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Assessment of project to Support Severe Acute Malnutrition (SAM) Management through outreach clinics and support access of families to treatment services in Kandy District-Sri Lanka

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ABSTRACT

Severe acute malnutrition [SAM] is defined as the presence of oedema of both feet or severe wasting (weight-for-height/length <-3SD or mid-upper arm circumference < 115 mm). No distinction is made between the clinical conditions of kwashiorkor or severe wasting because their treatment is similar. Infants and children who are 6–59 months of age and have a mid-upper arm circumference <115 mm, or a weight-for-height/length <–3 Z-scores of the WHO Child Growth Standards median, or have bilateral pitting oedema, should be referred for full assessment at a treatment centre for the management of severe acute malnutrition [WHO,2023].

All children with SAM should receive nutritional treatment. Nutritional treatment is based on the use of specialized nutritious foods enriched with vitamins and minerals: F-75 and F-100 therapeutic milks, and ready-to-use therapeutic food [RUTF].

The ultimate objective of this case study was to develop strategies to improve the project to support severe acute malnutrition [SAM]. Methods used were key informant interviews [KIIs], an interviewer-administered questionnaire [IAQ], document reviews and direct observation. The main problems were irregular usage of BP100, not allowing third-party involvement, objections from MOHs and paediatricians, delay in provision of lists of SAM children and attitudes towards the treatments.

Recommendations are nutritional education and support to parents or caregivers, data sharing and integration, collaborative framework, optimized treatment centres and facilities and monitoring and evaluation. The positive outcomes observed in the Kandy district project indicate the potential for scaling up similar initiatives in other districts or regions facing similar challenges in SAM management. Strengthening the partnerships between SARVODAYA and Ministry of Health is essential for the sustained success and expansion of SAM management in Kandy district-Sri Lanka.

Keywords: Severe acute malnutrition, outreach clinics, support access services

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INTRODUCTION

Lanka Jathika Sarvodaya Shramadana Sangamaya is one of the main Non-Governmental Organizations [NGOs] or Civil Society Organizations [CSOs] in Sri Lanka. The founder: Dr. A.T. Ariyarathne started the organization in 1958. The vision of Sarvodaya is 'To Build a just, sustainable and compassionate social order that fulfils the basic human needs of the community through individual and collective awakening'. It has a decentralization and a bottom-up approach. The Sarvodaya considers about ten basic human needs;

1. A clean & beautiful environment
2. Clean drinking water
3. Adequate supplies of clothing
4. **Adequate and balanced nutrition**
5. Simple housing
6. Basic health care
7. Basic communication facilities
8. A minimal supply of energy
9. Holistic education
10. Satisfaction of spiritual, and cultural needs

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The NGO has a slogan i.e. 'Awakening of the Individual through and with the awakening of society'. Furthermore, it has a development model which is illustrated below.

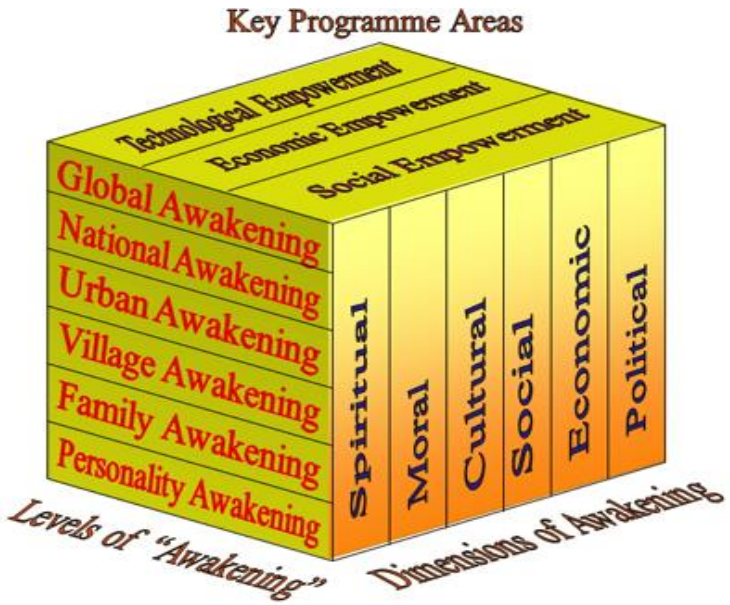

Figure 1: Levels of awakening

Lanka Jathika Sarvodaya Shramadana Sangamaya goes all over the country in every district and the head office is located at Rawatha Watta, Moratuwa, Sri Lanka.

