related challenges, plan actions, test adaptations, document problems and results, analyze data, reflect on the adaptation, and develop the plan for the next testing cycle.

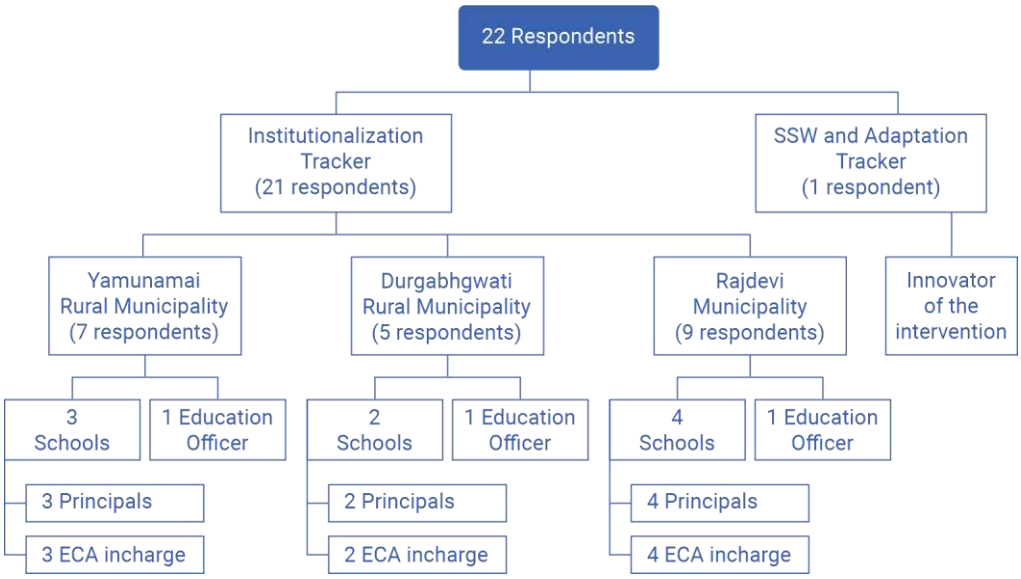
Step 3 (Design): During the implementation of the broader scaling strategy, test the planned adaptation and carefully document any issues that arise, spontaneous changes made, and initial results.

Step 4 (Reflect): Reflect on the collected information and think about the adaptation, considering how the results differed from expectations, and decide if the adaptation should be continued, improved, retested, or replaced with an alternative approach.

3.5 Respondents

The three tools utilized two different sets of respondents. The innovator of the intervention was the key informant for the Scaling Strategy Worksheet to observe the vision of the intervention, its sustainability, and its scalability. The institutionalization tracker consisted of 21 respondents who were education officers, principals, or head teachers of the schools, and ECA incharges or teachers of either YRM, DRM, or Rajdevi Municipality. The following Figure 3.5.1 represents the statistics of respondents in detail.

Figure 3.5.1 Total Respondents for this Study



Within the three schools in Yamuna Mai, three principals and three ECA incharges were interviewed for the institutionalization tracker. Similarly, from Durgabhagwati, 2 principals and 2 ECA incharges were interviewed, while from Rajdevi, 4 principals and 4 ECA incharges were interviewed. Similarly, education officers from each municipality were also interviewed to assess the institutional readiness of the school. While the ECA in charge was directly overseeing the ECA, the principals were responsible for managing and distributing resources for the activities. At the municipal level, the education officer was responsible for managing and monitoring schools within their municipal jurisdiction.

Each of them has been interviewed for their scores on various aspects of the institution with which the initiative is working. Lastly, the innovator of the intervention was the key respondent for the adaptation tracker as well.

Results

4.1 Strategy for Scaling the ECA Program

4.1.1 Vision

The primary objective of the intervention is to foster students' creative skills and enhance their creativity by providing exposure to extracurricular activities after school. Although the Nepal Education Rule 2059 (2002), Sub Article 14, mandates ECA provision for students, most public schools in Rautahat do not conduct such activities due to a lack of budget specifically allocated for ECA resources. The intervention becomes crucial in addressing this budget constraint, ensuring the continuation of ECA after school by using natural resources and easily available materials in such rural settings.

ECA after school has already been scaled up at a national level through government implementation of policy. This intervention specifically aims to address the educational deprivation in ECA for Grade 5 students across 18 schools (9 control and 9 treatment schools) in three municipalities in Rautahat. The ultimate goal is to reduce dropout rates among students in Rautahat over the long term.

4.1.2 Summary of the Scaling Strategy

The intervention is redefining the purpose and regularity of the scaled-up government-led initiative 'ECA after school' by addressing the budget constraints for continuing ECA sustainably. The strategy for scaling up the initiative further in districts with irregular ECA is to present a teacher guideline with detailed instructions for education activities, lesson plans, and the use of resources. One of the major challenges faced by the initiative was parents' dissatisfaction with school management and teachers and principals lack of passion for guiding children in ECA. However, an opportunity for the intervention in Rautahat is the support of the mayor and education officer, which makes a huge difference in the efficacy of implementation.

4.1.3 Credibility of the Proposed Initiative

The initiative itself has been taken in numerous countries, such as the USA, Pakistan, India, and Bangladesh, where there are high rates of students dropping out. The reasons, however, differed for first-world countries and developing or third-world countries, where for the latter, the main reason for students dropping out was poverty-

induced, where attending school related to the opportunity cost for them to earn money. The initiative was especially inspired by the Participation Identification Model (PIN) introduced by Jeremy D. Finn in 1989. The core strategy of the initiative focused on students' sense of belonging to the school and their participation in school and its activities. Aside from the core focus, the initiative also touched on students' families, study hours at home, peers, socioeconomic conditions, age, gender, ethnicity, school environment, adult responsibilities, school governance, etc. The initiative was carried out through local government agencies such as the education ministers and general addressing by the mayor, pushing the community's acceptance for the initiative. The initiative's success, justified by the innovator, proves its overall effectiveness with few spaces for improvement in areas such as inclusivity and quality.

4.1.4 Recognition of the problem and support for change

As the initiative was already provisioned by the government, all the stakeholders, especially the mayor, parents, and education officers, were supportive of the initiative. Since the major actors in the initiative's implementation were the school leaders, a letter from the municipality solidified their cooperation as well. The biggest and most consistent support came from the mayor and education officers in Rautahat, which eased the beginning and retention of the initiative. One of the hindrances to the initiative's smooth operation was the sociocultural aspect in Rautahat, where social values for cultural events outweighed the importance of education. Due to this, despite government-issued holidays, the school itself closed for days if any other smaller cultural events were happening somewhere in the village. Rather than mitigating the deep-rooted social values, the intervention worked around them.

4.1.5 Advantages of the proposed initiative over alternatives and the status quo

ECA after school is not a fresh initiative. In Rautahat itself, several organizations have their own initiatives for out-of-school children and those at risk of dropping out. However, they are readymade and have existed under the same external systems foreign to the local provisions. This initiative of focusing on 'ECA after School' is a new initiative that intervenes directly in the school system rather than introducing external ones. The advantages of the initiative itself are numerous. ECA after school encourages an informal environment for socialization for students with their peers. It gives space for creativity, such as in art, and exposes those to new interests that could unleash children's potential. Overall, it increases students' learning simultaneously.

4.1.6 Enabling conditions and partnerships for scaling

The national policy for compulsory extracurricular activities in school for students itself is the biggest enabling factor for this initiative. In addition, the nationwide budget constraints for ECA in public schools are also motivators for this initiative to be implemented and scaled. Likewise, the biggest challenge for scaling this initiative is the necessary action of contextualizing it for diverse geography and communities since this initiative was designed specifically for Rautahat. Some of the existing partners for the initiative were local leaders such as the mayor, education officers from

the local municipality, teachers and principals of public schools, and parents. Partnerships that were lacking were actors who were passionate and motivated to help the cause the initiative was working on.

4.1.7 Ease of transferring and applying initiative at scale

The most challenging adaptation to implement in the initiative for scaling is the provision of infrastructure to implement ECA in schools. It is important for an initiative to have capable leaders, welcoming and supportive partners, and alignment of values between the innovator and the important partners for the cause. The most important adaptation for scaling is establishing an encouraging mindset in the family for education, which depends on the enforcement of the governing body. A strong governance system can encourage families from within by enforcing the provision of ECA after school regularly. Thus, it is one of the 'core' elements for the initiative's optimal impact. Likewise, the leadership and vision of school leaders (principals and teachers) for students and a passionate mindset are also core elements of the initiative. A guiding manual for teachers can simplify and reduce the cost of the initiative's implementation when scaled.

4.1.8 Organizational capacity to implement initiatives at scale

Despite the compulsion of ECA in schools, many public schools are unable to continually conduct it due to various reasons, such as budget constraints, a lack of school leadership, and most importantly, a teacher's guideline. Currently, the institutional capacity that is lacking in schools is that there is an imbalance in the teacher-student ratio, resulting in too many students for too few teachers. If the initiative is scaled, the process of transferring implementation will proceed through a fixed guideline and, if needed, an orientation. The risk associated with this is that there is no guarantee that the guidelines will be internalized into the teachers' values. Since the initiative is utilizing resources from the public schools, there is no need for additional resources when scaled.

4.1.9 Financial sustainability of the proposed initiative

Although the initiative was initially focused on considering the budget constraints to conduct ECA in public schools, in the long run, if additional finances are needed, it will be through government budget allocation. In the event of an insufficient budget, the initiative has the capacity to be continued by using the natural environment around the school. To sustainably manage the finances for the initiative, the government has a fixed annual budget allocated for schools to conduct extracurricular activities after school.

4.1.10 Actions, milestones, and timetables

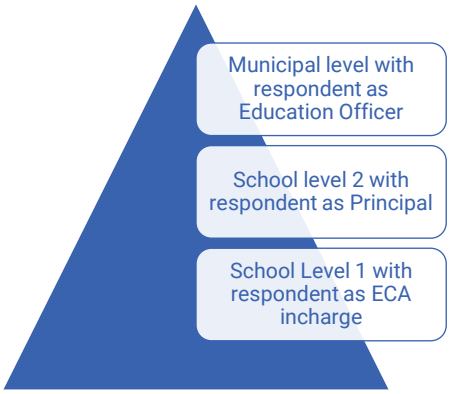
The initiative started simultaneously at the beginning of the academic session for the students, which was September 16, 2022, and ended on March 10, 2023.

4.2 Institutionalization Tracker

The institutionalization tracker was applied in three municipalities: Yamuna Mai Rural Municipality, Durgabhagwati Rural Municipality, and Rajdevi Municipality. For the intervention Extracurricular Activities after School, the institutional readiness was assessed on three levels. At the micro level, institutional readiness was scored on the basis of the response given by School Level 1, which is the ECA in charge who is responsible for overseeing the activities and participation of children. For the mid-level (School Level 2) and broader level (School Level 3), institutional readiness was scored on the basis of responses given by the principal and municipal education officer, respectively.

The Figure 4.2.1 represents the three tiers of institution evaluated using the tool. The following sub-sections represent the findings on each of the three levels of institutions represented by radar graphs, which are simplified further by bar graphs

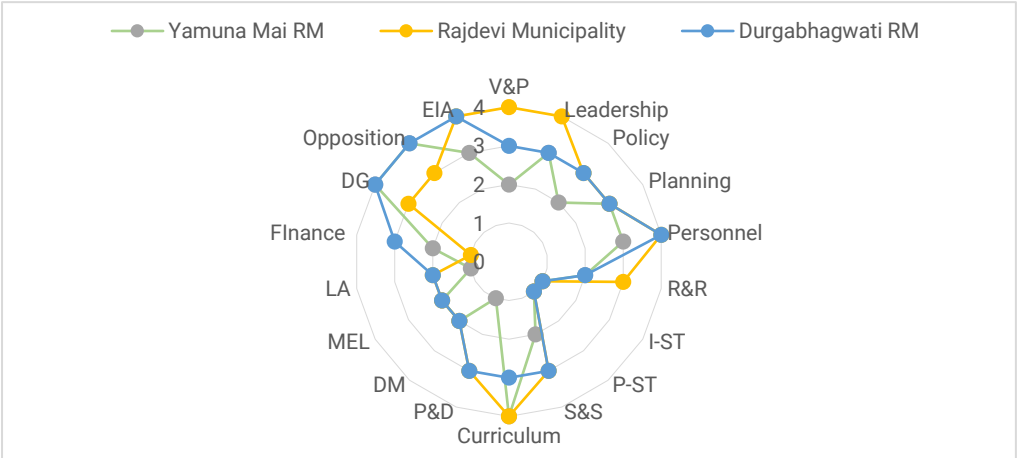
Figure 4.2.1 Three tiers of respondents in the Institutionalization Tracker



