Collaborative Governance in Realizing Smart Society as a Sustainable Stunting Reduction Effort in Sleman Regency

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Abstract. The Sleman Regency Government strives for the stunting rate below 5% by 2026 through smart society-based policies and programs. Hence, it formed a Stunting Reduction Acceleration Team (SRAT) of various stakeholders to accelerate these efforts. This study analyzed the implementation of collaborative governance in realizing a smart society to overcome sustainable stunting in Sleman Regency. This research employed a descriptive qualitative method with a case study approach. Research data were obtained through interviews and documentation on available big data. Data analysis was carried out by reducing data, presenting results, and drawing conclusions. The results unveiled that various stakeholders have collaborated, including the government, private sector, academia, media, and the community. The implementation of collaboration has been sought to realize three dimensions of a smart society: community interaction, learning ecosystem, and community security system. However, the challenges faced were related to unintegrated movements by stakeholders, resulting in ineffective and inefficient activities. In addition, there was no digital interaction channel specifically containing stunting in Sleman Regency. This study concluded that the Sleman Regency Government has adequately overcome stunting through collaboration. However, to achieve the goal of zero stunting, the government should carry out a series of developments or strengthening, such as evaluating the role of stakeholders, expanding cooperation networks, innovating program implementation strategies, and establishing special interaction media channels about stunting within the regency.

1 Background

Stunting is a severe problem, especially in developing countries, including Indonesia [1]. Data from the Indonesian Nutritional Status Study of the Ministry of Health revealed that the prevalence of stunting toddlers reached 24.4% in 2021 [2]. Although lower than in 2020

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(26.9%), this figure is still far from the target of the stunting rate in 2024, which is 14% [3]. In addition, it is still above the global average stunting rate of 22.3% [4].

The government issued the Stunting National Strategy to overcome stunting in Indonesia. Most recently, the Stunting National Strategy has encouraged all regency and city governments in Indonesia (514 regencies or cities) to commit to stunting prevention [5]. Through the Stunting National Strategy, regency or city governments are also expected to collaborate with various parties [6].

Sleman Regency in the Special Region of Yogyakarta has proven its commitment to handling stunting. The decreasing stunting rates in this regency indicate a positive trend. In 2018, the stunting rate in this regency was 11.00%, then it declined to 8.38% in 2019; it dropped again to 7.24% in 2020, and it decreased to 6.92% in 2021 [7]. However, it is still the top priority of the Sleman Regency Government to continue reducing the rate to below 5% in 2026 [8]. Therefore, the Sleman Regency Government issued several policies and programs for handling stunting [9]. In addition, most recently, the regency government formed the Stunting Reduction Acceleration Team (SRAT) consisting of 49 stakeholders, functionally divided into three: the director, implementer, and executive secretariat [10].

The target in stunting reduction is the community. Therefore, collaborative actors' efforts in stunting reduction in Sleman are to create sustainable efforts based on the principles of smart society. A smart society is one of the dimensions of a smart city that aims to realize community participation through empowering community interaction, building learning systems, and implementing security and safety management. Smart society is an element sought to be realized, especially related to integrated poverty alleviation efforts [11], creating a humanist and dynamic community ecosystem [12], and enhancing the quality of public services with community participation [13].

The stunting issues in Sleman Regency have been studied, for instance, concerning how to reduce its incidence [14], the implementation of the stunting reduction program [15], and the relationship between the environment and stunting cases [16]. However, research on collaborative governance of stunting handling in Sleman Regency is still limited. Moreover, research discussing stunting handling through collaborative governance was carried out before the new regulation on stunting handling and the formation of SRAT in Sleman. Then, no research has utilized a collaborative governance perspective focusing on efforts to realize a smart society in stunting reduction. As mentioned earlier, the elements of a smart society are essential to discuss because they relate to community involvement in stunting reduction. Hence, these efforts can be sustainable.

Therefore, this study aims to analyze collaborative governance in handling stunting in Sleman Regency by focusing on efforts to realize a smart society. However, this study also explains stakeholders and their roles in collaborative governance in handling stunting to obtain comprehensive results. Stakeholder analysis is critical because it can uncover the parties involved, their roles, and how they work with each other in collaborative governance [17].