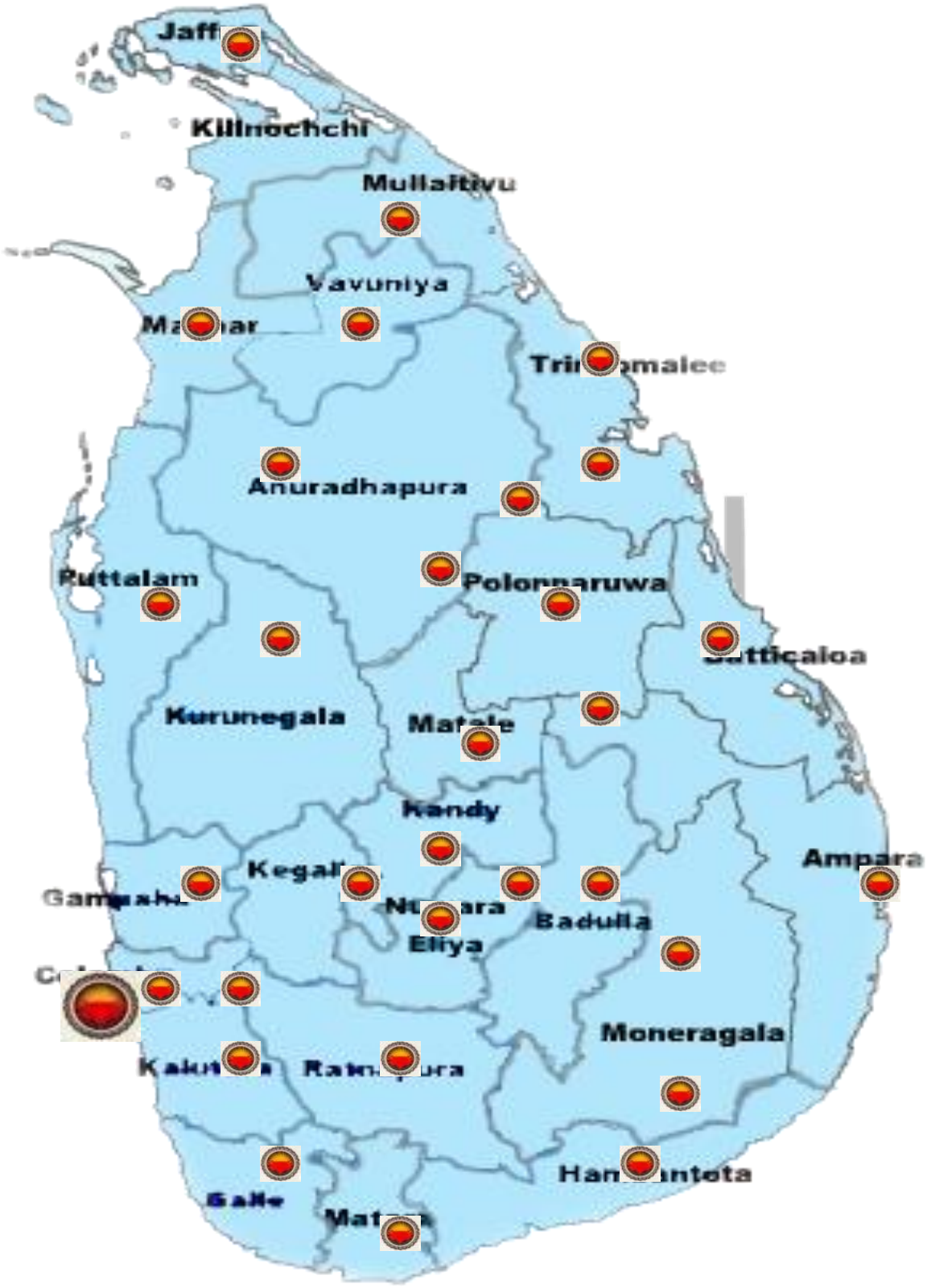

Figure 2:The head office and branches of Sarvodaya in Sri Lanka

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As part of the continued assistance for the Maternal and Child Health [MCH] programme especially during the economic crisis, UNICEF has committed to support with transport and logistics facilities to strengthen access to treatment services of children under five years with SAM. This support will be provided till March 2024. This would cover all 26 RDHS areas and 9 provinces. The UNICEF will extend their support to the Ministry of Health through selected Civil Society Organizations (CSOs). Furthermore, the district authorities should arrange to get the updated information from CSOs on children presenting for treatment from each MOH area so that defaulter tracing at the MOH level by MOH staff is facilitated (Extraction-Family Health Bureau, Ministry of Health, letter dated 10-10-2023).

- **Objective of the SAM project:**

  To ensure access to treatment for children with SAM-facilitating outreach clinics and transport of SAM children to clinics (regular and outreach)

- **Target:**

  All children with SAM (at least 80% or 90%) could be initiated on treatment

- **Project period:**

  January 2023 to March 2024

- **The assistance package:**

I. The travel cost subsidy [LKR 2000/=] for the child and one caregiver to reach the treatment facility/outreach clinic for SAM management services including the first visit to the treatment centre irrespective of whether Therapeutic Food was prescribed

II. Provision of a meal for them on the day of the clinic visit.

III. Transport support for each outreach team (fuel cost recovery, if government vehicle is not available, then hiring as well).