4.2.1 School Level 1

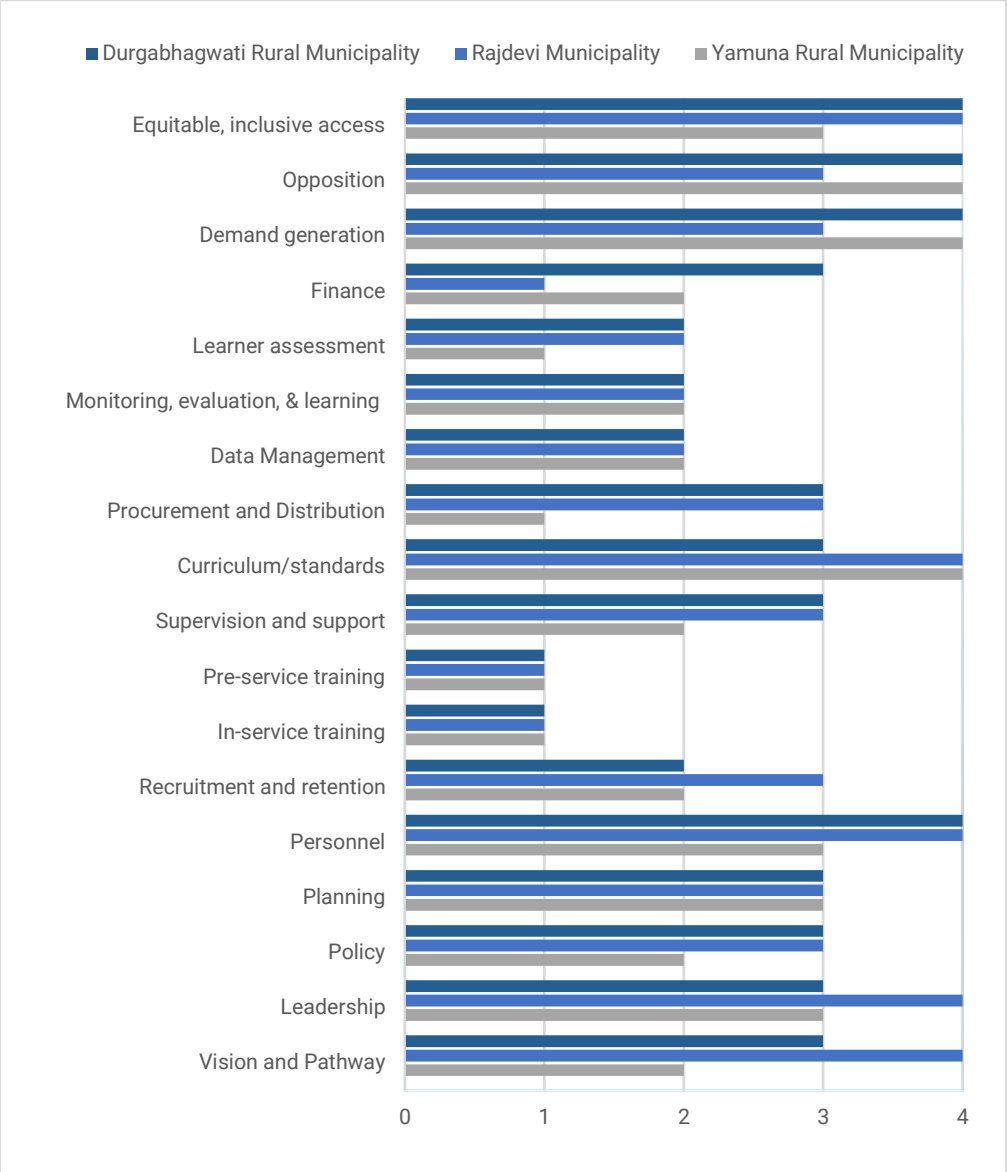
The following Figure 4.2.2 represents the average scoring from the scoring by ECA incharge from three municipalities in Rautahat. The radar graph highlights the elemental strengths and weaknesses of the institution, according to the ECA in charge. The scoring by the ECA in charge is clarified further by the use of Figure 4.2.3.

Figure 4.2.2 Radar Graph showing the average scoring by ECA incharges of DRM, YRM, and RDM



Based on Figures 4.2.2 and 4.2.3, it can be observed that schools in these three municipalities have strengths in certain areas. These strengths include having a clear vision and pathway, effectively managing opposition, having an ample number of human resources to conduct extra-curricular activities (ECA), and a substantial demand for the intervention among important stakeholders like teachers and principals. However, according to the ECA in charge, there are areas where schools are lacking. These areas include insufficient provision of in-service and pre-service training, difficulties in recruiting and retaining necessary human resources, inadequate creation and management of information related to ECA such as learner assessment, monitoring, evaluation, and learning (MEL), and overall data management. In-service training refers to trainings provided for practicing teachers, while pre-service trainings are trainings provided before teachers start their service in schools.

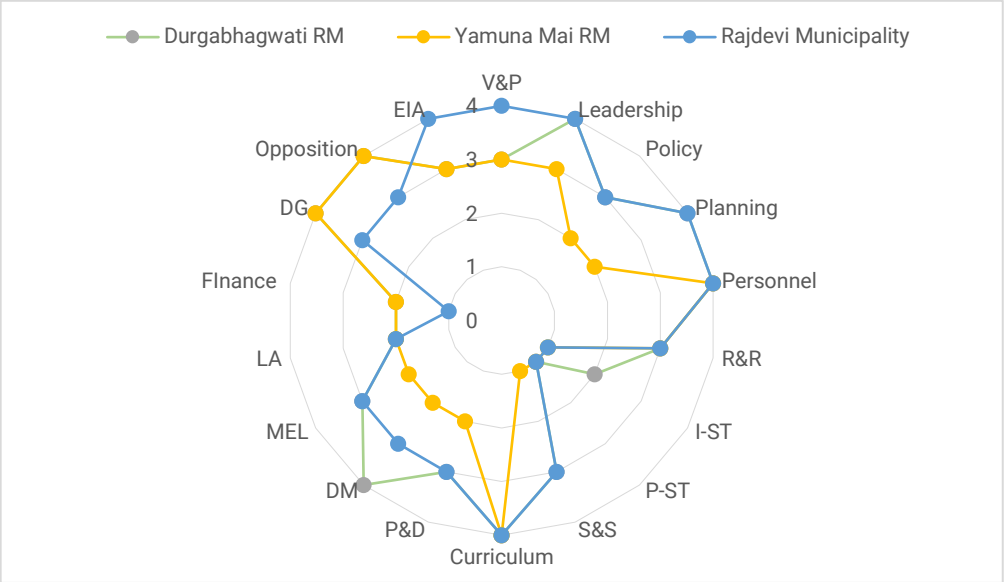
Figure 4.2.3 Bar graph showing the average scoring from the ECA in charge of DRM, YRM, and RDM



4.2.2 School Level 2

Figure 4.2.4 depicts the average scores assigned by the principals across three municipalities in Rautahat. This graph provides insights into the strengths and weaknesses of the institutions as perceived by the principals. To further elucidate the scoring by the principals, a complementary Figure 4.2.5 is added.

Figure 4.2.4 Radar Graph showing the average scoring by the principals of DRM, YRM, and RDM

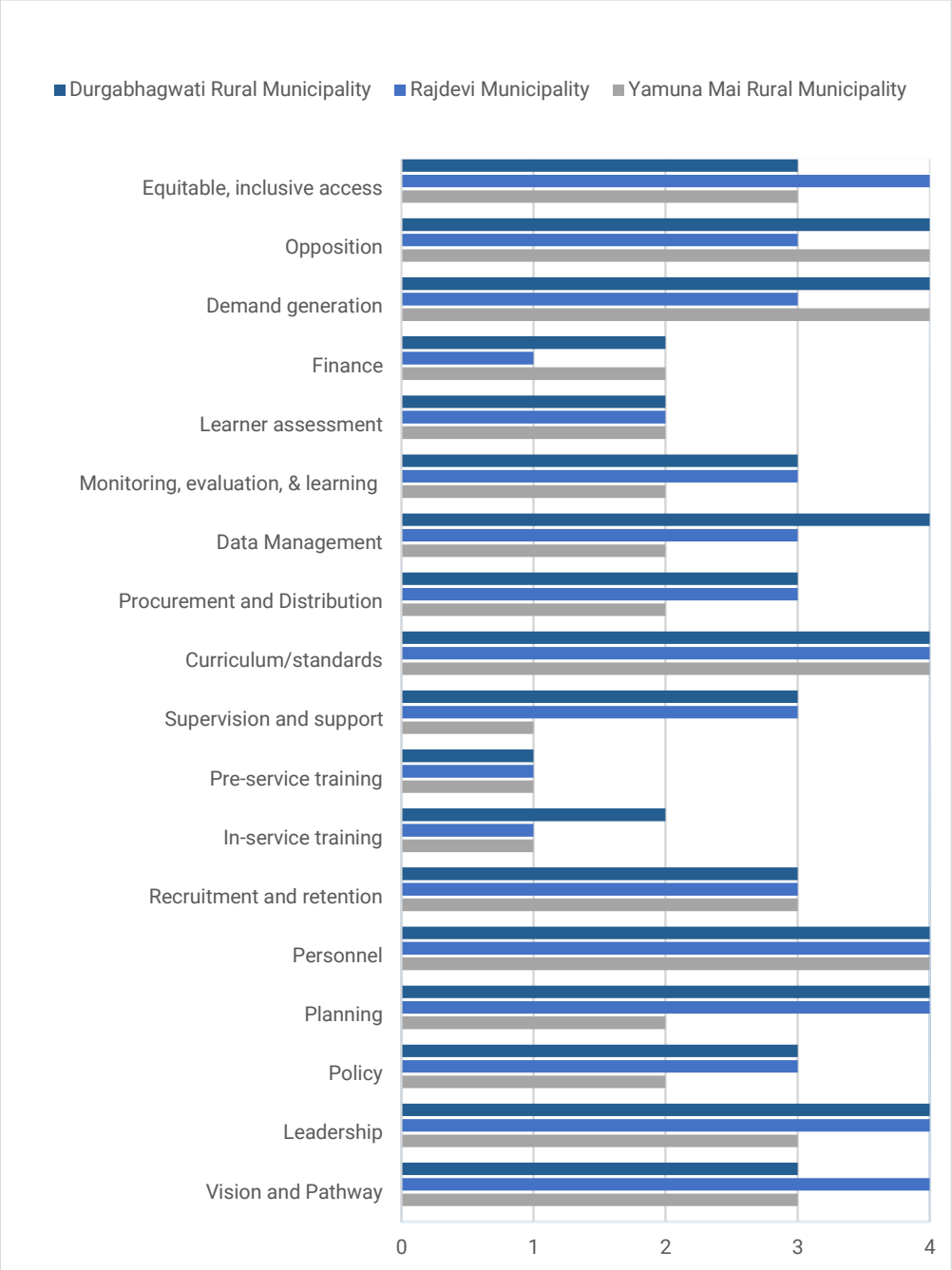


Based on Figures 4.2.4 and 4.2.5, it is evident that each of the three municipalities possesses its own set of strengths across different elements. According to the principals' assessments, these strengths include successfully integrating ECA into their curricular standards and having an adequate number of personnel to facilitate ECA activities. On the other hand, the principals of the three municipalities have identified certain areas where the schools are lacking. These areas include challenges in managing finances for ECA, assessing learner performance effectively, and providing necessary in-service and pre-service trainings to teachers.

The graph also highlights the variations in scoring among principals from different wards. Based on the graph, it is evident that YRM lags behind in several aspects compared to DRM and RDM. YRM particularly struggles with monitoring and evaluation, data management, procurement and distribution of high-quality products for ECA, government officials' supervision and support for conducting ECA, as well as planning and policy implementation.

Furthermore, while the institutionalization scores of schools in DRM and RDM, as reported by the principals, are similar, DRM achieves the highest institutionalization score among the three wards.

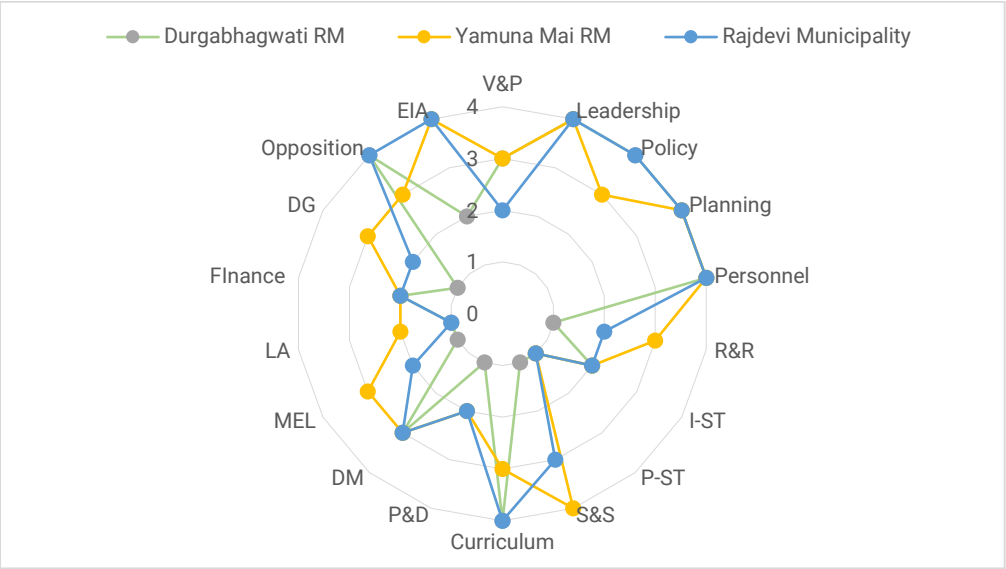
Figure 4.2.5 Bar graph showing the average scoring from the principals of DRM, YRM, and RDM



4.2.3 Municipal Level

Figure 4.2.6 represents the average scores given by principals in the three municipalities of Rautahat. This graph offers valuable insights into the perceived strengths and weaknesses of the institutions, according to the principals. To enhance understanding of the principals' scoring, a supplementary Figure 4.2.7 is included.