2 Theoretical framework

2.1 Stunting

Stunting is a growth and development disorder experienced by children due to poor nutrition, repeated infections, and inadequate psychosocial stimulation [18]. It is caused by chronic malnutrition in the first 1,000 days of life when the baby is still in fetal form until 23 months [19]. It impacts two main things: physical growth and impaired brain development [20]. These problems lead to other issues, such as poor immunity [21], low ability in academic

achievement [22], and social and economic productivity [23]. Therefore, stunting is one of the health problems becoming a priority to be overcome globally. The UNICEF 2020 data disclosed a global stunting rate of 22% or more than one in five children under five worldwide. Despite the decrease in stunting rates since 2000 (33.1%), there are still 33 countries with stunting rates exceeding 30% [4].

To prevent or overcome stunting, WHO has asserted that nutrition fulfillment in 1,000 days of pregnancy until the child's second birthday is a grave concern [19]. The research by Sukanti revealed that stunting mitigation could be performed through specific and sensitive interventions [24]. Specific interventions are short-term programs focusing on health services involving health offices, the Public Health Center (PHC), the Integrated Healthcare Center (IHC), Family Welfare Empowerment (FWE), and village governments. Meanwhile, sensitive interventions empower the community to overcome stunting for a long time. Therefore, stunting prevention should be carried out with the principle of collaboration. Not only is it the government's responsibility, but it is also an effort that must be put into action by various actors, including every Indonesian family [25].

2.2 Collaborative governance

Running a government cannot rely solely on its internal capacity. In today's collaboration era, almost all activities are oriented to improving the quality of people's lives, and the government collaborates properly with fellow government institutions, the private sector, civil power, and the community [26]. Therefore, collaborative governance is interpreted as solving a problem by making various efforts together [27]. It promises cost efficiency in policymaking, expanding democratic participation, and even returning rationality to public management [28].

The involvement of various parties in collaborative governance allows programs or activities to be implemented, monitored, and evaluated optimally to achieve their objectives. Collaborative governance activities can be put into action through face-to-face dialogue, building trust, commitment, mutual understanding, and interim results [29]. The key to all these stages is dialogue communication while implementing the programs or activities [30].

2.3 Stakeholder in collaborative governance

Stakeholders are any group or individual that can influence or be influenced by achieving organizational goals [17]. Therefore, stakeholders must be considered and ensured to work together to achieve organizational goals. Meanwhile, stakeholders in collaborative governance refer to parties involved in collaboration, such as public and non-public institutions, to citizens as individuals and organized groups [28]. In collaborative governance, these stakeholders meet, communicate, share, and jointly formulate and implement policies [31].

Stakeholders in collaborative governance are essential to analyze because they can help identify various things about the parties involved in the success of the programs or activities, such as (1) the interests of all stakeholders having the potential to influence or be affected by the programs or activities; (2) potential conflict or dangerous risks; (3) opportunities and relationships that can be built during implementation; (4) groups that should be encouraged to participate; (5) appropriate strategies and approaches to stakeholder engagement; and (6) ways to reduce negative impacts on vulnerable and disadvantaged groups [32–34].

Stakeholder analysis in collaborative governance can occur at all program or activity cycle stages, including definition, design, implementation, and evaluation. Stakeholder analysis can help determine key stakeholders, depicting who is crucial and influential and how they can be involved in the programs or activities [32]. In addition, it can also help shape

the development of strategic actions and inform risk analysis to each stakeholder. Furthermore, stakeholder analysis can help identify who, how, and when stakeholders should be involved in certain stages of the programs or activities. Subsequently, stakeholder analysis also serves as a reminder, providing benchmarks, monitoring, and evaluating the effectiveness of stakeholder involvement in the programs or activities, both supporting and opposing.

2.4 Smart society

Smart society explains that humans are the central element in the governance of life. The goal of a smart society is to create a humanist and dynamic socio-technical ecosystem of society, both in physical and virtual form, to establish a productive, communicative, and interactive society with high digital literacy [35]. When it comes to smart society, most research focuses on technology. For some reason, it excludes humans. Therefore, critics assert that smart society should be focused on creating conditions where people work for themselves and are in control of their lives (empowered) rather than being enslaved by technology [36].

