

## ORIGINAL RESEARCH ARTICLE

# Stakeholders' perceived achievements and challenges after the safe motherhood project in Northern Uganda

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## Abstract

The Japanese Red Cross Society (JRCS) and the Uganda Red Cross Society (URCS) implemented the Safe Motherhood project to promote mother-friendly society in northern Uganda from 2010 to 2016. The follow-up study has not been conducted and the information on achievements and challenges after the project were limited. To review the safe motherhood project in northern Uganda, the purpose of the study was to explore the stakeholders' perceived achievements and challenges after the project. Study design was qualitative content analysis using interview guides. After the approval of Institutional Review Board Clearance, the study was started (Approval Number: 2017-034). The subjects were informed about the ethical considerations (informed consent, participation on free will, confidentiality, and anonymity) in participating in the research, and they participated after signing the consent form. Six volunteers, 2 health center staff, and 2 former Uganda Red Cross staff were interviewed. Achievements were the acquisition of knowledge, attitudes changes, behavioural changes, linkage of all stakeholders, and positive influence on Safe Motherhood in community. Challenges of sociocultural barriers, attitudes toward women, accessibility and human resources, incentives and facilities, and sustainability of the project were derived from the interview. The study revealed that the project linked all stakeholders to achieve Safe Motherhood in community and all the developed registration systems were taken over. Long-term support is necessary for Safe Motherhood to take root. (*Afr J Reprod Health* 2022; 26[11]: 23-31).

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**Keywords:** Japanese Red Cross Society, Northern Uganda, safe motherhood, registration systems, long-term support

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## Résumé

La Société de la Croix-Rouge japonaise (JRCS) et la Société ougandaise de la Croix-Rouge (URCS) ont mis en œuvre le projet Maternité sans risque pour promouvoir une société amie des mères dans le nord de l'Ouganda de 2010 à 2016. L'étude de suivi n'a pas été menée et les informations sur les réalisations et les défis après le projet étaient limités. Pour examiner le projet de maternité sans risque dans le nord de l'Ouganda, le but de l'étude était d'explorer les réalisations et les défis perçus par les parties prenantes après le projet. La conception de l'étude était une analyse de contenu qualitative à l'aide de guides d'entretien. Après l'approbation de l'autorisation du comité d'examen institutionnel, l'étude a été lancée (numéro d'approbation : 2017-034). Les sujets ont été informés des considérations éthiques (consentement éclairé, participation libre, confidentialité et anonymat) à participer à la recherche, et ils ont participé après avoir signé le formulaire de consentement. Six volontaires, 2 membres du personnel du centre de santé et 2 anciens membres du personnel de la Croix-Rouge ougandaise ont été interrogés. Les réalisations ont été l'acquisition de connaissances, les changements d'attitudes, les changements de comportement, la mise en relation de toutes les parties prenantes et l'influence positive sur la maternité sans risque dans la communauté. Les défis des barrières socioculturelles, les attitudes envers les femmes, l'accessibilité et les ressources humaines, les incitations et les installations, et la durabilité du projet ont été tirés de l'entretien. L'étude a révélé que le projet liait toutes les parties prenantes pour parvenir à une maternité sans risque dans la communauté et que tous les systèmes d'enregistrement développés avaient été repris. Un soutien à long terme est nécessaire pour que la Maternité sans Risque prenne racine. (*Afr J Reprod Health* 2022; 26[11]: 23-31).

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**Mots-clés:** Société de la Croix-Rouge japonaise, nord de l'Ouganda, maternité sans risque, systèmes d'enregistrement, soutien à long terme

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## Introduction

Northern Uganda experienced over two decades of conflict, and infrastructures and people's lives were destroyed. Affected people were forced to live in the

Internal Displaced persons (IDP) camps. Functions such as education and medical facilities were concentrated in the camps and displaced persons had easy access to the facilities. After the ceasefire, these people began to return to their original

locations which is far from schools and health centers. Returned people preferred to give birth attended by traditional birth attendants (TBAs) because TBAs were cheaper and closer than giving birth at health centers. And the maternal and child health became a major issue, with 610 maternal mortality ratio (per 100,000 live births) and only 16% of births with skilled birth attendants<sup>1</sup>. Therefore, Uganda Red Cross Society (URCS), together with Japanese Red Cross Society (JRCS) implemented the Safe Motherhood project from 2010 to 2016 in northern Uganda. To promote Safe Motherhood, the project trained volunteers and distributed Mamabags containing razor blades, cotton pads, plastic sheets, etc. that had completed four-times antenatal care. However, no follow-up visits were conducted after the project ended.