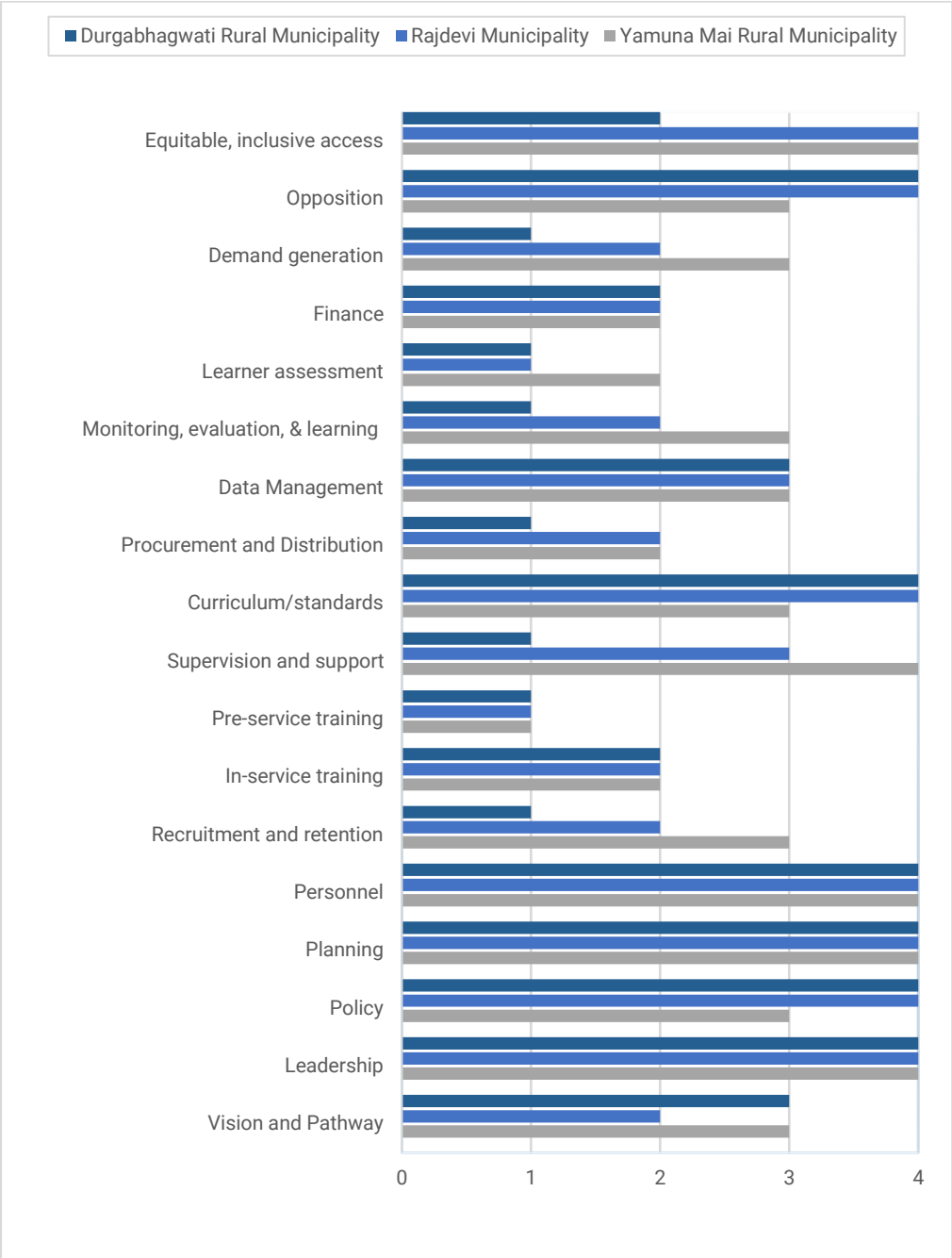
Figure 4.2.6 Radar Graph showing the overall scoring by Education Officers of DRM, YRM, and RDM



Figures 4.2.6 and 4.2.7 presented below illustrate the strengths and weaknesses of the schools in the three municipalities, as assessed by the education officers. As per their evaluations, the elemental strengths of all three municipalities include having an adequate number of personnel, plans to enhance the quality of ECA, and strong leadership for conducting ECA activities. However, a common area of improvement for the schools in all three municipalities is the provision of pre-service and in-service training to teachers to enhance their ability to deliver ECA effectively.

As seen from the bar graph, the schools of DRM are especially lacking compared to the schools of YRM and RDM. The elemental weaknesses, particularly of DRM, are creating an equitable and inclusive environment for children to participate in ECA, creating demand for the intervention, having a monitoring, evaluation, and learning system, procuring and distributing resources and materials for ECA, and recruiting and retaining teachers in school. Although YRM and RDM have similar institutionalization scores, YRM seems to be slightly more prepared for the elements than RDM.

Figure 4.2.7 Bar graph showing the overall scoring from the principals of DRM, YRM, and RDM



4.2.4 Overall Findings from the Institutionalization Tracker

All three municipalities have a few elemental strengths and weaknesses in common. Although there are several elements in which ECAs in charge of all three municipalities have scored four, i.e., full institutionalization, there are no commonalities in elements scoring full institutionalization in all three municipalities. However, ECA incharges of all three municipalities have scored 1, i.e., low institutionalization in providing in-service and pre-service trainings to teachers regarding conducting ECA, indicating that it is a problem felt by ECA incharges of all municipalities. Moving on to the principals, the

elements that they felt were fully institutionalized were the sufficiency of personnel to conduct ECA and the integration of ECA in their curriculum. Likewise, the principals of all three municipalities have scored 1 on pre-service trainings on ECA due to its absence. Lastly, the common elements that have full institutionalization, according to the Education Officers, are leadership efforts for conducting ECA after school, planning for enhancing ECA in schools, and the sufficiency of personnel to conduct ECA. Similarly, all three education officers think that pre-service trainings on ECA are lacking for teachers; hence, it received 1, indicating low institutionalization.

On a municipal level, the ECA in charge, principals, and education officer of Durgabhagwati Rural Municipality have scored four, that is, full institutionalization for personnel sufficiency and opposition management and engagement. Similarly, respondents from all three levels have scored low institutionalization for the lack of pre-service training on ECA. Moving on to Yamuna Mai Rural Municipality, though there was no common fully institutionalized element scored four by all respondents, pre-service training was again scored as the lowest institutionalized element. Lastly, the common elements on which principals, ECA incharge, and education officers of Rajdevi Municipality scored four were vision and planning to improve the quality of ECA in the coming years, leadership efforts for conducting ECA after school, adequacy of personnel, and equitable and inclusive access for students to participate in ECA. Due to the lack of pre-service training for teachers on ECA, all respondents have scored 1 for pre-service training on the Institutionalization Tracker.

The above findings described the strengths and weaknesses of schools on different elements as per the scoring given by the ECA incharge, principals, and education officers of Durgabhagwati Rural Municipality, Yamuna Mai Rural Municipality, and Rajdevi Municipality. To assess which municipality is institutionally strong and weak, we assess the overall scores, observing which municipality has the highest scores and which has weaker ones. Table 4.2.1 illustrates the scoring system best.

Table 4.2.1 Institutional readiness for scaling municipalities

Municipality	ECA incharge	Principal	Education Officer	Total score	Full score	Institutional readiness
Durgabhagwati Rural Municipality	50	56	43	149	216	69%
Yamuna Mai Rural Municipality	42	45	53	140	216	65%
Rajdevi Municipality	50	53	50	153	216	71%

The score was calculated by totaling their scores for all elements within the Institutionalization Tracker. The total score if a respondent scores all four elements of element 4 (full institutionalization) is 72. Hence, the above scores of ECA incharge, principals, and education officers are obtained out of a full score of 72. Since the section is analyzing which municipality's schools are more ready, it can be understood from the last column of the table that is labeled institutional readiness'. From the column, it can be deduced that schools in Rajdevi Municipality are more institutionally ready for scaling than those in Durgabhagwati and Yamuna Mai Rural Municipalities. Similarly, the municipality that needs to strengthen its schools the most is YRM since both ECA incharges and principals have scored it lower.

4.3 Adaptation Tracker

Step 1: **Identify**

What is the scaling goal? What is the priority scaling driver to focus on for this cycle?

The scaling goal of the current intervention, 'Extra Curricular Activities After School, is scaling deep on a municipal level by enhancing the quality of ECA through teacher trainings, implementing a training manual for ECA, and monitoring and assessing the regularity, quality, and effectiveness of ECA to ultimately reduce the dropout rate of students in school. The intended beneficiaries are students, teachers, and the institution itself. Since change in mentality and cultural shifts take time, the intervention's estimated period is 3 to 5 years. The intended impacts of this intervention are that all students, especially those considered 'weak', get the opportunity to showcase their talent; transfer diverse sets of skills (such as computer and home economics) to students; and promote municipal ownership for providing and increasing opportunities in school for students through ECA. The scaling drivers to focus on to scale this intervention are a training manual for conducting ECA that is recognized and distributed by the education officer and a monitoring tool to track whether students are benefiting from ECA or not.

Step 2: **Plan**

What key challenge or opportunity related to this scaling driver do you want to address, and why?

It is not challenging to provide a low-cost manual since it will be just a directory. The challenge would be implementing it due to a lack of monitoring. Likewise, the challenges in implementing a monitoring tool are the insufficiency of consistent budgeting for the monitor by the government for travel to schools, fuel costs, etc. Another challenge to implementing an effective monitoring tool is maintaining political harmony between the monitor and the institution's head. If the political alliances match between the two parties, there is a probability of neglect to monitor, while if there is political discord, there are chances of micromanaging, defiance, or even conflict.

Similarly, the key opportunity for implementing an ECA manual is that there is already a demand for it. The education officer of each municipality has suggested such a product and has assured to distribute it themselves. The opportunity for enforcing a monitoring tool is slim. Having said that, an opportunity is that the responsibility of monitoring already falls upon the education officer; hence, the starting line is already there. The only requirement is to sharpen it for monitoring, which itself is a challenge.

What proposed adaptation(s) will you test to address this challenge or opportunity, and why? What is the plan to execute this adaptation?

For scaling the intervention, internalization by the education officer of the importance of ECA is important. Hence, cultural adaptations are needed to make them understand the importance, for which upper governance has to strongly delegate the role of the education officer towards monitoring ECA in schools. Similarly, to address the opportunities, training must be provided to teachers on conducting ECA. The local governance, through the Education Officer, must initiate such trainings in order to

transfer a sense of ownership and the responsibility of improving the ECA in schools to the municipality.

As the reach of the innovator is limited for mobilization of resources, to execute this plan, multitudinous advocacy and dialogue-making must be done with relevant stakeholders such as lawmakers and state leaders to put this into policy as well as practice.

How will you measure if this adaptation led to an improvement in addressing the challenge or opportunity? What information will be collected and how, by whom, and how often? How will this data be used for decision-making?

The key measurement that will indicate an improvement in the intervention after addressing the challenges or opportunities is the attendance and regularity of the student, especially during days with ECA. Furthermore, students' interest in school and their realization that school is enhancing their capacity are also ways to assess the intervention's progress. To quantify the student's attachment to school, Finn's Participation Identification (PIN) Model can be used. The data will be collected through enumeration by translating the questionnaire to the students' language of understanding. Such data shall be collected biannually in order to make necessary adaptations to the intervention as it progresses. The data will be used by teachers to understand the students lens for perceiving their school. This way, the teachers, principals, and education officer, who is the municipal leader, can identify the school's gap and improve accordingly.

What do you predict will happen?

As the intervention advances, the students overall development will be observed. They will experience an enhancement in learning in various dimensions, such as learning to work cooperatively in groups as well as an improvement in individual abilities.

Step 3: **Test**

As the adaptation is being tested, are there any observations or unexpected circumstances to document? Were any changes made to the planned adaptation while it was being tested?

A negative circumstance that is expected as the intervention is scaled is the teacher's defiance and protest against an additional burden regarding conducting ECA qualitatively and regularly. Similarly, external factors such as parents keeping their children from school for household chores may also interfere with the assessment of the effectiveness of ECA programs for reducing dropouts and out-of-school children.

A change that was adapted as the intervention moved ahead was the appointment of an ECA monitor to assess the ECA activities in schools to strengthen monitoring by adding a third-party assessment.

Step 4: **Reflect**

What are the results of testing the adaptation? Did the adaptation lead to an improvement? What worked and did not work? Were any spontaneous or unplanned adaptations made to the original plan? How did the results compare to the predictions? What lessons were learned?

The tentative result of this intervention is a student's enhancement in various dimensions of learning. The intervention led to an improvement, as observed by the very regularity of ECA as documented in the ECA logbook. A spontaneous adaptation that was made to the intervention was guiding schools that lacked space for ECA to conduct it without needing too many additional resources. In addition, class adjustments were made to prevent students from leaving school early. For example, if ECA was conducted after the lunch break, students would not stay in school. Hence, to ensure participation, a few schools moved the class for ECA before lunch and shifted important subjects like science or match after lunch to retain students.

The initial prediction for the intervention was that teachers deviance to cooperate due to political alliances would pose a huge barrier against its advancement. However, the results were positively different. Due to rapport building before the start of the intervention, introducing the intervention went smoother than expected. In addition, factors such as context-oriented, low-cost intervention also assisted in teacher compliance despite the lack of financial support.

Based on this learning and reflection, what next? Will you maintain or expand the adaptation, tweak or adapt it, or abandon it to try something else? Is this driver still a priority? Begin a new "plan" section to flesh out the proposed next steps.

Based on this learning, the next step for this intervention is to publish and distribute a teacher training guide for conducting ECA through the initiation of an education officer. Additionally, a written form of replicable format for this intervention to transfer ownership to the municipality is also an important step for the intervention.

In regards to the intervention, if it is in the same place, it should be revised, adjusted, and made precise. However, if it is to be implemented in another place, the intervention should be contextual. The scaling driver, i.e., the training manual for conducting ECA and a monitoring tool to regulate its conduct, remains the same even if the intervention's place of application differs.

Discussions

5.1 Examining the scalability of the ECA program

A scaling strategy worksheet serves as a guiding framework to support organizations or institutions engaged in the planning or implementation of scaling an initiative by offering guidance on setting a specific, measurable, and time-bound scaling goal. Most importantly, a hidden objective of SSW is also to gauge whether an intervention is scalable or not.

Based on the findings, it is evident that the intervention has high scalability potential due to the existing gap between policy and practice. Although the policy mandates ECA be conducted in all public schools on Fridays after school, implementation lags behind due to various reasons. Challenges such as limited government resources, insufficient budgets and materials, a lack of parental engagement in child development, teacher dispassion for teaching, and cultural hindrances such as frequent school holidays during every small cultural event impede the implementation of ECA after school in public schools. Therefore, the intervention's purpose is to bridge the gap between policy and practice by deepening scaling efforts.

Scaling deep involves enhancing the quality of ECA after school to ensure the intervention's effectiveness in reducing the number of out-of-school children and those at risk of dropping out. To achieve this, several factors require attention. These include ensuring adequate infrastructure for conducting ECA in schools, aligning teachers' values with the importance of learning, fostering a supportive family mindset that promotes child development and involvement in school activities, and strengthening governance to ensure regularity, accountability, and improved quality of education in public schools.

5.2 Analyzing the readiness of the institution for scaling the intervention

The primary goal of the institutionalization tracker is to evaluate the preparedness of the institutions that form the foundation of the intervention. This assessment of readiness can be approached in two key ways. Firstly, it involves evaluating the overall institutional readiness, considering factors that contribute to the institution's capacity for scaling the intervention effectively. Secondly, it entails a detailed examination of the elements encompassed within the institutionalization tracker, which helps determine the specific areas where an institution demonstrates readiness for scaling. For this intervention, both approaches will be undertaken to comprehensively examine

the institutional readiness for scaling this institution. The institution under examination for the intervention 'ECA after School' is the schools within the three municipalities (YRM, DRM, and RDM) in Rautahat.