A smart society can be realized by developing three elements: the citizen community, the learning ecosystem, and the security system [11]. The community of citizens in question is the social interaction of society that occurs in parallel between individuals with other individuals, individuals with social groups, and between social groups, both physically and virtually (digitally). It aims to realize public participation in regional development. Meanwhile, the learning ecosystem is associated with creating an education ecosystem that supports each other between formal and non-formal education to provide the broadest possible opportunity for all levels of society to access education. Subsequently, the security system is related to realizing a security and safety system or management for citizens by utilizing government resources and equipment, digital sensor technology, or the Internet of Things (IoT).

3 Research method

This research utilized a qualitative descriptive method with a case study approach. The method and approach were selected to focus on a specific problem, allowing it to be expressed in detail, factual, and in-depth [37]. The research subject focused on all elements of stakeholders involved in the collaborative governance of stunting reduction in Sleman Regency, especially the SRAT. This study employed both primary and secondary data gathered through interviews and documentation.

Data were analyzed using interactive analysis, performed integratedly with data collection. Miles and Huberman explained that, during data collection, researchers move interactively in analysis components, comprising data reduction, data presentation, and conclusion or verification [38]. Data validity tests were carried out to ensure the validity of research results by comparing observation with interview results, various perspectives of research subjects, and interview results with related documents [39].

4 Results and discussion

The results revealed that various stakeholders have collaborated, including the government, private sector, academia, media, and the community. Moreover, the implementation of collaboration has been sought to realize three dimensions of a smart society: community interaction, learning ecosystem, and community security system. Furthermore, this section

conveys two main things: stakeholder analysis and the implementation of collaboration in realizing a smart society.

4.1 Stakeholder analysis

The identification of stakeholders involved in stunting reduction collaboration was based on the Sleman Regency Stunting Bootcamp meeting. At the meeting, various actors signed a joint commitment to accelerate stunting reduction in the regency. These actors included the executive government (from the regency to the district levels), the legislative government, community groups, private sector or corporate forums, and universities or academics. These actors had their respective roles following authority and ability (explained further in the subsequent paragraph). Meanwhile, other actors, the mass media, were excluded from the list of signatories but were involved in reporting and informing the public about these activities.

The executive government, the regent, SRAT, departments, the district government, and the village government were the actors with the most strategic roles. There was authority in making policies and being a coordinator following the region and its duties. Meanwhile, the legislative government supported and supervised policies issued and implemented by the executive.

The executive government's role is outlined in the 8 Convergence Actions to handle stunting. The action was an intervention in coordinated, integrated, and jointly targeted priority groups to prevent stunting. It was a mandate from the central government. It originated from the awareness that stunting signals problems in managing primary service delivery. This problem caused services to prevent and reduce the prevalence of stunting not yet available on an adequate scale and quality and not reach the priority target groups—pregnant women and children under two years old. Therefore, the 8 Convergence Actions contain instruments of regency government activities to enhance the management of essential service delivery to be more integrated and on target. The 8 Convergence Actions contain eight integrated actions: Action 1-Situation Analysis; Action 2-Action Plan; Action 3-Stunting Crackdown; Action 4-Regent Regulation on the Role of Villages; Action 5-Human Development Cadres; Action 6-Stunting Data Management System; Action 7-Stunting Measurement and Publication; and Action 8-Annual Performance Review.

In stunting reduction, the regent served as the person in charge and the director of all policies and programs issued and implemented. Meanwhile, the vice-regent acted as the head of SRAT. In addition to these two central actors, several stakeholders were leading in the 8 Convergence Actions to handle stunting. The Department of Regional Development Planning was the leading actor in completing Actions 1, 2, 3, 6, and 8. The Department of Health played a role in Actions 3 and 7. The Department of Community Empowerment and Village was responsible for Actions 4 and 5. However, as displayed in Table 1, other agencies also bore certain roles or tasks in implementing the 8 Integration Actions (Table 1).

Table 1. Stakeholder analysis in collaborative governance for stunting handling in Sleman Regency.