IV. Refreshments for the outreach team (10 members max.).

The SAM project is being carried out in 9 districts namely Anuradhapura, Polonnaruwa, Monaragala, Rathnapura, Puttalam, Kegalle, Kurunegala, **Kandy**, Matale. The CSO's functions include:

1. Obtain the traceable information of SAM children in each district.
2. Obtaining information about regular and outreach clinics in each hospital.
3. Scheduling the clinics and allocating Sarvodaya staff members in each clinic.
4. Issue the payments for SAM children up to 4 rounds (Rs.2000/= for each visit; total Rs.8000/= per child)

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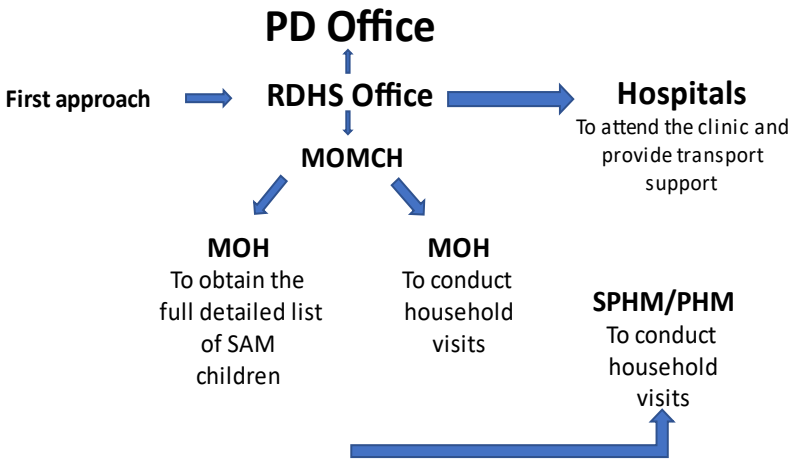

Figure 3:Process of SAM Project through Human Resources

The support of the provincial and district health authorities and health staff is requested to ensure high coverage of treatment of SAM by;

A. Sharing required information on hospital clinics/outreach clinics at National/ Teaching/General/Base/Divisional Hospitals or Primary Health Care Units where treatment facilities for SAM are provided, with relevant CSO partners to facilitate the required assistance
B. Sharing the list of SAM children requiring such transport assistance with contact details and addresses including the PHM area and MOH area (with the parental agreement as per the guideline for sharing nutrition information issued by the Ministry of Health) for disbursing the travel cost on their presenting to the clinic facility for treatment.

All heads of institutions are kindly requested by the Family Health Bureau [FHB] to facilitate the SAM treatment services carried out through the regular hospital clinics as well as the outreach clinics and authorize the identified CSOs to disburse the assistance package within the curative institution.

All MOHs are to monitor the clinic attendance of SAM children closely and are requested to get relevant information from the CSO partner on the progress and the current turnover for treatment of the list of SAM children shared with them. The MOHs should ensure that the defaulter tracing is carried out by the PHMs at the field level without delay.

MOHs are to review the progress of referral and treatment of children with growth problems (growth faltering, MAM, and SAM) as detailed in the General Circular No. 01-13/2020 (i) during the monthly conference of MOH and to closely follow up the travel support and functioning of outreach clinics at DH/PMCUs for management of SAM. Any changes in the clinic plans or any newly identified SAM children should be communicated to the relevant CSOs without delay (Extraction-FHB letter dated 10-10-2023).

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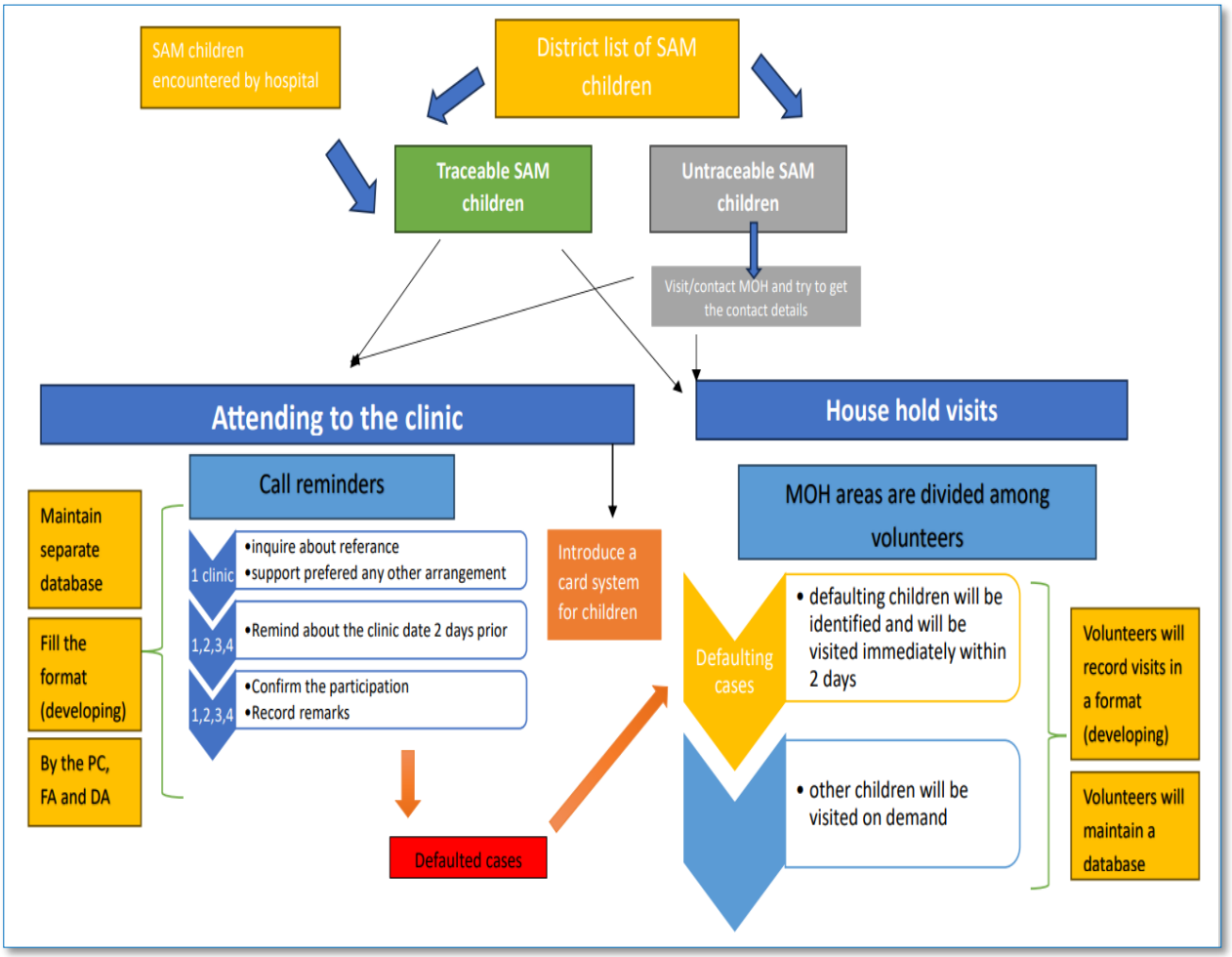