5.2.1 Elemental readiness and unpreparedness of schools

As discussed in Section 4.2.4, the elemental readiness that does not need to be strengthened for the majority of the schools in all three municipalities is personnel to conduct ECA and the integration of ECA in the curriculum. The latter scored high due to the policy mandated by the government to include ECA in the curriculum of the school. Likewise, the full institutionalization of personnel is due to the nature of the intervention itself. Conducting ECA does not require many human resources. The presence of dedicated ECA in-charges within each institution already indicates an adequate workforce for conducting ECAs. However, the weaker elements that have been scored low are mainly in-service and pre-service trainings. The absence of comprehensive training opportunities, despite having sufficient personnel, suggests a lack of trained individuals equipped with the necessary skills to conduct high-quality extracurricular activities that truly benefit child development. Therefore, to effectively expand the intervention, it is essential to provide proper training specifically focused on ECAs. Given that the trainings will specifically target teachers in public schools, it is crucial for the municipality to take the lead in initiating and organizing these training sessions. This approach ensures that the municipality takes ownership of the training process and its outcomes. By spearheading the trainings, the municipality demonstrates its commitment to improving the quality of education in public schools and recognizes the significance of providing teachers with the necessary skills to conduct effective extracurricular activities. This collaborative effort between the municipality and the teachers fosters a sense of shared responsibility and empowers the municipality to actively support and sustain the implementation of high-quality ECAs in public schools. Furthermore, those receiving the trainings can also effectively pass on their knowledge to future ECA incharges or teachers responsible for conducting valuable ECAs, removing the dependency on the intervention to provide trainings.

Similarly, Table 4.2.1 shows the overall readiness of schools in different municipalities for scaling the intervention. One of the obvious reasons why schools in RDM are more institutionally ready is because the schools have more provisions from the municipality, considering the rest are rural municipalities, hence less resources provided. It is also the only municipality in which ECA incharges, principals, and education officers have scored similarly corroborating honesty. However, for the two rural municipalities, the scores of the ECA incharge and principals are similar but do not match the scores of the education officer, indicating a fissure between the municipality and the school members (ECA incharge and principal).

In Sections 4.2.1, 4.2.2, and 4.2.3, it is evident that the principals and ECA in charge of DRM have only given low scores for in-service and pre-service trainings. However, the Education Officer of DRM has scored low in additional areas, including recruiting and retaining teachers, providing supervision and support from the local governance, procuring and distributing materials for ECA, monitoring and evaluating, and providing learners assessments. The reason behind the higher scores given by school representatives in these areas is because the schools themselves manage these elements with support from external NGOs and INGOs. On the other hand, the

Education Officer, as a representative of the local government, understands the government's limitations in providing support to schools, particularly in terms of supervision, material procurement, and regular monitoring and evaluation of ECA, hence the low score.

Similarly, in the case of YRM, the scoring trend differs from that of DRM. While the school representatives in YRM have given lower scores, the education officer of YRM has scored higher. The significant variation in scoring is observed in elements related to governance, supervision, and support. The Education Officer has assigned high scores to governance elements such as leadership and planning, as well as supervision and support, while the ECA in charge and principals have rated them lower. This discrepancy arises because the education officer considers the principals and teachers themselves to be leaders within their schools. Regarding planning, the Education Officer believes that the regular discussions among teachers regarding the school's overall needs and improvements, including ECA, warrant a full score in planning since it indicates that there is a plan for enhancement. Furthermore, as the Education Officer conducts monthly visits to schools, a score of 4 has been assigned for supervision and support. However, the school representatives have contrasting scores for leadership because they presume leadership and planning to be the responsibility of the local government. Similarly, the reason for ECA incharge and principals' scores in supervision and support is due to their perception that the current level of supervision and support they receive is insufficient. Thus, they have rated it lower due to the perceived lack of adequacy.

5.3 Evaluating the adaptability of interventions to scaling

The following examines the flexibility of the intervention to scale by analyzing the priority scaling drivers and the challenges to scaling these drivers.

The main scaling objective of the 'ECA after School' intervention is to achieve deep scalability at the municipal level by improving the quality of extracurricular activities and monitoring and assessing the regularity, quality, and effectiveness of ECA, ultimately leading to a reduction in the student dropout rate. The approach of scaling deep is preferable for 'ECA after School, since the government has already scaled up the mandatory implementation of ECA in schools through policy. To accomplish this goal, the innovator has identified two key scaling drivers as priorities: 1) a training manual for conducting ECA that is recognized and distributed by the Education Officer; and 2) a monitoring tool to track the impact of ECA on student development. The selected scaling drivers come with their own challenges and opportunities. However, in terms of adaptability to different contexts, both the training manual and the monitoring tool are not limited to Rautahat specifically. They are generally applicable resources that can be contextualized and implemented in various environments.

The implementation of the first scaling driver poses a significant challenge. The successful execution of the training manual relies on the local government's sincere commitment to monitoring, which is complicated due to the lack of a structured implementation system and relies primarily on the local leader, such as the mayor. This difficulty slightly hampers the adaptability of the first scaling driver for scaling purposes. On the other hand, implementing a monitoring tool in schools faces challenges not in its application but rather in its effectiveness, as it heavily relies on the cultural, political, and social environment. However, this challenge does not create the

same level of inflexibility as the implementation of the training manual since the innovator can analyze the situation and adjust the scaling approach based on the results of a pre-assessment.

During the implementation of the two scaling drivers, it is important for the innovator to follow a sequential approach rather than implementing them simultaneously. The reason for this is that the distribution of the training manual can only take place once the local government takes ownership and initiates its distribution. Subsequently, the monitoring tool can be applied by the education officer within the local government after the training manual has been successfully implemented. Therefore, a sequential implementation strategy is necessary to ensure the proper and effective execution of both scaling drivers.

Harmonizing the Intervention with Scaling Science's Guiding Principles and Theory of Change

The subsequent chapter aligns the intervention with the four guiding principles, providing a comprehensive perspective on scaling extracurricular activities after school." Additionally, this chapter correlates the intervention with the scaling theory of change to unravel the scaling pathways, responses, and partners.

6.1 Moral Justification

In the case of this intervention, the impact risk is deemed acceptable based on the results observed in Rautahat. End-line data revealed a significant improvement in school attachment of 48%, resulting in a decrease in runaways. Furthermore, the number of students at risk of dropping out was reduced in 18 out of the total 22 treatment schools, demonstrating a positive impact on student retention and reducing the dropout rate.

The moral justification for this intervention arises from the necessity to address the gap between policy and practice. The existence of Nepal Education Rule 2059 (2002), Sub Article 14, which mandates the provision of extracurricular activities in schools, acknowledges the importance of such activities for students. However, the lack of proper implementation in public schools in Rautahat highlights the need to bridge this gap. Scaling this intervention becomes crucial not only in Rautahat but also in other districts across Nepal that face similar challenges in effectively implementing extracurricular activities.

Furthermore, the issue observed in Rautahat reveals that when teachers do conduct extracurricular activities, they often lack consideration for the holistic development of the child, treating it merely as part of their job responsibilities. This situation is primarily attributed to the insufficient training provided to teachers in conducting extracurricular activities.

Besides, the absence of effective monitoring and evaluation mechanisms allows teachers to operate without proper oversight and accountability. These weaknesses in the implementation of extracurricular activities within schools emphasize the pressing need for this intervention, as it aims to address these challenges and ensure that extracurricular activities are conducted in a manner that truly benefits students'

development. Therefore, the moral justification for this intervention lies in rectifying the shortcomings of current practices and enhancing the overall quality and impact of extracurricular activities in schools.

6.2 Inclusive Coordination

Coordination in implementing extracurricular activities should adopt a participatory, multi-stakeholder approach. It relies on stakeholders willingly recognizing and internalizing the importance of ECA in reducing the number of children at risk of dropping out. To achieve effective coordination, networking between organizations working towards the same cause is necessary to avoid duplication and ensure efficiency. In districts like Rautahat, multiple organizations are independently addressing the same issues. However, this fragmented approach hampers the program's sustainability and impedes the community's progress towards finding effective and sustainable solutions. Therefore, it is imperative for these organizations or competitors to establish networks and collaborate in order to effectively address the underlying issue.

Creating a harmonious environment among enablers, such as government entities, NGOs, and other relevant stakeholders, is crucial for enhancing the efficiency and effectiveness of the intervention. Unfortunately, factors such as power hierarchies, personal conflicts, differing political ideologies, and cultural beliefs often hinder cooperation and coordination among enablers, even when it is essential for the success of the intervention. The innovator must conduct a thorough pre-assessment of the environment and develop strategies to bring all stakeholders together, fostering harmonious engagement and collaboration.

By promoting participatory coordination, facilitating networking between organizations, and creating a harmonious environment among enablers, the intervention can overcome barriers and maximize its impact in reducing the risk of student dropout.

Figure 6.2.1 Actors within this intervention

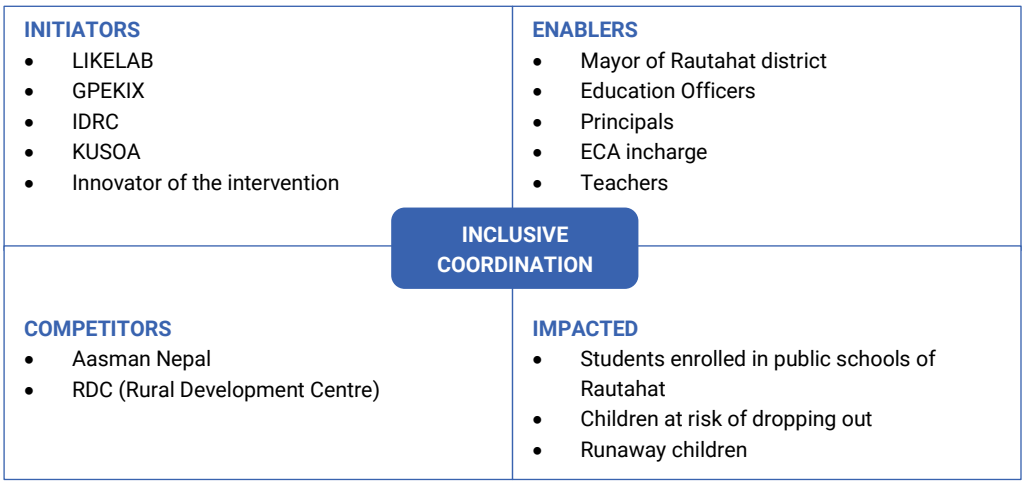


Figure 6.2.1 represents the initiators, enablers, competitors, and impacted parties for this intervention in Rautahat. The initiators are those who initiated this intervention, including the funders and the innovators. For this intervention, the initiators are the

research team from LIKE Lab under KUSOA as well as the grant providers GPE KIX and IDRC. Another important initiator is the innovator of the intervention, who is the researcher in LIKE, Ms. Shweta Adhikary. Enablers are all the key stakeholders that essentially assist the intervention in proceeding forward. The mayor of Rautahat district, education officers, principals of treatment schools, ECA incharges, and teachers of those schools are the key stakeholders that enabled the intervention to be effective. Competitors are viable alternatives or substitutes for scaling innovation. Competitors can encompass individuals, locations, or objects that offer similar solutions or approaches. Aasman Nepal and RDC are also working on tackling the same issue in Rautahat, which is increasing the student enrollment and retention rate in schools in Rautahat to decrease the student dropout rate. Lastly, impacted are those who experience both the positive and negative impacts of the intervention. The key beneficiaries of this project are students enrolled in public schools in Rautahat, children at risk of dropping out, and runaway children.

6.3 Optimal Scale

The optimal scale involves considering three key aspects that aid in determining the intervention's ideal extent. Firstly, it entails defining the level of impact that needs to be achieved and adopting proper methods to measure that impact. For this intervention, improving the quality of ECA through teacher training to ultimately reduce student dropout rates is the level of impact that is needed to be achieved. The proper method of measuring the impact of this intervention is by observing the total student dropout rates annually and also quantifying students attachment to school using Finn's Participation Identification (PIN) Model. Secondly, it necessitates a deep understanding and comprehension of the collective impacts resulting from scaling. The impact risk for the intervention when scaling is low. Hence, the collective impacts of conducting extracurricular activities are largely positive, benefiting children's development in schools. Lastly, it calls for innovators to address four crucial dimensions of change: magnitude, variety, equity, and sustainability. The following Table 6.3.1 summarizes the four dimensions in detail.

Table 6.3.1 Four dimensions of change within an optimal scale

Magnitude	The magnitude of the impacted in the intervention are all students enrolled in the 9 treatment schools in which key targets are those who are at risk of dropping out and are runaways. The geographical area of this intervention is two rural municipalities: Durgabhagwati and Yamuna Mai as well as one municipality: Rajdevi in Rautahat district. Since the intervention scales deep, internalization by the teachers and parents about the importance of ECA to reduce at risk of dropping out and runaways should be the degree of impact. The intervention's impact can be tailored by modifying three key factors: the nature of extracurricular activities, the frequency of their implementation per week while adhering to standard class durations, and potentially extending the duration if conducted once a week, allowing more student participation time.
Variety	The intervention's impact can manifest on two distinct levels: individually, where students experience direct benefits, and more broadly, at the institutional level, specifically within schools. The implementation of ECA leads to enhanced learning growth among students. Furthermore, institutionally, ECA contributes to increased student participation, resulting in improved student retention rates and a notable reduction in student dropouts.

Equity	The intervention is already equitable since conducting ECA in schools enables all students to participate regardless of gender or ethnic background. Therefore, the implementation of ECA itself plays a significant role in reducing gender, caste and ethnic disparities between girls and boys in term. However, it is worth noting that a deficiency in public schools' ECA implementation lies in the adaptation of activities to ensure inclusivity for students with disabilities.
Sustainability	To make the conduction of ECA regular and of quality, monitoring by the municipality is needed. Transferring the ownership of ECA monitoring to municipality guarantees not only regularity and quality conduction but also sustainability.

6.4 Dynamic Evaluation

Dynamic evaluation is vital for understanding the evolving optimal scale of an intervention, enhancing scaling. It involves ongoing monitoring of impact, effectiveness, and efficiency across various contexts. When replicating this intervention in different geographical areas, particularly in Nepal, it is crucial for the innovator to customize the program to align with the specific cultural, social, and political context of each area. This means carefully considering the unique values, traditions, and beliefs of the community to ensure the intervention is relevant and well received. Additionally, understanding the social dynamics and local governance structures is essential to effectively implementing and sustaining the intervention in each specific region. By contextualizing the program, the innovator can enhance its acceptance, effectiveness, and long-term impact, fostering a stronger connection between the intervention and the community it aims to serve.