Element	Actor	Role
Government	Regent	The person in charge, coordinator, and regulator of stunting handling, strengthening
	Vice regent	Head of SRAT in Sleman Regency
	Department of Regional Development Planning	1. Drafting a stunting convergence action document 2. Drafting Regional Medium-Term Development Plan and Regional Development Work Plan
	Department of Health	1. Maternity Insurance Services

		2. Health Insurance Services sourced from Regional Revenue and Expenditure Budget 3. Food Safety Technical Guidance 4. Community Movement Campaign 5. Development of clean and healthy living behavior and non-smoking areas
	Department of Community Empowerment and Village	1. Development and supervision of village administration and finances 2. Socialization of community-based drinking water security 3. Development and guidance of Human Development Cadres
	Department of Education	1. Workshop on Preparation of Early Childhood Care Education (ECCE) Teaching Materials 2. ECCE Unit Curriculum Development 3. Parenting Coaching for Parents of ECCE Students 4. ECCE Educator Competency Training 5. Development of the Association of Indonesian Early Childhood Education Educators and Personnel and Teachers and Educational Personel 6. Construction of ECCE bathrooms and toilets, along with sanitation
	Department of Social	1. Distribution of Non-Cash Food Assistance 2. Family Capacity Building Meeting in health and nutrition for beneficiary families of the Family Hope Program 3. Distribution of Family Hope Program assistance 4. Distribution of Social Safety Net Assistance
	PHC	1. Pregnant woman services 2. Additional feeding for pregnant women 3. Maternity services 4. Postpartum mother's ministry 5. Newborn services 6. Toddler health services 7. Provision of vitamins, anthelmintics, and zinc 8. IHC development 9. Giving blood tablets to adolescents 10. Community-based total sanitation development
	Department of Women's Empowerment, Child Protection, Population Control and Family Planning	1. Increasing women's economic participation 2. Excellent Village Development 3. Toddler Family Development, Youth Family Development 4. Parenting education concerning 1,000 first days of life for mother and family 5. Understanding reproductive health and stunting for brides-to-be 6. Establishment and Declaration of Maturation of Marital Age 7. Family Planning Social Service
	Department of Public Works, Housing, and Residential Areas	1. Rural drinking water supply system planning 2. Development of drinking water supply system distribution 3. Construction of piping network

		4. Rural Clean Water Development 5. Slum management 6. Repair of uninhabitable homes
	Department of Environmental	1. Construction of Local Domestic Wastewater Treatment System on an individual scale 2. Socialization of Operations and Maintenance of Fecal Sludge Treatment Plant and Wastewater Treatment Plant Area 3. Facilitation and Training on Independent Waste Management
	Department of Communication and Information	Management of social media (Twitter, Facebook, and Instagram) publication of public service advertisements
	Department of Population and Civil Registration	1. Birth Certificate Control 2. Issuance of Child Identify Card
	Unit of People's Welfare	Fostering a healthy environment
	Department of Industry and Trade	Socialization, reports, monitoring of food and hazardous material supervision
	Ministry of Religious Affairs of Sleman Regency	Debriefing of the bride and groom
	Department of Agriculture, Food and Fisheries	1. Fish feeding campaign 2. Campaign to drink goat's milk and dairy cow's milk locally 3. Training on yard utilization 4. Development of Sustainable Food Area Yards 5. Development of a Sustainable Food Awareness System 6. Handling potential food insecure or food alert areas 7. Fostering the development of food-independent villages 8. Development of farmer women's group mataraman granary and village granary 9. Local food consumption movement in the community 10. Competition to create a diverse, nutritionally balanced, and safe menu
	Regency House of Representatives or Legislative Government	Supporter and supervisor of executive government policy
	District Government	1. Supporting regency government policies and programs 2. Coordinating the regency in the implementation of policies and programs
	Village Government	Coordinating the community in the regency in the implementation of policies and programs
Private	Kalbe	Sharing program: Educational activities, both online and offline, reaching and involving midwives throughout Indonesia
	Klik Dokter	Educational activities, both online and offline, reaching and involving midwives throughout Indonesia