Figure 4:Follow-Up Process of SAM Management Project

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UNICEF-SARVODAYA 'SAM' Project-Data-Kandy District-2023			
MOH Area	**0-2 years**	**2 – 5 years**	**TOTAL**
Akurana	27	49	**76**
Babaradeniya	13	28	**41**
Doluwa	14	19	**33**
Galagedara	14	24	**38**
Galaha	15	14	**29**
Gampola	24	39	**63**
Gangaihala	14	28	**42**
Gangawtakorale	14	11	**25**
Hasalaka	15	26	**41**
Hatharaliyadda	9	16	**25**
Kandy MC	5	16	**21**
Kundasale	9	26	**35**
Medadumbara	16	20	**36**
Menikhinna	17	43	**60**
Panvila	5	20	**25**
Pasbage	10	38	**48**
Poojapitiya	6	23	**29**
Thalathuoya	13	32	**45**
Ududumbara	8	6	**14**
Udunuwara	11	25	**36**
Waththegama	14	35	**49**
Werellagama	25	66	**91**
Yatinuwara	16	52	**68**
Total SAM Children	**314**	**656**	**970**

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Table 1: SAM Children's' Data in Kandy District-Sri Lanka

Figure 5:An Outreach Clinic-Hatharaliyadda

Figure 6: An Outreach Clinic-Panvila

Figure 7: Activity Photos in SAM Project in Kandy District

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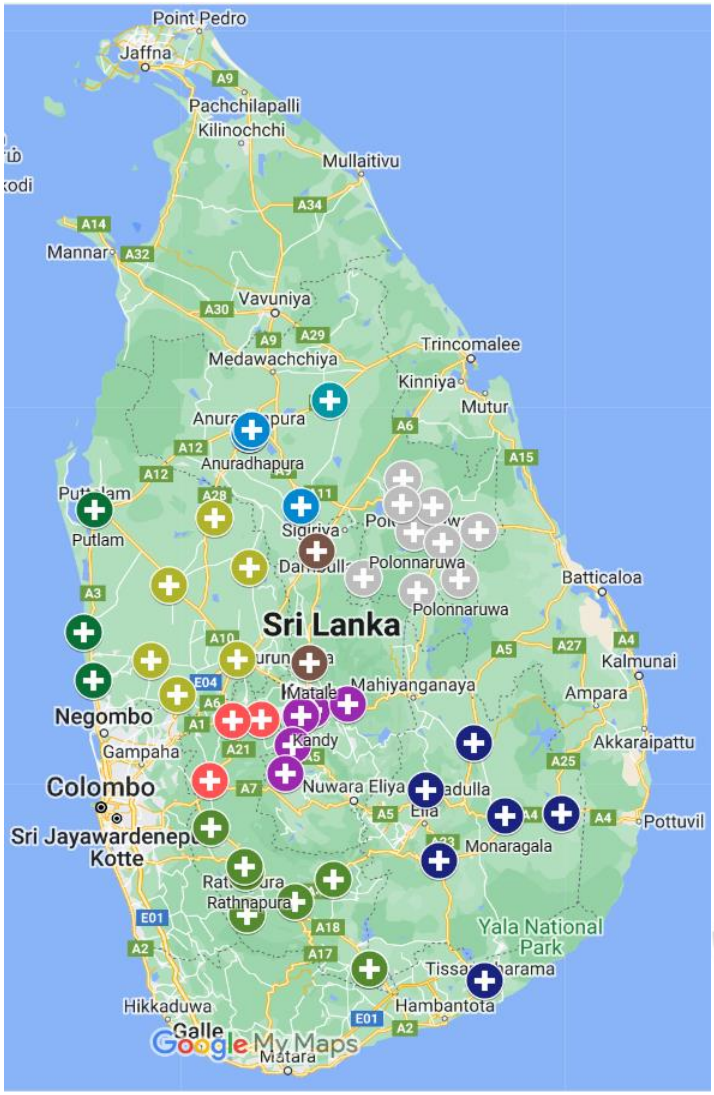