Similarly, conducting a pre-assessment is equally important for the innovator to grasp the internal dynamics among stakeholders, institutions, and affected individuals. This assessment helps gauge whether the environment is supportive or challenging for the intervention. By understanding the relationships and interactions between various stakeholders and institutions, the innovator can identify potential barriers or facilitators to the intervention's success. This valuable insight enables the innovator to tailor their approach and strategies to create an enabling environment that enhances the intervention's effectiveness and impact.

For this intervention, a circular evaluator approach should be employed, where each stakeholder evaluates and balances the others. For instance, the local government's representative, the Education Officer, monitors and evaluates the schools conduct of ECA and its impact on child development. Likewise, the school leader, the principal, supervises the teachers in charge of ECA, while the teachers assess students based on their participation, interests, and learning outcomes. The key aspect of this evaluative cycle is that all stakeholders reflect on their responsibilities and continuously improve themselves to achieve the best possible impact. This collaborative and self-reflective approach ensures the intervention's effectiveness and success.

6.5 Theory of Change

This section analyzes the three branches of the scaling theory of change by aligning them with the intervention Extracurricular Activities after School'. The three branches are pathway to scale, response to scale, and partners to scale.

The path to scale consists of three factors: policies, programs, and practice. The process of scaling the intervention, extracurricular activities after school, involves three main factors: policies, programs, and practices. This intervention encompasses all three factors, but the primary pathway for scaling lies in the practice aspect. This is because there is already a policy in place that mandates extracurricular activities in schools, making it unnecessary to focus extensively on the program factor. However, to successfully scale the intervention, small programs need to be integrated to provide training for teachers on how to conduct quality extracurricular activities. By focusing on practice and providing training, the intervention can be effectively implemented and expanded to benefit more students in various schools and communities. This approach ensures that the existing policy is effectively put into action and that teachers are equipped with the necessary skills to deliver impactful extracurricular activities, ultimately leading to a successful scaling process.

Response to scale refers to the way impact is observed at different stages of scaling and how people react to it. During the implementation of the intervention, the responses from local government representatives, like the mayor and education officer, have been mostly positive. In fact, education officers have expressed their interest in scaling the intervention further in Rautahat. However, some teachers showed slightly negative responses, mainly due to feeling additional responsibility and stress. To address this, providing them with training on conducting extracurricular activities and collaborating with the municipality to increase their salary or offer bonuses based on their skill acquisition could help improve their attitude towards the intervention. By understanding and addressing these responses, the intervention can be refined and its impact maximized during the scaling process.

Partners to scale are divided into two categories: direct partners and implementing partners. The direct partners, or initiators of the intervention 'ECA after School,' consist of the innovator and the research team within LIKE. On the other hand, the implementing partners for this intervention include the enablers, such as local municipal leaders, principals, and teachers, who play a key role in implementing the intervention in schools and communities. These partners work together to ensure the successful execution and scaling of the intervention, with the direct partners providing the foundational support and expertise, while the implementing partners actively carry out the intervention on the ground. By collaborating and coordinating efforts, these partners contribute to the overall impact and effectiveness of the extracurricular activities after school intervention in benefiting students and promoting child development.

Conclusion

The primary goal of this study was to assess the effectiveness of scaling the ECA after-school program in Durgabhagwati and Yamuna Mai Rural Municipalities and Rajdevi Municipality in Rautahat. To achieve this, the research concentrated on four specific objectives: 1) identifying the most suitable strategy for scaling the program; 2) evaluating the readiness of the institutions to scale; 3) examining how adaptable the intervention is to scaling; and 4) aligning the program with the four guiding principles of scaling science. These objectives aimed to provide valuable insights into the potential success and impact of scaling the ECA after-school program in the targeted regions.

Using tools such as the Scaling Strategy Worksheet, Institutionalization Tracker, and Adaptation Tracker, this study has assessed the program's overall scaling aspects. These tools have covered various aspects of scaling an innovation, such as re-questioning the innovator's strategies for scaling, monitoring variations made during the scaling process, gauging the adaptability of the innovation, and examining the institution's readiness in various elements.

However, it is important to note that these tools have limitations when it comes to capturing social and cultural aspects of scaling due to the nature of scaling science. For instance, the tools assume that there is already an established and functioning system in place for the institution in focus. In reality, the complexity of the system and the possibility of corruption or negligence within it cannot be fully captured, even though they can significantly impact the scaling success of the intervention.

Scaling science research, being an emerging concept, does come with its own set of limitations. Notably, the 'ECA after School' intervention encountered significant challenges within schools, including inadequate materials and space, limited teacher knowledge and skills for conducting extracurricular activities, and cultural barriers that hindered effective integration and the conduct of such activities for students. These limitations underscore the importance of carefully considering potential obstacles when planning and executing scaling initiatives to ensure their effectiveness and impact.

Despite these challenges, the extracurricular activities after school intervention demonstrated positive scalability potential, mainly due to the existing gap between policy and practice in public schools. For successful scaling, it is essential to focus on elevating the quality of extracurricular activities, aligning teacher values with the importance of such initiatives, fostering family support in promoting student participation, and strengthening governance within educational institutions. Additionally, the use of tools like the Institutionalization Tracker, which emphasizes proper personnel training, and the Adaptation Tracker, which assesses the adaptability of scaling drivers, can aid in optimizing the scaling process and increasing the intervention's chances of success. By addressing these aspects, the 'ECA after School'

intervention can effectively reduce student dropout rates and promote positive child development through well-executed, scaled-up extracurricular activities.

To enhance the intervention's chances of success and effectiveness, it is crucial to implement the scaling drivers consecutively. Conducting pre-assessments within the community is essential for an innovator to morally justify the need for scaling the intervention. Additionally, these pre-assessments enable the innovator to understand the functioning of local institutions and the prevalent culture, facilitating the establishment of networks and connections for scaling. This approach ensures a smoother introduction and integration of the scaling process within the community, guaranteeing the intervention's success and effectiveness. By gaining insights into what works and what doesn't for the impacted individuals, the innovator can make the necessary adjustments to tailor the intervention to the community's specific needs.

In conclusion, this study validates the effectiveness of scaling science and highlights its limitations. It provides valuable insights for practitioners to improve interventions and address complex problems more effectively. The goal is to refine the concept for better solutions in the future. By addressing these findings, the 'ECA after School' intervention can effectively reduce student dropout rates and promote child development through well-executed, scaled-up extracurricular activities.

Annex

A. Annex 1

Table A.1 Questionnaire for Scaling Strategy Worksheet

A. Vision			
i.	Name of the Intervention		
ii.	What is the **problem** this intervention is addressing? What is **the need** of the intervention?		
iii.	What is the **goal** of this intervention? Overall **from this intervention** and **specifically in Rautahat**?	Goal:	Specific results:
iv.	Who are the **targets** of this intervention?		
v.	What **result** are you expecting **from scaling** this intervention?		
B. Summary of Scaling Strategy			
i.	What **kind of scaling** is this initiative undertaking? Is it up, out or deep?		
ii.	What is the element to be scaled for this intervention?		
iii.	What was your initial thoughts on the type of the intervention for scaling (was it up, out or deep)?		
iv.	How has your **idea of scaling** this intervention **evolved** over time?		
v.	Now that you are aware of your end line situation, do you think this intervention has the **possibility of scaling differently**?		
vi.	If YES, what are your **strategies** for doing so?		
vii.	How have you planned to address different problems or sudden solutions that will arise when **scaling in different contexts**?		
viii.	What **negative consequences** observed during this intervention?	Initially assumed negative consequences:	Observed negative consequences:
C. Credibility of the proposed initiative			
i.	Are there any evidences backing this intervention? If yes, what type evidence are they?		
ii.	What is the **core strategy** of this initiative?		
iii.	What kind of **strategy** have you developed to ensure that practitioners, academics and/or communities **accept the initiative**?		
iv.	Please score the effectiveness of your initiative from the scale of 1-5.		
v.	How has the score evolved from the initial stages of intervention?		
D. Recognition of the problem and support for change			
i.	What evidence/s is there to show that the communities and policymakers **recognize the problem** that the initiative is working on **as urgent**?		
ii	Are there any **systemic benefits** or **potential coalition** (or affiliations) that the initiative would take **advantage** of, for bringing change?		
iii.	Were there any **opposition or hindrances** that could affect the impact? If YES, who were they?		How did you **mitigate** it?
iv.	How does the initiative align with the current national, provincial or local priorities?		
E. Advantage of the proposed initiative over alternatives and to the status quo			
i.	How is the initiative **more effective** than the current provisions and alternate approaches? **Give evidence**.		
ii.	Give **evidence** that the initiative **is perceived more effective by policymakers, practitioners, and communities** and also		Is it acceptable for larger system?

	describe whether implementing organizations and other **larger system will accept** the initiative.		
iii.	What are the **advantages** of this initiative?		
F. Enabling conditions and partnerships for scaling			
i.	What are the key elements/ conditions in the larger system that are **significant assets for scaling**?		
ii.	Similarly, what are the key elements/ conditions in the larger system that are **challenges for scaling**?		
iii.	What **partnerships** are **already in place** to support scaling?	Before:	After or current situation of support:
iv.	What **partnerships** are **needed** to support scaling?		
G. Ease of transferring and applying the initiative at scale			
i.	What are the most **challenging adaptations or adjustments** in the initiative to scale?		
ii.	What are the approaches to addressing these challenges?		
iii.	Which elements of the initiative are identified as '**core**' to its impact and **must be maintained** during scaling?		
iv.	Which element of the initiative can be **reduced** for **simplification or more cost-effective model**?		
H. Organizational capacity to implement initiative at scale			
i.	Based on past experiences or not, does the **implementing organizations** currently **possess organizational capacity** to bring the initiative to scale?		
ii.	How will the implementing organizations **develop organizational capacity** to bring the initiative to scale?		
iii.	What kind of **institutional capacity** is **lacking** for large-scale implementation of the initiative and how can they be addressed?		
iv.	How will the **process of transferring implementation** from one organization to another actor take place?		Risks associated with it:
v.	How can you **secure sufficient resources and capacity** if additional human and institutional resources are needed to support scaling?		
vi.	How will scaling the initiative enforce **equality** and **equity**?		
I. Financial sustainability of proposed initiative			
i.	How can the resources be mobilize to **establish a sustainable funding base** for scaling the initiative?		
ii.	Can the initiative be **implemented within the existing system**, utilizing the infrastructure, human resources, etc?		
iii.	What **budgetary processes** should be considered to mobilize **longer-term domestic financing**?		
iv.	Where will the domestic funds be invested and by whom (municipality, ward)?		
v.	What is the **timeframe** of this intervention?		
vi.	For this intervention, how will the finances **sustainably managed**?		
J. Actions, milestones, and timetables			
i.	What is the **timetable** of the whole scaling process from beginning to end?		
ii.	**Key Targets**	Was it achieved or not? Challenges/ease?	Timeframe for achieving the target
iii.	**Actions:**	**Monitoring Support**:	Overall **reflection:**
	Progresses of scaling		
	Assumptions that scaling was based on		
	Strategies on **collecting additional data** that were missed		

	Securing **additional support** (financial, technical, technological) needed		
iv.	What are your **learnings** from this initiative?		
v.	What is **your overall reflection** of the scaling process?		
vi.	Who are the **responsible parties** for **monitoring** and **reflective activities**?		
vii.	Is this intervention scalable? Please rate from 1-5 for its scalability with reason.	Scale up: Scale out:	Scale deep:
viii.	Additional information you would like to add		

B. Annex 2

Table B.1: Questionnaire for Institutionalization Tracker

Date of the interview:					
Name of the Responder:					
School Name:					
Municipality					
S.N.	**System Building Block**	**Element**	**Questions**	**Score**	**Comments**
1.	Scaling Strategy	Vision and Pathway	Is there a clear **vision and pathway** for scaling this initiative within MoE?		
2.	Governance	Leadership	Are there any **current leaders and coordination efforts** for the initiative (at first by champion(s) and later by a structured group within MoE)?		
		Policy	Does the **initiative align with existing policies**, or where policies do not exist, has the MoE implemented necessary policy/ies to support the initiative?		
		Planning	Has the MoE included the initiative in national and subnational **plans or strategies**?		
3.	Human Resources	Personnel	Are government teachers delivering the initiative?		
		Recruitment and retention	Are there **sufficient numbers of qualified teachers** to deliver the initiative at scale?		
		In-service training	Does appropriate MoE **in-service** teacher training include the initiative?		
		Pre-service training	Does appropriate MoE **pre-service** teacher training include the initiative?		
		Supervision and support	Is the initiative included in regular MoE supervision and support activities?		
4.	Curriculum and materials	Curriculum/ standards	Is the initiative incorporated into the MoE's existing curriculum/standards?		
		Procurement and distribution	Is the MoE creating, procuring, and **distributing sufficient** quantities and quality of the necessary **teaching and learning materials** within its normal logistics system?		
5.	Information	Data management	Is the initiative integrated into the MoE's **Education Management Information System (EMIS)** or alternative existing data management system?		
		Monitoring, evaluation, & learning (MEL)	Has the MoE defined and implemented a strategy for **monitoring and evaluating** the initiative and using results to modify the initiative?		
		Learner Assessment	Is assessment of learning outcomes related to the initiative integrated into official MoE learner assessments?		
6.	Finance	Finance	Are all aspects of delivering the initiative **financed by the government**?		

7.	Stakeholder engagement	Demand generation	Is the MoE engaged in generating **demand and buy-in** for the initiative among potential beneficiaries and **key stakeholders** in the education ecosystem?		
		Opposition	Is the MoE identifying and **engaging with potential opponents** to scaling and those who stand to lose from the initiative becoming widespread?		
8.	Equity and inclusion	Equitable, inclusive access	Has the MoE ensured marginalized and disadvantaged learners will have equitable access to the initiative?		