	Danone	Isi Piringku and WASH 1. Isi Piringku: Providing education to mothers or parents to strengthen understanding of balanced nutrition in the community in efforts to prevent stunting 2. WASH (Water Access, Sanitation, and Hygiene): Integrated water resources management
	Bank Rakyat Indonesia	Providing several anthropometer devices for measuring stunting toddlers
	Corporate Social Responsibility Forum	Coordinating the company's CSR programs in stunting reduction
Academics	Sekolah Tinggi Ilmu Kesehatan Guna Bangsa	Making seminar and counseling programs
	Universitas Gadjah Mada	Developing Gama-Kids and Stuntech stunting early detection tools
	Universitas Muhammadiyah Yogyakarta	Assisting the formation of youth IHC and grants of health check equipment
	Universitas Respati Yogyakarta	Guidance to the PHC through examination of stunting sufferers
	Politeknik Kesehatan Kemenkes Yogyakarta	Guidance to the PHC through examination of stunting sufferers
	Sekolah Tinggi Ilmu Kesehatan Panti Rapih Yogyakarta	Guidance to the PHC through examination of stunting sufferers
Community Group	Indonesian Nutritionist Association of Sleman Regency	Measurement of nutritional status, especially stunting sufferers, simultaneously weighing and administering vitamins and supplementary feeding
	Indonesian Midwife Association of Sleman Regency	Measurement of nutritional status, especially stunting sufferers, simultaneously weighing and administering vitamins and supplementary feeding
	Association of Environmental Health Experts of Sleman Regency	Measurement of nutritional status, especially stunting sufferers, simultaneously weighing and administering vitamins and supplementary feeding
	Warung Sembada	Providing additional food that the nutritionists have made
	Family Planning Cadre	Community mobilization to implement government programs in stunting prevention
	Family Welfare Empowerment Cadre	Community mobilization to implement government programs in stunting prevention
	Sleman Children's Forum	Campaign to the public to participate in government programs in stunting prevention
	Muhammadiyah and Nahdlatul Ulama	Through business charities: School Nutrition Action activities to prevent stunting
	Human Development Cadre	Human development in urban areas, especially in monitoring and facilitating the convergence of stunting handling.
Mass Media	Indonesian Journalist Association of the Special Region of Yogyakarta	Coverage and information on government programs in stunting prevention to the public

Other actors, such as the private sector, academia, and the public, affirmed their involvement in implementing Action 3, Stunting Bootcamp. With the signing of a joint

commitment to stunting handlers in Sleman Regency, actors could make various efforts according to their abilities and capacities. These efforts became concrete actions in the implementation of agreed commitments.

The private sector played an essential role in distributing corporate social responsibility programs. In this case, this responsibility was carried out by educating the community and providing nutritious food assistance and medical equipment. For example, Kalbe and Klik Dokter formed the sharing program—an educational activity to the public both online and offline, reaching and involving midwives. Subsequently, Danone formed the Isi Piringku and WASH programs. Isi Piringku is an educational provision to mothers or parents, aiming to strengthen the understanding of balanced nutrition in the community to prevent stunting. Meanwhile, WASH is an integrated water resources management program to support the fulfillment of the right to access clean water to form a healthy generation. Furthermore, Bank Rakyat Indonesia (BRI) provided several anthropometer tools for measuring stunting toddlers.

The academics involved in stunting reduction in Sleman consisted of various universities or colleges in Indonesia. The activities served as an output of the tri-dharma of higher education, especially in research and community service. In this research, some played a role in providing counseling or education, such as those performed by Universitas Respati Yogyakarta, Poltekkes Kemenkes Yogyakarta, Sekolah Tinggi Ilmu Kesehatan Panti Rapih Yogyakarta, and Sekolah Tinggi Ilmu Kesehatan Guna Bangsa. Others created and developed stunting detection and monitoring tools, such as those by Universitas Gadjah Mada with Gama-Kids and Stuntech products. Then, some assisted in forming YIHC, a forum for adolescents to implement clean and healthy living, as conducted by Universitas Muhammadiyah Yogyakarta. In addition, other universities or colleges have similar activities—research and community service.

Community groups included community or professional organizations, government-formed groups, and other community organizations. The activities took the form of, for example, measuring nutritional status, weighing, and providing vitamins and additional food to children. It was performed by the Indonesian Nutritionist Association of Sleman Regency, the Indonesian Midwife Association of Sleman Regency, and the Association of Environmental Health Experts of Sleman Regency. Moreover, government-formed groups, such as the manager of Warung Sembada, prepared places for providing additional food made by nutritionists; Family Planning and Family Welfare Empowerment Cadres acted as community mobilizers to implement government programs in stunting prevention; and the Sleman Children's Forum campaigned for government programs in stunting prevention.