Kandy District

- NH Kandy
- TH Peradeniya
- SBSCH Peradeniya
- GH Nawalapitiya
- BH Gampola
- BH Teldeniya

Figure 8: Clinic Distribution – Sri Lanka

Figure 9: Clinic Activities

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OBJECTIVES OF THE STUDY

1) **To assess** the current project to Support Severe Acute Malnutrition (SAM) Management through outreach clinics and support access of families to treatment services in Kandy district-Sri Lanka.
2) **To recognize** areas to be improved in the project to Support SAM in Kandy district-Sri Lanka.
3) **To develop** strategies to improve projects to Support SAM in Kandy district-Sri Lanka.

METHODOLOGY

This case study design was mainly a qualitative approach.

- Key informant interviews (KIIs) were carried out with district coordinators of Sarvodaya RDHS/Kandy, MOMCH/Kandy, PHMs and Volunteers who carry out the process at the beneficiary level These interviews provided insights into the process, challenges faced, and outcomes.
- An Interviewer-administered questionnaire [IAQ] was used for beneficiaries to obtain their complaints, grievances and suggestions.
- Directly observed by the Principal Investigator [PI] on how the practices are carried out at clinics.
- Document reviews were carried out by the PI.
- Analyzed the collected data and arranged brainstorming sessions. Furthermore, qualitative data analysis was carried out (interview transcripts and documents) using thematic analysis to identify recurring themes related to the 'SAM' project's challenges, and successes.
- Based on the findings from the analysis, practicability and feasibility made the recommendations to improve the 'SAM' project through a literature review as well as brainstorming with 1 senior registrar and 1 registrar in Medical Administration and relevant stakeholders. Moreover, considered triangulation by using multiple sources of data (interviews, documents, and observations) to ensure the validity and reliability of findings.

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PROBLEM PRIORITIZATION

Problem prioritization was conducted using the nominal group technique with 1 senior registrar and 1 registrar in Medical Administration, the district project coordinator, MOMCH, and 2 volunteers who visited homes.

Table 2: Priority Matrix for problems in SAM Project

Priority Matrix Problems of project to support severe acute malnutrition (SAM)	Problems	Number of votes received		Total Votes	Final Priority
	Problems of project to support severe acute malnutrition (SAM) Management through outreach clinics and support access of families to treatment services in Kandy District	1st Round eight votes for each of six members [48votes]	2nd Round six votes for each of six members [36 votes]		
	1. Parents/caregivers are unaware of the depth of the condition of their children	2	2	4	-
	2. Irregular usage (compliance) of BP100	11	10	21	1
	3. Attitudes towards the treatments.	3	2	5	-
	4. Social Norms and Beliefs	2	1	3	-
	5. Objections from MOHs and Pediatricians	5	4	9	3
	6. MOHs are not referring SAM children to the hospital- providing diet plans and treatments within MOH	2	1	3	-
	7. Delay in the provision of lists of SAM children from some MOH areas through the FHB	3	2	5	-
	8. Some weighing scales are not properly calibrated	1	-	1	-
	9. Some of the SAM children have not been screened during nutrition month	2	1	3	-
	10. Delayed in issuing new nutrition month data	2	2	4	-
	11. Not allowing third-party involvement/ requesting ministry-level direct addressing to the Medical Director of the hospital	10	6	16	2
	12. The follow-up process is yet to be improved	1	2	3	-
	13. Parents/caregivers are reluctant to say that their child has become ‘MAM’	1	1	2	
	14. Difficult to trace and track SAM children	2	1	3	
	15. Child’s age, weight, concurrent illnesses, congenital defects	1	1	2	

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PROBLEM ANALYSIS

The root causes for the implementation of the SAM project were identified by a literature search and brainstorming sessions with 1 senior registrar and 1 registrar in Medical Administration, the district project coordinator, MOMCH, and 2 volunteers who visit homes. It is illustrated below.