C. Annex 3

Table C.1: Questionnaire for Adaptation Tracker

Step 1: Identify	
What is the scaling goal (including initiative or components of the initiative being scaled, size and scope of proposed scaling goal, intended beneficiaries, timeline, and intended impact)? The scaling goal should be specific, measurable, and time bound. What is the priority scaling driver to focus on for this cycle?	
Since the initiative is already being scaled up, what kind of scaling do you propose for this intervention in the future? (in size, numbers and scope)	Scaling goal:
Who will be the intended beneficiaries for the scaled intervention?	
How much time do you think will be needed for scaling the intervention? A year? Five years?	
What will be the intended impact of this scaled intervention?	
What will be the scaling driver of focus to scale this intervention?	
Step 2: Plan	
What key challenge or opportunity related to this scaling driver do you want to address and why?	
What will be the key challenge to this scaling driver?	
What will be the key opportunity to this scaling driver?	
What proposed adaptation(s) will you test to address this challenge or opportunity and why? What is the plan to execute this adaptation?	
What kind of adjustments do you plan to make to the intervention to address this challenge?	
What kind of adjustments do you plan to make to the intervention to benefit from this opportunity?	
How do you plan to make this adjustment? How will the process go?	
How will you measure if this adaptation led to an improvement in addressing the challenge or opportunity? What information will be collected and how, by whom, and how often? How will this data be used for decision-making?	
How will you measure if the adjustment has addressed these challenges or opportunities and has improved the intervention?	
For this kind of measurement, what kind of information will be needed?	
How will it be collected? By whom?	
How often will it be collected? Weekly basis? Monthly basis?	
How will you or other stakeholders use this data for decision-making?	
What do you predict will happen?	
What do you think will be the outcome after this adjustment to the intervention?	
Step 3: Test	
As the adaptation is being tested, are there any observations or unexpected circumstances to document? Were any changes made to the planned adaptation while it was being tested? If yes, detail the changes and the intention behind them.	
During this intervention, were there any unexpected outcomes or observations that you experienced? (positive or negative)	
As the intervention proceeded, were there any changes that you made to make it run more smoothly?	
Why did you make such changes?	

Step 4: Reflect	
What are the results of testing the adaptation? Did the adaptation lead to an improvement? What worked and did not work? Were any spontaneous or unplanned adaptations made to the original plan? How did the results compare to the predictions? What lessons were learned?	
What is the tentative results from this intervention?	
Do you think the intervention led to an improvement?	
Were any spontaneous or unplanned adaptations made to the original plan?	
How did the results of the intervention compare to your initial predictions?	
What did you learn about the intervention? In succinct.	
Based on this learning and reflection, what next? Will you maintain or expand the adaptation, tweak or adapt it, or abandon it to try something else? Is this driver still a priority? Begin a new "plan" section to flesh out the proposed next steps.	
Based on this learning and reflection, what next? What should be done?	
Will you maintain or expand the adaptation, tweak or adapt it, or abandon it to try something else?	
Is the scaling driver still a priority after completing the intervention?	

D. Annex 4

Table D.1 Elements of Institutionalization Tracker with their Element Codes

System Building Block	Element	Element Code
Scaling Strategy	Vision and Pathway	V&P
Governance	Leadership	Leadership
	Policy	Policy
	Planning	Planning
Human resources	Personnel	Personnel
	Recruitment and retention	R&R
	In-service training	I-ST
	Pre-service training	P-ST
	Supervision and support	S&S
Curriculum and Materials	Curriculum/standards	Curriculum
	Procurement and Distribution	P&D
Information	Data Management	DM
	Monitoring, evaluation, & learning	MEL
	Learner assessment	LA
Finance	Finance	FInance
Stakeholder engagement	Demand generation	DG
	Opposition	Opposition
Equity and Inclusion	Equitable, inclusive access	EIA

E. Annex 5

Scorings by School Level 1 for Institutionalization Tracker

Table E.1: Scoring of School Level 1 (ECA incharges) of DRM, YRM and RDM

Element	Durgabhagwati Rural Municipality		Yamuna Mai Rural Municipality			Rajdevi Municipality			
	Pachurki Aadharbhut	Saraswati Ma Vi	Rajpur Aadharbhut	Mahadev Pra Vi	Braham Pra Vi	Brahampuri Ma Vi	Laxmipur Aadharbhut	Mashaarades Pra Vi	Pathaara Aadharbhut
Vision and Pathway	3	3	1	3	3	4	4	3	3
Leadership	2	4	3	4	3	4	4	3	3
Policy	3	3	2	2	2	2	3	3	3
Planning	3	3	4	1	4	4	3	3	3
Personnel	4	4	4	4	1	4	4	4	4
Recruitment and retention	2	2	2	4	1	3	4	2	4
In-service training	1	1	1	1	1	2	1	1	1
Pre-service training	1	1	1	1	1	1	1	1	1
Supervision and support	3	2	3	2	2	3	3	3	2
Curriculum/standards	2	4	3	4	4	3	4	4	4
Procurement and Distribution	3	3	1	1	2	3	3	2	3
Data Management	1	2	2	3	1	4	2	1	1
Monitoring, evaluation, & learning	2	2	2	1	2	2	3	2	1
Learner assessment	1	3	1	2	1	3	1	1	2
Finance	3	2	2	1	3	1	1	1	2
Demand generation	4	3	3	4	4	4	3	3	3
Opposition	3	4	4	4	4	4	3	3	3
Equitable, inclusive access	4	4	4	3	2	4	4	4	3