Stakeholders and their roles were classified into four groups according to their interests and influences in efforts to overcome stunting in Sleman Regency. Group A, with a high interest and influence, comprised the executive government. The executive government was highly interested in providing the best public services and extremely influenced in making policies. The legislative government belonged to Group B, possessing low interest and high influence. The legislative government had an interest only as a representative of the people but influenced supervising and influencing policies made by the executive government. Group C owned high interest but low influence, encompassing academics and community groups. Academics were included in this group because they were highly interested in implementing research and service responsibilities. Meanwhile, community groups fell into this group because of their interest in realizing a safe and prosperous community life, free from stunting. Meanwhile, regarding influence, the two stakeholders had lower influence than the government. Group D had low interest and influence. It was a support group in efforts to overcome stunting, covering the private sector and mass media.
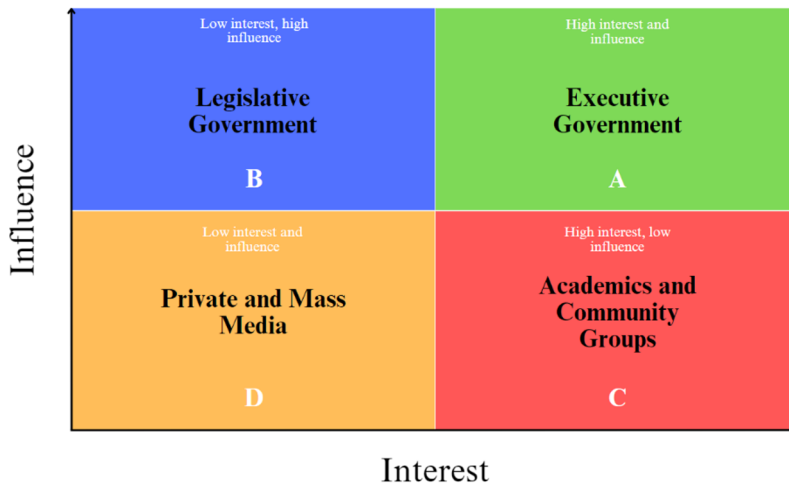
Fig. 1. Stakeholder analysis based on influence and interest.

4.2 Implementation of collaboration in realizing a smart society

The previous section has conveyed the results of stakeholder analysis in efforts to overcome stunting in Sleman Regency. The explanation includes the parties and their roles and the classification of stakeholders based on their interests and influences. Moreover, this section explains how the implementation of collaboration, especially programs or activities, relates to the efforts of stakeholders in realizing a smart society as an effort to overcome stunting sustainably. The explanation comprises three elements in the smart society dimension: community interaction, learning ecosystem, and community security system.

4.2.1 Community interaction

Forming the SRAT from the regency to the village levels has become a strategic step to present a forum for the community to interact with the government in stunting reduction. With SRAT, communication patterns were not only top-down but also bottom-up. In addition, SRAT also consisted of various stakeholders, providing the community with wider access to interaction.

Community interaction in a stunting reduction in Sleman Regency could also be carried out through several social media owned by the regency government. The Sleman Regency Government owned at least four active Instagram accounts: the official account of the Sleman Regency Government (@kabarsleman), the Department of Health (@dinkessleman), the Regional Secretariat of Sleman Regency (@humassleman), and the Department of Communication and Information (@kominfo_sleman). These media have allowed people to interact directly with direct messages or the comment section. In addition, other media owned by the Sleman Regency Government have also been listed in @kabarsleman media, including one of the leading applications, Sleman Report. Unfortunately, no dedicated media served as a forum for communication and information about stunting. This special media could function as a channel for public interaction with the government or other special stakeholders, focusing on discussing stunting and not mixing with other information.

Another activity that sought to realize efficient community interaction about stunting was education, both counseling and seminars. It was performed both by the government and

other parties, such as academics and the private sector (see Table 1). These activities usually also invited community groups, such as family welfare empowerment cadres or family planning cadres; hence, interactions occurred not only during the implementation of activities but also continued and developed on ordinary days.