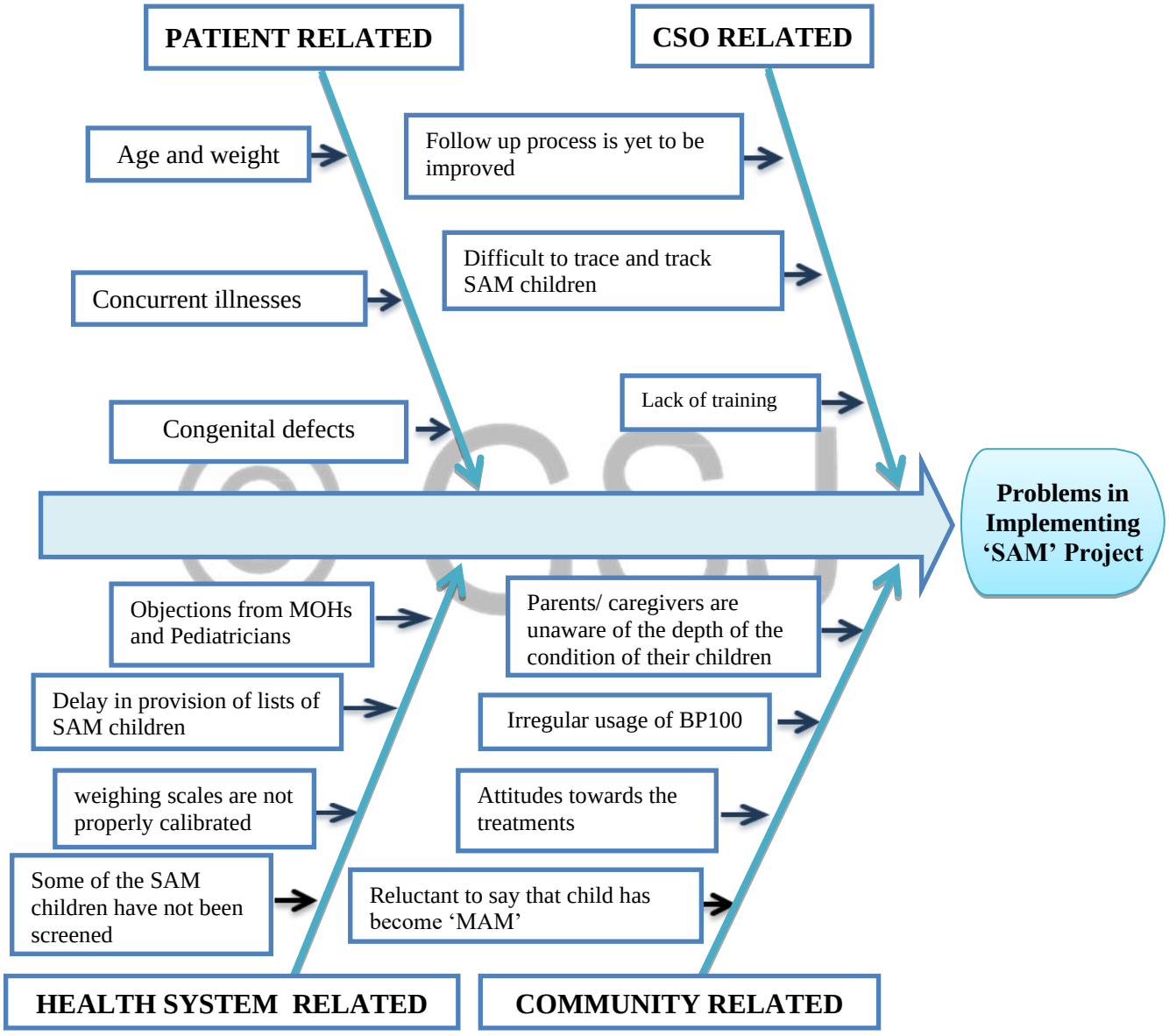

Figure 10: Ishikawa chart - Root cause analysis

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These problems were prioritized considering;

- The feasibility to address - technical, administrative, financial, and practicability.
- The impact of the problem.
- The time factor to introduce interventions.

According to the number of votes received by each problem, they are arranged in descending order. Afterwards, using Microsoft Office 365 Excel, a Pareto chart was created.

Table 3: Problems/Root Causes Arranged in Descending Order

Problems/Root Causes	Votes
2. Irregular usage (compliance) of BP100	21
11. Not allowing third-party involvement/ requesting ministry-level direct addressing to the Medical Director of the hospital	16
5. Objections from MOHs and Pediatricians	9
3. Attitudes towards the treatments.	5
7. Delay in provision of lists of SAM children from some MOH areas through the FHB	5
1. Parents/ caregivers are unaware of the depth of the condition of their children	4
10. Delayed in issuing new nutrition month data	4
4. Social Norms and beliefs	3
5.MOHs are not referring SAM children to the hospital - providing diet plans and treatments within MOH	3
9. Some of the SAM children have not been screened during the nutrition month	3
12. Follow up process is yet to be improved	3
14. Difficult to trace and track SAM children	3
13. Parents/caregivers are reluctant to say that their child has become 'MAM'	2
15. Child's age, weight, concurrent illnesses, congenital defects	2
8. Some weighing scales are not properly calibrated	1