a. Annex 6

Radar Graph for the scoring of School Level 1 (ECA incharge) of DRM

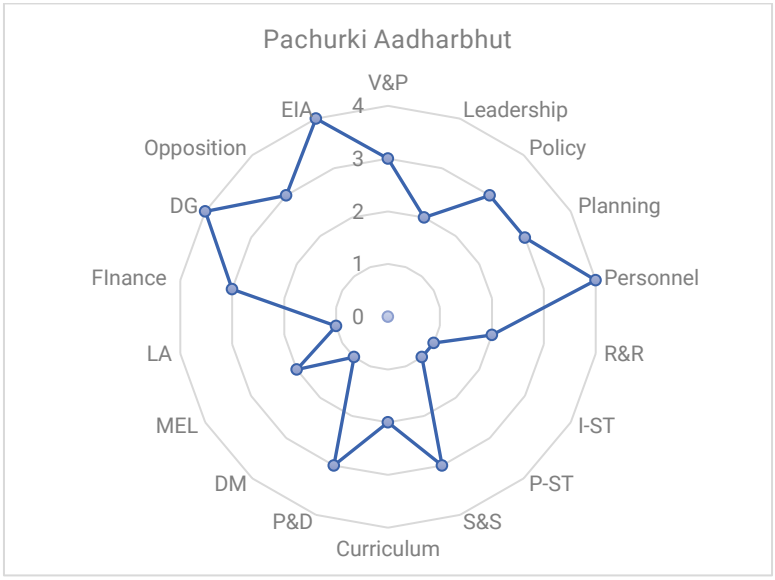


Figure E.1 Radar Graph showing scoring by ECA incharge of Pachurki Aadharbhut

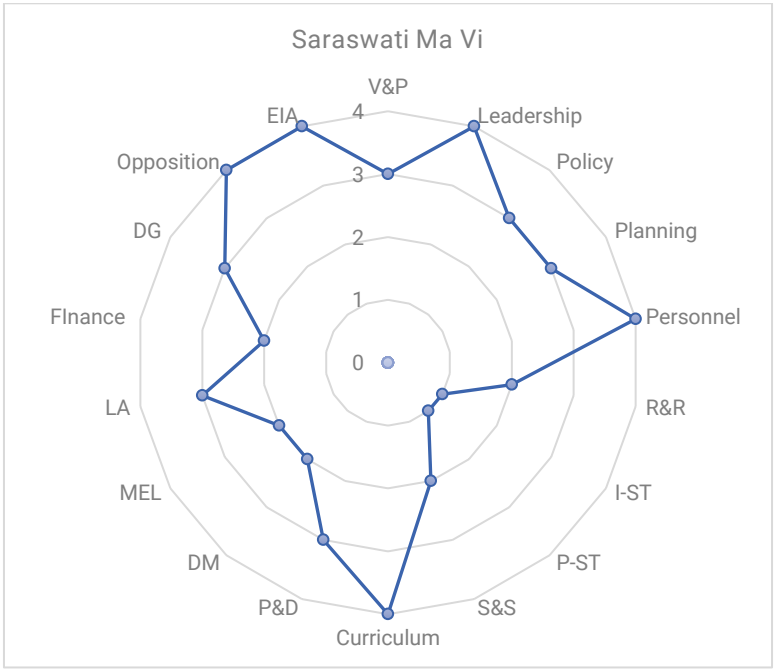


Figure E.2 Radar Graph showing scoring by ECA incharge of Saraswati Ma Vi

b. Annex 7

Radar Graph for the scoring of School Level 1 (ECA incharge) of YRM

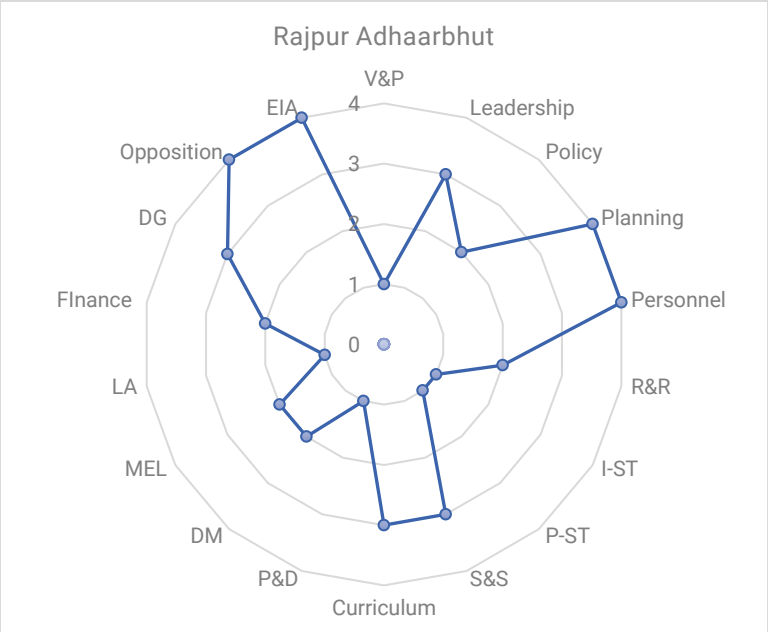


Figure E.3 Radar Graph showing scoring by ECA incharge of Rajpur Aadharbhut

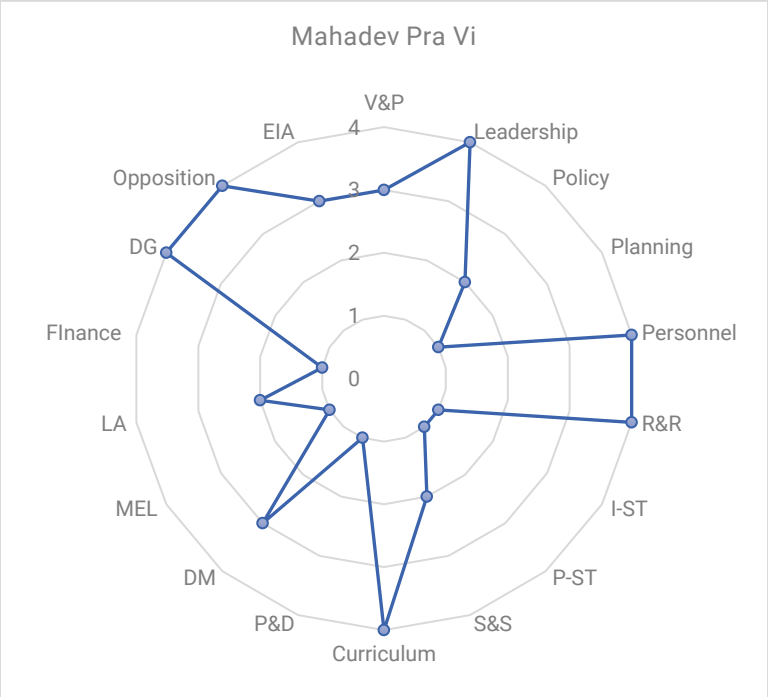


Figure E.4 Radar Graph showing scoring by ECA incharge of Mahadev Pra Vi

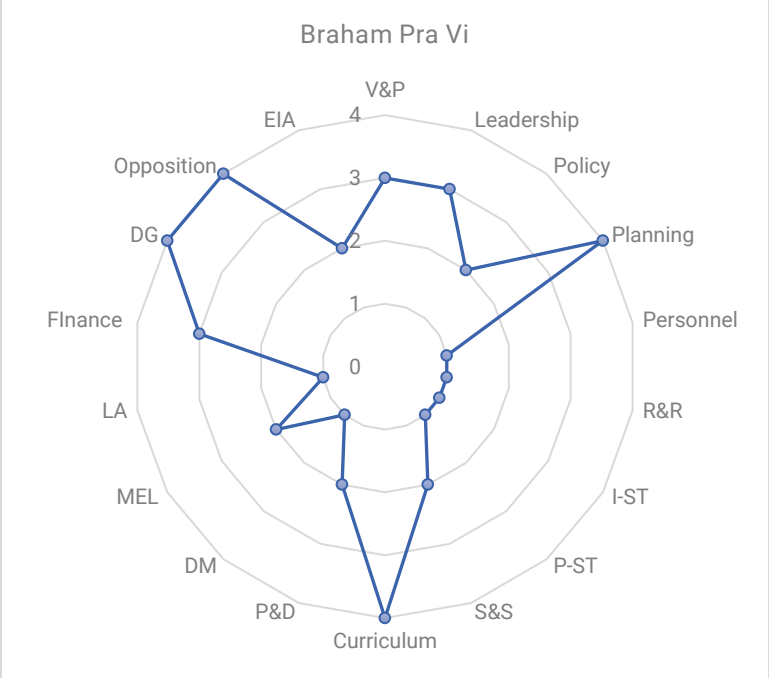


Figure E.5 Radar Graph showing scoring by ECA incharge of Braham Pra Vi

c. Annex 8

Radar Graph for the scoring of School Level 1 (ECA incharge) of RDM

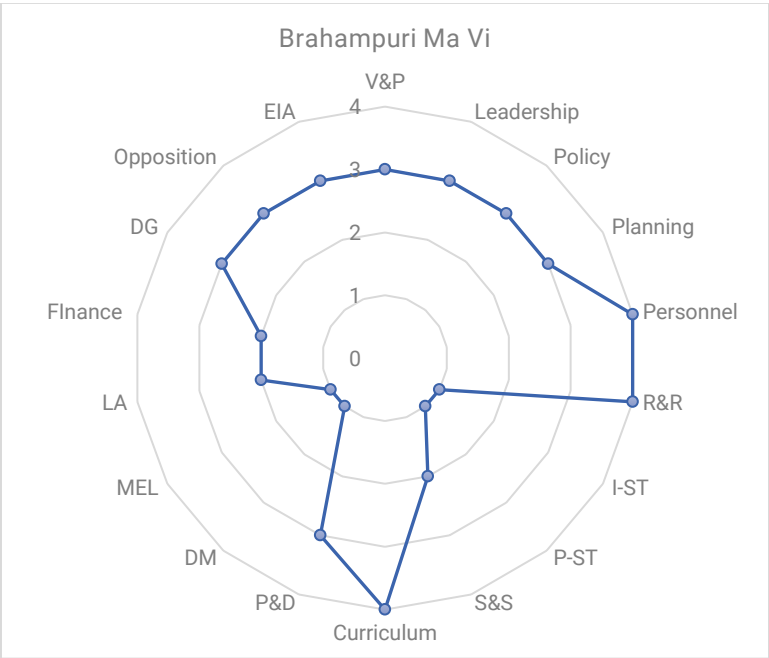


Figure E.6 Radar Graph showing scoring by ECA incharge of Brahampuri Ma Vi

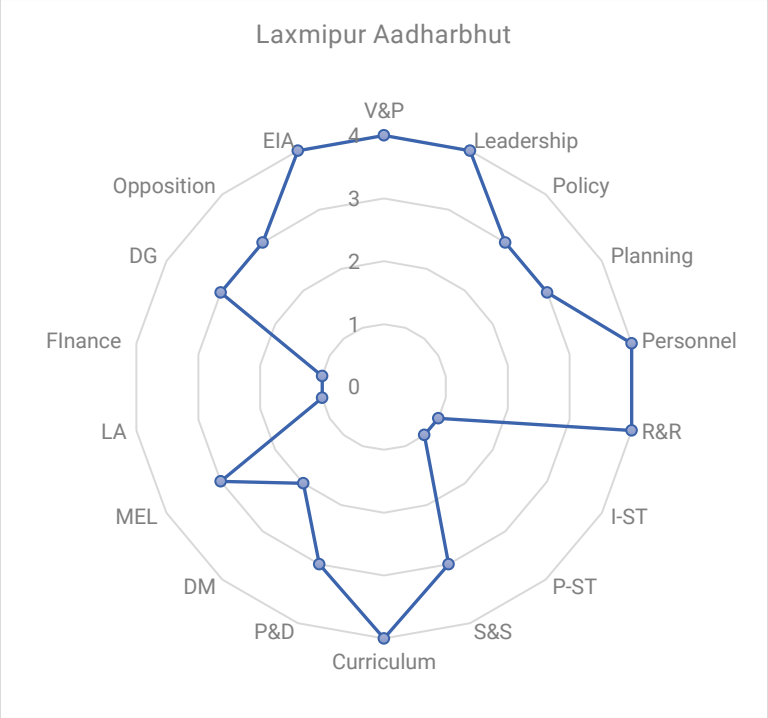


Figure E.7 Radar Graph showing scoring by ECA incharge of Laxmipur Aadharbhut

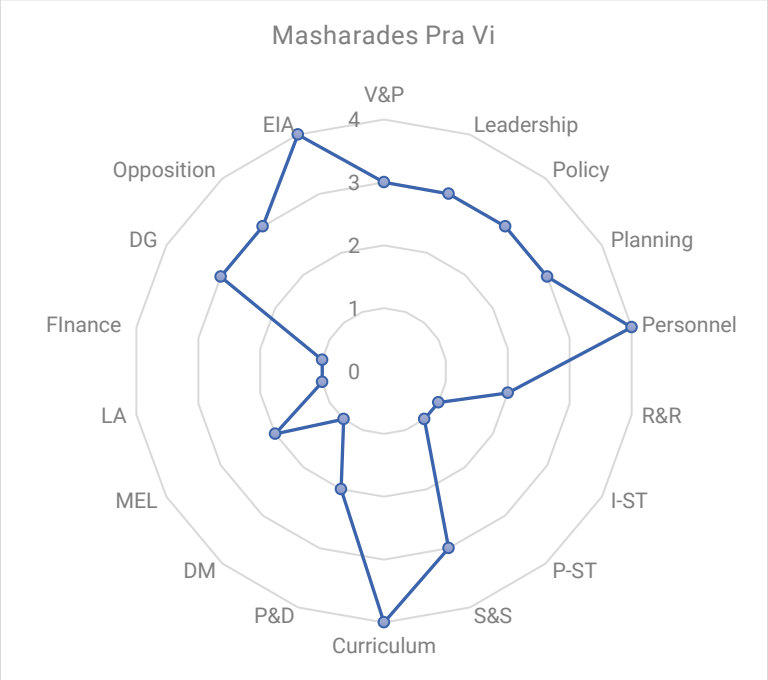


Figure E.8 Radar Graph showing scoring by ECA incharge of Masharades Pra Vi

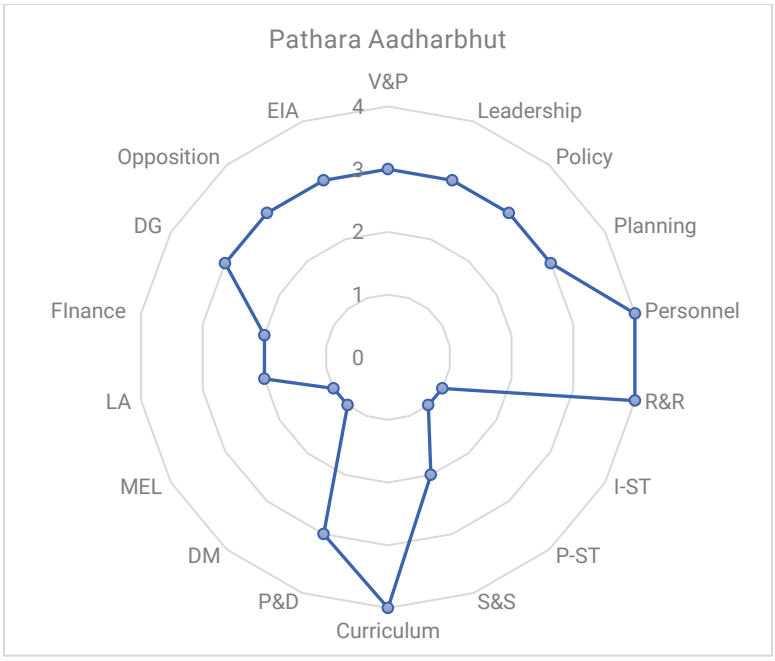


Figure E.9 Radar Graph showing scoring by ECA incharge of Pathara Aadharbhut

F. Annex 9

Scorings by School Level 2 for Institutionalization Tracker

Table F.1: Scoring of School Level 2 (Principles) of all DRM, YRM and RDM

Element	Durgabhagwati Rural Municipality		Yamuna Mai Rural Municipality			Rajdevi Municipality			
	Pachurki Aadharbhut	Saraswati Ma Vi	Rajpur Aadharbhut	Mahadev Pra Vi	Braham Pra Vi	Barahampuri Ma Vi	Laxmipur Aadharbhut	Mashaarades Pra Vi	Pathaara Aadharbhut
Vision and Pathway	3	3	4	3	3	4	4	3	3
Leadership	4	4	3	4	3	4	3	4	3
Policy	3	3	2	2	3	2	3	3	3
Planning	4	4	2	1	4	4	4	3	4
Personnel	4	4	4	4	4	4	4	4	4
Recruitment and retention	3	2	2	4	2	3	3	2	4
In-service training	1	2	1	1	1	1	1	1	1
Pre-service training	1	1	1	1	1	1	1	1	1
Supervision and support	2	3	1	1	2	3	3	2	2
Curriculum/standards	3	4	4	4	4	3	4	4	3
Procurement and Distribution	3	3	3	1	3	3	3	2	2
Data Management	3	4	2	3	1	4	2	1	3
Monitoring, evaluation, & learning	2	3	2	1	3	3	3	2	2
Learner assessment	3	1	3	1	1	2	1	1	2
Finance	2	1	2	1	2	2	1	1	1
Demand generation	4	4	4	4	4	4	3	3	3
Opposition	4	4	4	4	4	4	3	3	3
Equitable, inclusive access	2	3	3	3	2	4	4	4	3