4.2.2 Learning ecosystem

Counseling and seminars conducted by stakeholders, in addition to being a space for interaction for the community, also developed a learning ecosystem. In addition, establishing learning platforms, such as IHC and Youth IHC, supported the realization of an efficient learning ecosystem. Not only teaching materials but the grant of medical equipment provided also strengthened the learning ecosystem of health cadres and the community as they could directly practice.

Developing a learning ecosystem was also pursued through early education for children in the ECCE context. In addition, parents of ECCE students were also provided with counseling about parenting. Then, family education and parenting were also provided to brides-to-be by several related agencies. Therefore, the learning ecosystem in stunting mitigation was built with children, adolescents, prospective families, prospective mothers, and parents.

4.2.3 Community security system

The existence of the 8 Convergence Actions involving various government and non-government stakeholders has become an essential effort in creating a community safety system to overcome stunting. The 8 Convergence Actions included activities ranging from data collection and program creation to evaluation. Ultimately, these actions created a sense of security for the community because stunting has become a joint commitment to be resolved immediately.

The government has also developed various innovations in collaboration with stakeholders. These innovations aim to create a sense of security for the community based on monitoring programs that could prevent or detect the emergence of stunting early. These innovations encompassed PAndu TEMan (Integrated Antenatal Care Services toward Triple Elimination Involving All Services), GeTAR Thala (Adolescent Anemia and Thalassemia Mitigation Movement), Breaking the People's Entertainment Branch (Prevention of Stunting-Prone Eliminates Malnutrition to Improve People's Economy), Gambang Stunting (Movement to Invite Weighing to Prevent and Overcome Stunting), and HIV Test (Finding HIV as early as possible).

The Sleman Regency Government has also possessed a Food and Nutrition Awareness System to monitor food and nutrition conditions in the community. The system aims to provide continuous information on the situation and formulate policy recommendations on food security and nutrition. With this system, the government could intervene immediately if an area in Sleman experiences poor food and nutrition conditions.

Other activities of detecting and observing stunting development were also carried out by Universitas Gadjah Mada by developing GAMA-KiDS and Stuntech. GAMA-KiDS is a kit consisting of a mat to measure body length, a disc measuring the nutritional status of body length according to age, and a user manual. GAMA-KiDS could serve as a solution, helping cadres measure body length and making it easier for IHC cadres to detect stunting early. Meanwhile, Stuntech is an application developed as an early detection tool for stunting, facilitating users to monitor children's medical history.

5 Conclusion

Stunting is a serious problem threatening the nation's future as it is related to the quality of human resources. Therefore, the central and regional governments have tried to overcome this problem. In this study, the Sleman Regency Government has continued to strive for the stunting rate to be below 5% by 2026. To realize the goal, it issued smart society-based policies and programs implemented in collaboration with various stakeholders.

This research disclosed that the collaboration had included various stakeholders from the government, private sector, academia, media, and the community. Moreover, the implementation of collaboration has been sought to realize three dimensions of a smart society: community interaction, learning ecosystem, and community security system. However, in implementing collaboration, the challenges concerned separate movements from various parties in overcoming stunting. These movements, on the one hand, positively supported stunting reduction efforts but, on the other hand, were ineffective and inefficient for being unintegrated with the formed collaboration.

This study unveiled that each region has had its authority to regulate how stunting could be tackled. Therefore, local governments could pursue innovative programs by relying on the capacity of various parties in collaboration. In addition, many parties with the same vision to overcome stunting were not involved, and in turn, they moved on their own. It caused the efforts made to be ineffective, inefficient, and unintegrated.

This research highlighted the need for a series of efforts to improve the implementation of collaboration to realize a smart society in stunting reduction in Sleman Regency. These efforts include evaluating the role of stakeholders, expanding cooperation networks, innovating program implementation strategies, and establishing special interaction media channels on stunting within the regency.