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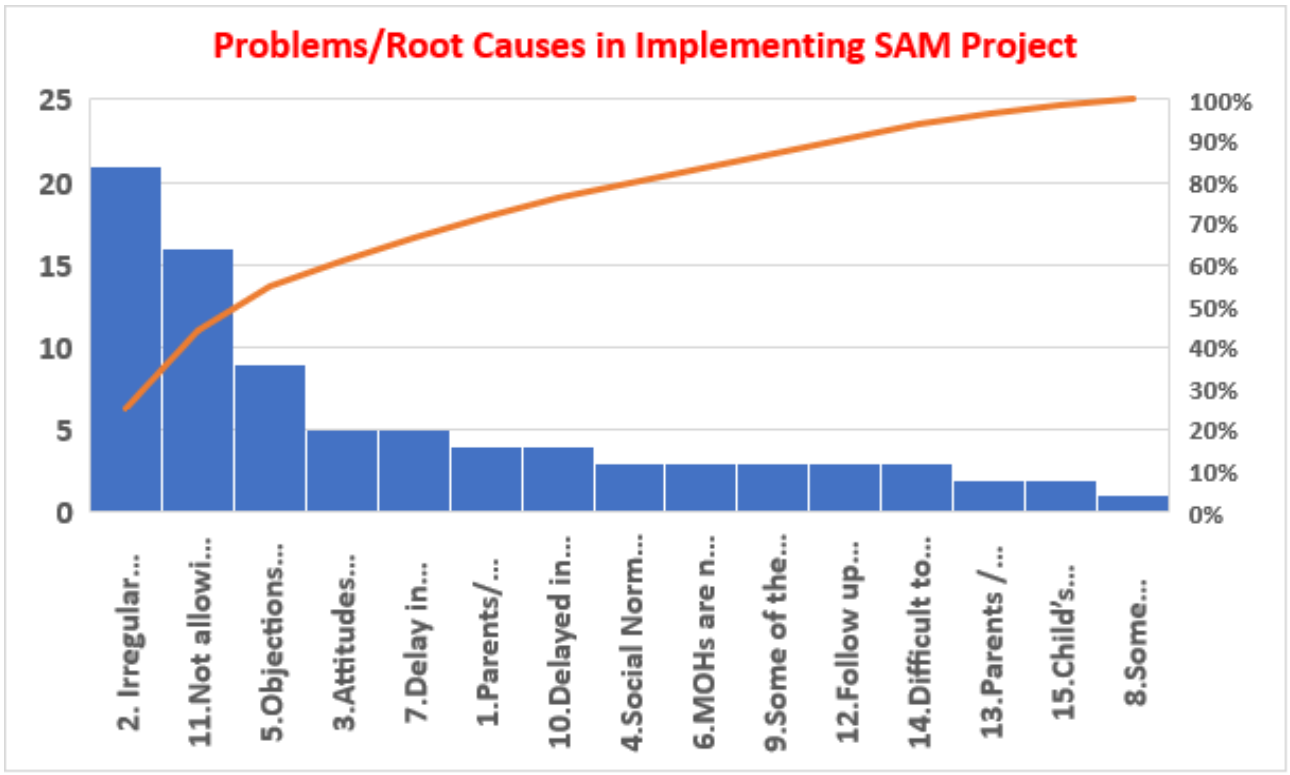

Figure 11 :Pareto Chart for Problems/Root Causes

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PROPOSALS

Improving the tracing and management of severe acute malnutrition (SAM) in children with the support of SARVODAYA and the Ministry of Health involves a comprehensive approach that addresses various aspects. Here are some proposals:

1. **Collaborative Framework:**

Develop a collaborative framework between SARVODAYA and the Ministry of Health to streamline efforts, share resources, and establish a unified approach towards addressing SAM.

2. **Community-Based Screening Programs:**

Train community health workers and volunteers to conduct regular screenings in communities, identifying children at risk of SAM. SARVODAYA could facilitate training and resource provision, while the Ministry of Health can oversee and regulate these activities.

3. **Data Sharing and Integration:**

Establish a system for sharing and integrating data between SARVODAYA and the Ministry of Health. This could involve a centralized database that tracks malnutrition cases, treatment progress, and follow-ups, ensuring continuity of care.

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4. **Nutritional Education and Support:**

SARVODAYA could organize educational programs for parents/caregivers on proper nutrition, breastfeeding, and hygiene practices. The Ministry of Health can endorse and support these initiatives by providing educational materials and guidance.

5. **Treatment Centres and Facilities:**

Collaborate to establish or support treatment centres and facilities equipped to handle severe malnutrition cases. SARVODAYA could contribute by providing supplies, staffing, or funding, while the Ministry of Health ensures adherence to health standards and regulations.

6. **Capacity Building:**

Conduct regular training programs for healthcare professionals on the latest treatment protocols and methodologies for managing SAM. SARVODAYA could contribute by providing supplies, staffing, or funding, while the Ministry of Health can accredit and certify.

7. **Advocacy and Awareness Campaigns:**

Collaborate on advocacy campaigns to raise awareness about the prevalence of SAM, its consequences, and the available support. Engage the community, policymakers, and stakeholders to support addressing malnutrition. SARVODAYA could support as a mediator.

8. **Monitoring and Evaluation:**

Implement a robust monitoring and evaluation system to track the effectiveness of interventions. SARVODAYA could collaborate to conduct regular assessments of programs and initiatives, adjusting strategies based on the findings.