a. **Annex 10**

Radar Graph for the scoring of School Level 2 (Principals) of DRM

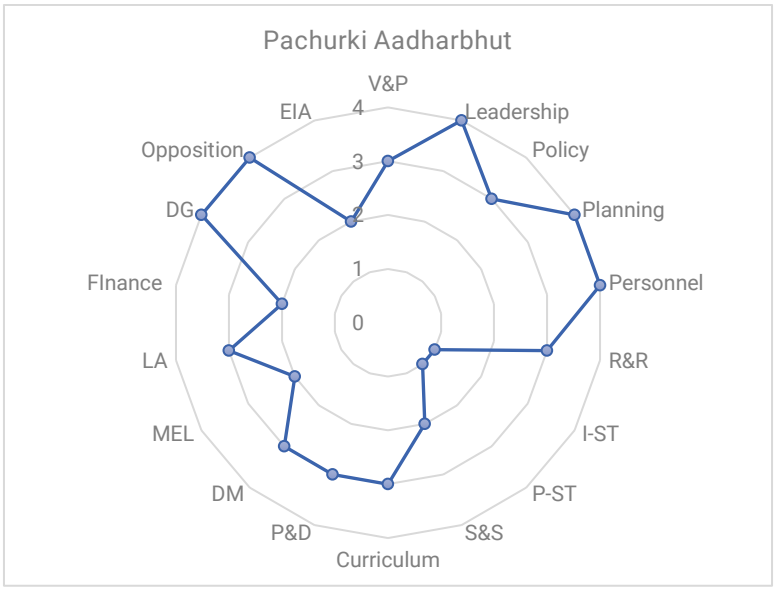


Figure F.1 Radar Graph showing scoring by Principal of Pachurki Aadharbhut

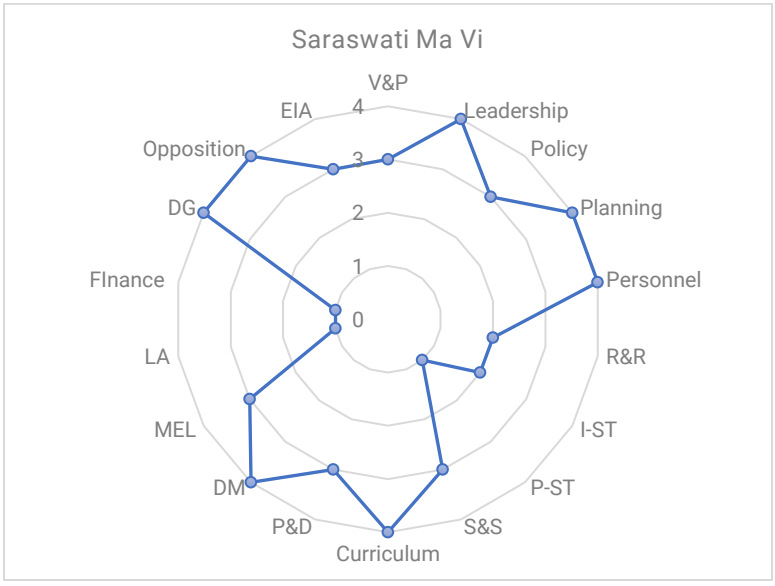


Figure F.2 Radar Graph showing scoring by Principal of Saraswati Ma Vi

b. Annex 11

Radar Graph for the scoring of School Level 2 (Principals) of YRM

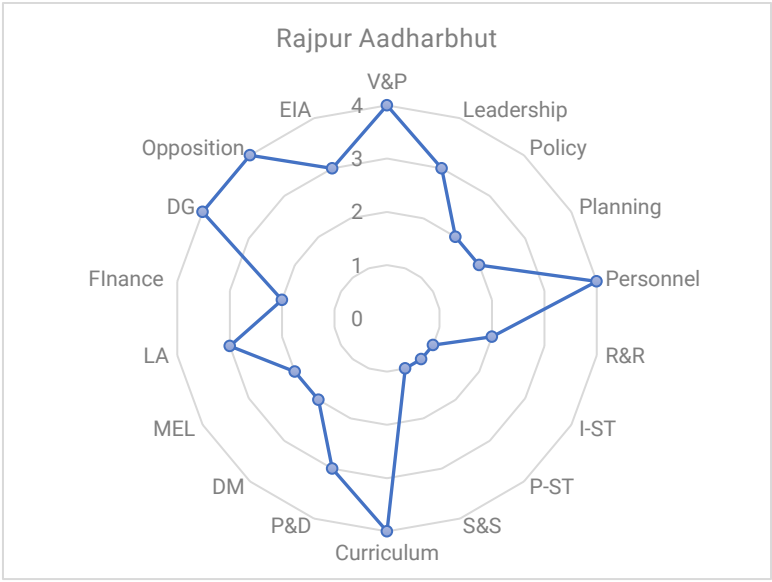


Figure F.3 Radar Graph showing scoring by Principal of Rajpur Aadharbhut

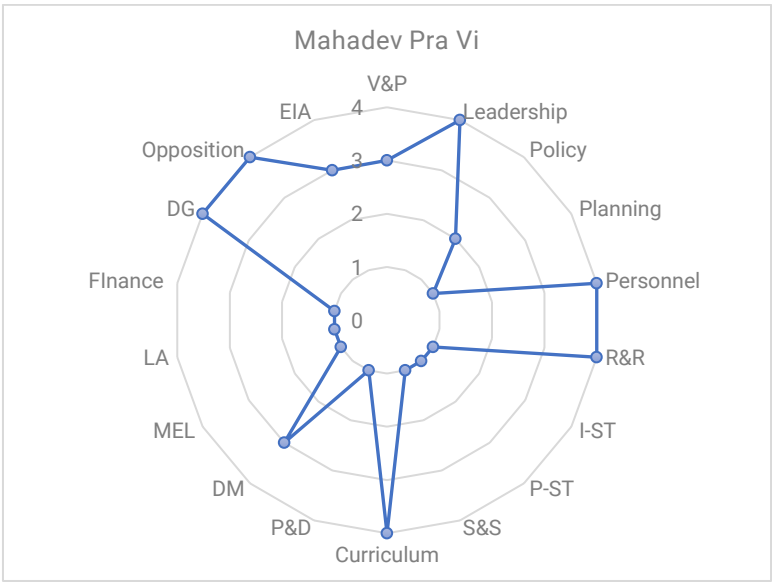


Figure F.4 Radar Graph showing scoring by Principal of Mahadev Pra Vi

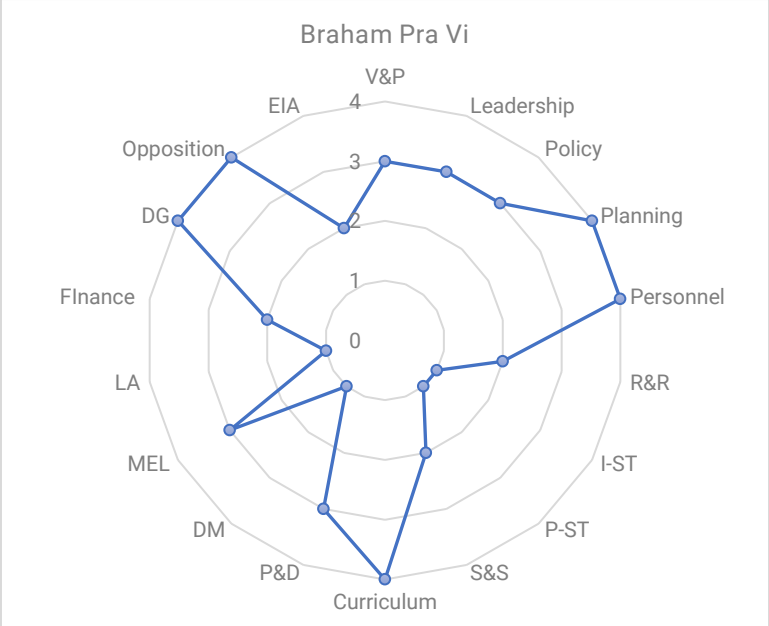


Figure F.5 Radar Graph showing scoring by Principal of Braham Pra Vi

c. Annex 12

Radar Graph for the scoring of School Level 2 (Principals) of RDM

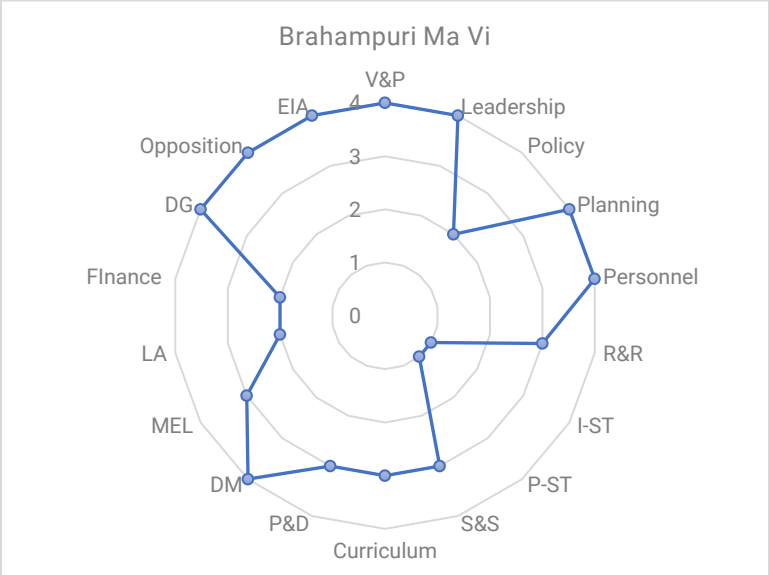


Figure F.6 Radar Graph showing scoring by Principal of Brahampuri Ma Vi

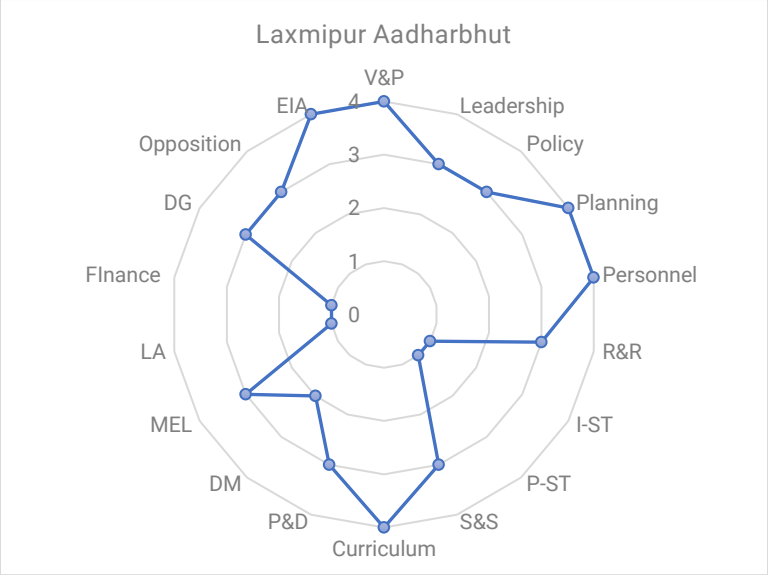


Figure F.7 Radar Graph showing scoring by Principal of Laxmipur Aadharbhut

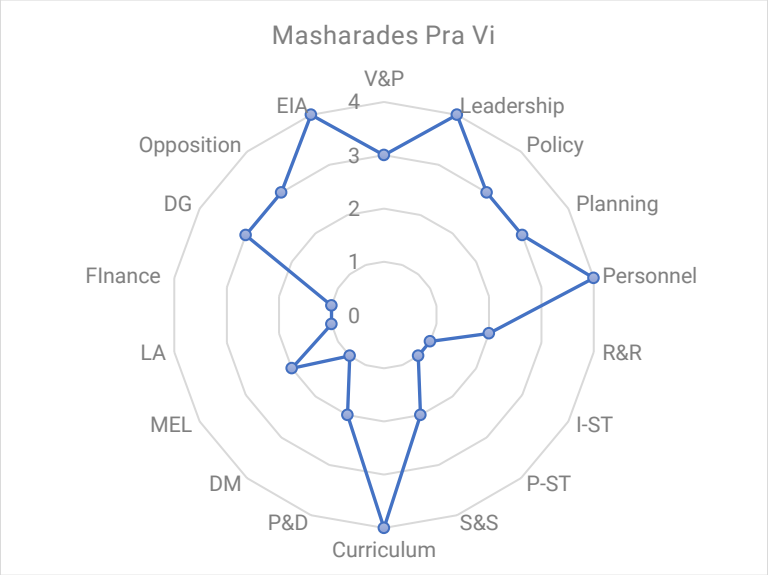


Figure F.8 Radar Graph showing scoring by Principal of Masharades Pra Vi

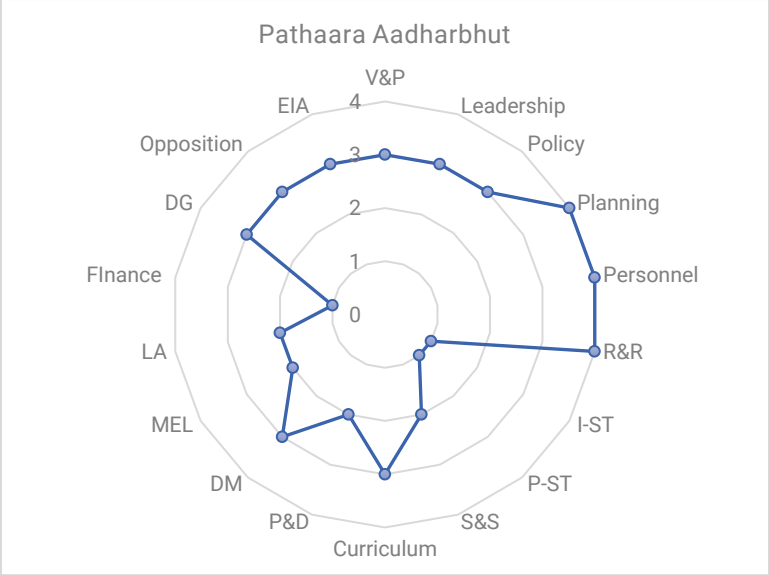


Figure F.9 Radar Graph showing scoring by Principal of Pathaara Aadharbhut

G. Annex 13

Scorings by School Level 3 for Institutionalization Tracker

Table G.1: Scoring of Municipal Level (Education Officers) of DRM, YRM, RDM

Element	Durgabhagwati Rural Municipality	Yamuna Mai Rural Municipality	Rajdevi Municipality
Vision and Pathway	3	3	2
Leadership	4	4	4
Policy	4	3	4
Planning	4	4	4
Personnel	4	4	4
Recruitment and retention	1	3	2
In-service training	2	2	2
Pre-service training	1	1	1
Supervision and support	1	4	3
Curriculum/standards	4	3	4
Procurement and Distribution	1	2	2
Data Management	3	3	3
Monitoring, evaluation, & learning	1	3	2
Learner assessment	1	2	1
Finance	2	2	2
Demand generation	1	3	2
Opposition	4	3	4
Equitable, inclusive access	2	4	4

a. Annex 14

Radar Graph for the scoring of Municipal Level (Education Officers) of DRM, YRM and RDM

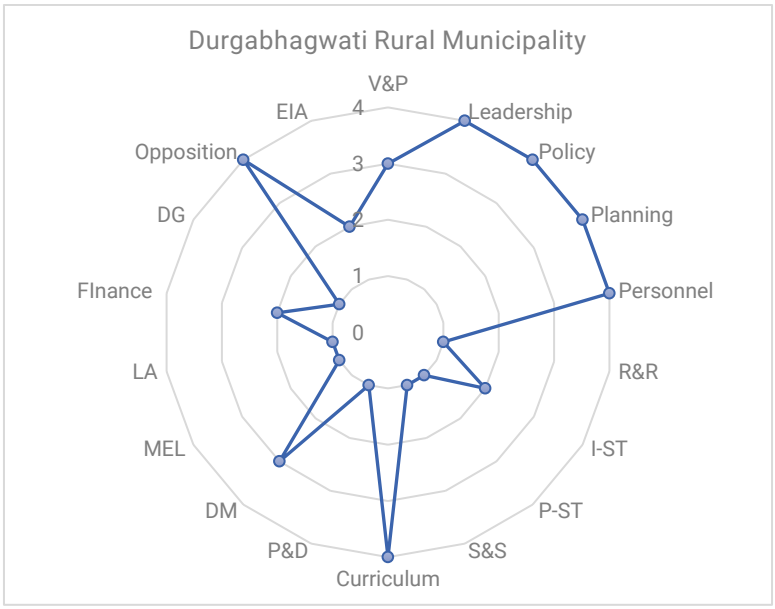


Figure G.1 Radar Graph showing scoring by Education Officer of DRM

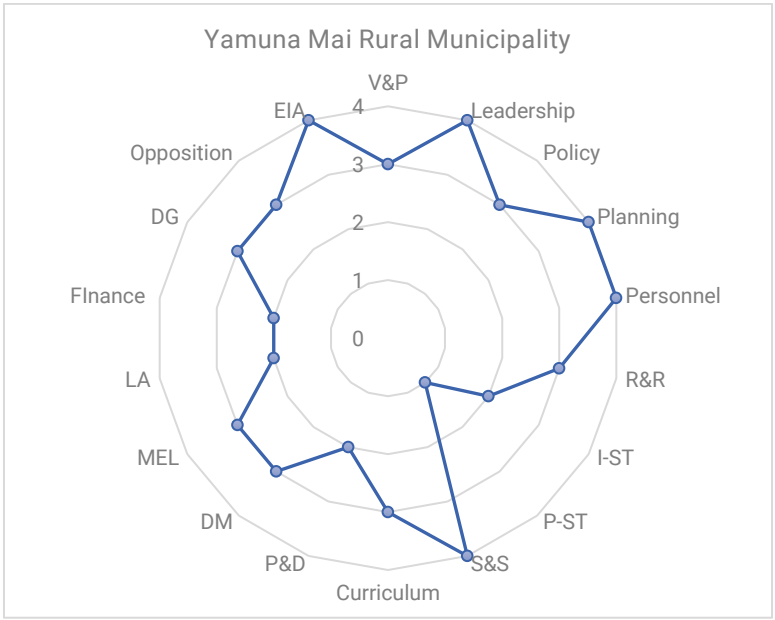


Figure G.2 Radar Graph showing scoring by Education Officer of YRM

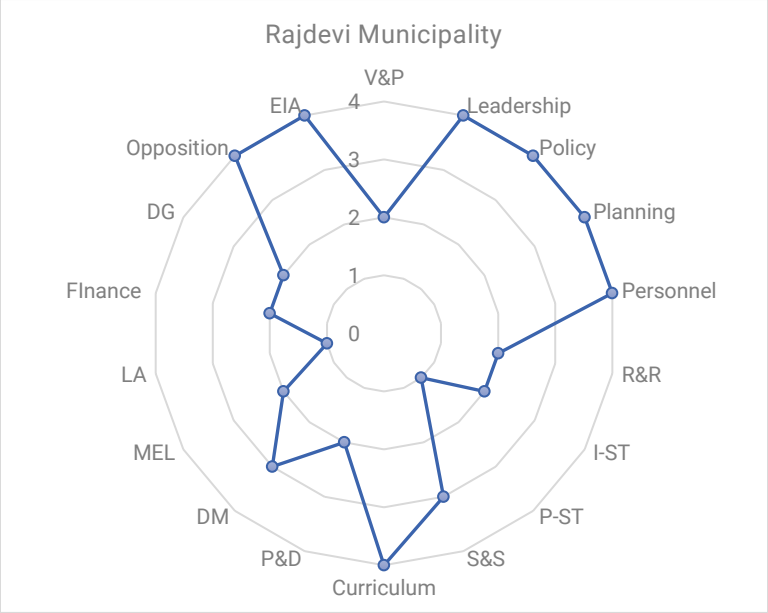


Figure G.3 Radar Graph showing scoring by Education Officer of RDM

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Pictures

LIKE team in front of Yamuna Mai Rural Municipality with one of the respondents for Institutionalization Tracker

Interview with one of school principals from Durgabhagwati Rural Municiplaity, Rautahat,

Informal engagement students studying in a public school of Rautahat

Interview for Institutionalization Tracker

Informal engagement with students with teacher assisting to translate between the local language Bajika and Nepali

Engaging with the students on various topics related to extracurricular activities

With the Principal and teachers of one of the public schools in Yamuna Mai Rural Municipality, Rautahat

In-depth interview with teachers

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