References

1. G. Danaei et al., PLoS. Med **13**, 11 (2016)
2. Kemenkes, https://www.litbang.kemkes.go.id/angka-stunting-turun-di-tahun-2021/ (2021)
3. Presiden RI, https://www.presidenri.go.id/siaran-pers/pemerintah-targetkan-angka-prevalensi-stunting-di-bawah-14-persen-pada-2024/ (2022)
4. Unicef, BMJ Pub Gr (2022)
5. Sekretariat Wakil Presiden, https://stunting.go.id/seluruh-kabupaten-kota-menjadi-prioritas-pencegahan-stunting-di-tahun-2022/ (2021)
6. Setneg, https://www.setneg.go.id/baca/index/buka_forum_merdeka_barat_9_wapres_tegaskan_lima_pilar_percepatan_penurunan_stunting (2022)
7. Pemkab Sleman, https://web3.slemankab.go.id/angka-stunting-di-kabupaten-sleman-menurun/ (2022)
8. W. Suryana, https://repjogja.republika.co.id/berita/rgt22u291/sleman-target-penurunan-stunting-sampai-lima-persen (2022)
9. B. Cahyana, https://jogjapolitan.harianjogja.com/read/2022/06/30/512/1104939/pemkab-sleman-siapkan-sejumlah-strategi-tangani-stunting (2022)
10. RadarJogja, https://radarjogja.jawapos.com/sleman-bantul/2022/06/04/sleman-bentuk-tim-percepatan-penurunan-stunting/ (2022)
11. A. Rahmawati and H. S. Nugroho, J. Pub. Pol **7**, 1 (2021)
12. E. A. Gayatri and E. Syaodih, Ban. Conf. Se: Urb. & Reg. Pl **2**, 2 (2022)
13. Radjikan and E. I. Pramesti, Pr. Obs: J. Pen. Ad. Pub **2**, 3 (2022)

14. R. Widaryanti, J. Il. Kes. Ar-Rum Sal **3**, 2 (2019)
15. M. E. Rahmuniyati and S. Sahayati, Pre: J. Kes. Masy **5**, 1 (2021)
16. D. M. K. Nisa and T. W. Sukesi, J. Kes. Ling. Ind **21**, 2 (2022)
17. R. E. Freeman, *Strategic management: a stakeholder approach* (Pitman, Boston, 1984)
18. WHO, https://www.who.int/news/item/19-11-2015-stunting-in-a-nutshell (2015)
19. WHO, Can. Pharm. J **22**, 2 (2014)
20. A. Soliman et al., Act. B. Med: At. Par **92**, 1 (2021)
21. M. Ekholuenetale, A. Barrow, C. E. Ekholuenetale, and G. Tudeme, Egyp. Ped. Ass. Ga **68**, 1 (2020)
22. J. Beckmann et al., Int. J. Env. Res. Pub. H **18**, 8 (2021)
23. J. Kakietek, J. Dayton Eberwein, D. Walters, and M. Shekar, W. B. Tech. Rep, 104865 (2017)
24. S. Sukanti and N. Faidati, J. Car. Pra **5**, 1 (2021)
25. Kementrian Kesehatan RI, P. D. & Inf (2018)
26. R. A. Febrian, Wed **2**, 1 (2016)
27. D. L. C. Arrozaaq, Keb. & Man. Pub **3** (2016)
28. C. Ansell and A. Gash, J. Pub. Ad. Res. & T **18**, 4 (2008)
29. I. Ipan, H. Purnamasari, and E. Priyanti, Kin **18**, 3 (2021)
30. A. Amelia Novita, J. Il. Adm. Pub **4**, 1 (2018)
31. M. Hafel, J. Jamil, M. Umasugi, and Anfas, J. of H. Univ. Nat. Sci 48, 4 (2021)
32. B. Golder and M. Gawler, https://awsassets.panda.org/downloads/1_1_stakeholder_analysis_11_01_05.pdf (2005)
33. Y. S. Gultekin, Int. J. of Hum. & Cul. St **5**, 3 (2018)
34. W. Allen and M. Kilvington, L. Re. Man. Whe (2010)
35. L. Y. Ledoh, J. In. Keb **4**, 2, (2019)
36. C. Levy and D. Wong, *Towards a smart society* (Lancaster University, United Kingdom, 2014)
37. J. W. Creswell, Mycol. Res, **94**, 4 (2015)
38. M. Rohmadi and Y. Nasucha, *Dasar-dasar penelitian* (Pustaka Briliant, Surakarta 2015)
39. Lexy. J. Moleong, *Metodologi penelitian kualitatif* (Remaja Rosdakarya, Bandung, 2012)