9. **Policy Development:**

SARVODAYA could collaborate on policy development and implementation aimed at addressing the root causes of malnutrition, such as poverty, access to healthcare, and food insecurity.

10. **Resource Mobilization:**

Work together to secure funding and resources for sustained efforts. SARVODAYA could assist in fundraising efforts, while the Ministry of Health can allocate budgets and seek external support.

By fostering collaboration, aligning efforts, and utilizing each entity's strengths, SARVODAYA and the Ministry of Health could significantly improve the tracing and management of SAM in children, ultimately saving lives and ensuring healthier futures.

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RECOMMENDATIONS

However, considering the feasibility of addressing technical, administrative, financial and practicability; the following recommendations could be suggested.

01. **Nutritional Education and Support:**

SARVODAYA could organize educational programs for parents/caregivers on proper nutrition, breastfeeding, and hygiene practices. The Ministry of Health can endorse and support these initiatives by providing educational materials and guidance

02. **Data Sharing and Integration:**

Establish a system for sharing and integrating data between SARVODAYA and the Ministry of Health. This could involve a centralized database that tracks malnutrition cases, treatment progress, and follow-ups, ensuring continuity of care.

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03. Collaborative Framework:

Develop a collaborative framework between SARVODAYA and the Ministry of Health to streamline efforts, share resources, and establish a unified approach towards addressing SAM.

04. Treatment Centres and Facilities:

Collaborate to establish or support treatment centres and facilities equipped to handle severe malnutrition cases. SARVODAYA could contribute by providing supplies, staffing, or funding, while the Ministry of Health ensures adherence to health standards and regulations

05. Monitoring and Evaluation:

Implement a robust monitoring and evaluation system to track the effectiveness of interventions. SARVODAYA could collaborate to conduct regular assessments of programs and initiatives, adjusting strategies based on the findings.

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IMPLEMENTATION

Implementation of aforementioned recommendations could be carried out, in collaboration with the Ministry of Health through following strategies.

Table 4: Implementation-Strategy, Activities and Responsibility

Strategy	Activities	Responsibility
1. Nutritional Education & Support	I. Provide comprehensive training to all staff about nutritional education and practices TOT basis II. Ensure that they understand the training III. Post-training assessment using **"Kirkpatrick"** evaluation tool IV. Parental/Caregivers are educated by trained staff	1. President-SARVODAYA 2. District coordinators 3. Project coordinators
2. Data Sharing & Integration	I. Establish a system for sharing and integrating data II. Data Standardization Workshops III. Collaborative Data Mapping Sessions IV. Feedback and Improvement Sessions V. Establish protocols for sharing data	1. President-SARVODAYA 2. FHB 3. District coordinators 4. Project coordinators
3. Collaborative Framework	I. Form a joint task force or steering committee comprising representatives from both MOH and Sarvodaya II. Develop clear referral pathways and mechanisms for patients identified with SAM III. Ensure a smooth continuum of care between the community and the treatment centre IV. Organize regular meetings between Ministry of Health and Sarvodaya to review the progress	1. President 2. FHB 3. District coordinators 4. Project coordinators 5. PDHS 6. RDHS 7. MOMCH 8. MOH
4. Treatment Centres & Facilities	I. Supply adequate therapeutic foods, medications, medical equipment, and nutritional supplements required for treatment II. Ensure consistent availability of essential supplies and equipment through efficient supply chain management	1. FHB 2. MSD 3. PDHS 4. RDHS 5. Director of Hospital
5. Monitoring & Evaluation	I. Ensure regular and systematic data collection across all treatment centres II. Define clear indicators related to malnutrition treatment (e.g., recovery rate, default rate, mortality rate) and track them consistently III. Monitor key performance indicators to assess the effectiveness of interventions IV. Perform periodic audits or assessments of treatment centres to evaluate the quality of care, adherence to protocols, and facility conditions V. Conduct follow-up visits to understand the long-term impact of treatment on the patient's health	1. FHB 2. PDHS 3. RDHS 4. MOMCH 5. MOH 6. Director of Hospital

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CONCLUSION

The project demonstrated indicating treatment outcomes, as evidenced by improved recovery rates among SAM-affected children. The case study emphasizes the effectiveness of outreach clinics in improving access to SAM treatment services, positively impacting the community through increased awareness and improved treatment outcomes. The outreach clinics effectively improved access to treatment services for SAM within Kandy District. These clinics facilitated proximity to care for families in remote or underserved areas, reducing barriers to accessing treatment. However, sustaining these gains requires ongoing support, resource allocation, capacity building, and robust monitoring and evaluation mechanisms. The project serves as a model for addressing SAM but requires continued commitment and collaboration to ensure its long-term success and scalability. The positive outcomes observed in the Kandy District project indicate the potential for scaling up similar initiatives in other districts or regions facing similar challenges in SAM management. Lessons learned from this assessment could guide future replication. Strengthening the partnerships between SARVODAYA and the Ministry of Health is essential for the sustained success and expansion of SAM management in Kandy district Sri Lanka.

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