### **Purpose**

In order to review the Safe Motherhood project in northern Uganda, the purpose of the study was to explore the stakeholders' perceived achievements and challenges after the project.

### **Methods**

#### **Design**

Design of the research was descriptive qualitative study.

#### **Subjects**

The researchers requested for the research collaboration to the stakeholders of the project. Village Health Team (VHTs), health professionals in the health center, and the staff of the URCS consented to participate.

#### **Data collection period, place of the study, and language**

Data collection period was from 3rd to 10th, August, 2017. The place of the study was in Gulu, the Republic of Uganda. Language used for the interview was Acholi (Northern Uganda) language or English. Acholi language was translated into English by the interpreter. Semi-structured interview was conducted using interview guides.

#### **Analysis**

Transcription company performed the transcriptions and created the verbatim transcripts.

We analyzed this by content analysis using NVivo 11. Stakeholders' perceived achievements and challenges of the project were derived from what participants said and coded. Then these codes were grouped into sub-categories and extracted to categories.

### **Results**

#### **Overview of study participants (Table 1)**

The study participants were ten stakeholders who consisted of 6 VHTs, 2 former and current URCS staff, and 2 health center staff in northern Uganda. Their age was varied from 28-65 years old. Their occupation were peasant farmers, health professionals, and staff of the Red Cross.

**Table 1:** Demographic data of participants

Participant Stakeholders	ID	Occupation	Educational Background	Age
Safe Motherhood Volunteers (VHT: Village Health Team)	A	Peasant Farmer	High school	47
	B	Peasant Farmer	High school	65
	C	Peasant Farmer	High school	50
	D	Peasant Farmer	High school	40
	E	Peasant Farmer	Secondary school	46
	F	Peasant Farmer	High school	43
Uganda Red Cross Society	G	Former Project Coordinator	Bachelor	54
	H	Gulu Branch Coordinator	Bachelor	55
Health Centers	I	Midwife	Diploma	28
	J	Clinical Officer	Diploma	40

#### **Perceived achievements of safe motherhood project (Table 2)**

Five categories were derived: [Knowledge and awareness of community], [Attitudes development], [Behavioural changes of community], [Linking all stakeholders of safe motherhood], [Positive influence on safe Motherhood].

#### **Perceived achievement 1: Knowledge and awareness of community**

Knowledge of importance of testing was derived from the interview as an achievement of the project.

*"They understood the importance of going to the hospital and testing."* (E)

Knowledge of going to the antenatal care, facility-based delivery was mentioned.

**Table 2:** Stakeholders' perceived achievements of the safe motherhood project in northern Uganda

Category	Sub-category
Knowledge and Awareness of Community	Knowledge on Testing Diseases
	Knowledge on Antenatal Care
	Knowledge on Facility-based Delivery
Attitudes Development	Awareness of Safe Motherhood
	Attitudes of Health Workers to Mothers
	Attitudes of Men toward Women ANC and Facility-based Delivery
	Family Planning
Behavioural Changes of Community	Male Involvement
	Mothers and Husbands Share Health-related Issues Together
	Mothers Visit Health Center to get Mamabags
	Saving Money for Delivery
	Sleeping under Nets
Linking Stakeholders of Safe Motherhood	Testing HIV, Malaria
	VHTs as persons who is at the center of the link of Safe Motherhood Movement
Linking Stakeholders of Safe Motherhood	Relationship Built among Stakeholders (Community-VHTs; Community-HC; Mothers-Midwives; Department of Health-Red Cross Branch; HC-VHTs)
	Mamabags as bridge among Stakeholders (Mothers-Husbands; Mothers-Midwives)
	Capacity Building of Health Center
	Facility Development of Health Center
Positive Influence on Safe Motherhood in Community	Reduction of Maternity-related Complications (Malnutrition)
	Reduction of Maternity-related Complications (Maternity Deaths)
	Being the Model Case of Safe Motherhood

*"When people understand why they should come for antenatal, so it becomes a message to them. I think it has given a good impact to the society and now everybody knows when a woman is pregnant, she knows that I should go for antenatal care" (J)*

*"People were sensitized, people were health educated, and they came to know the benefits of delivering in the hands of trained health practitioners." (A)*

Awareness of safe motherhood was also raised as achievements of the project.

*"Mothers and fathers, they know what requirements are needed when a woman is*

*pregnant, how to prepare a woman for delivery" (A)*

*"The project contributed to community awareness; one, through VHTs; two, through health facilities." (G)*

### **Perceived achievement 2: Attitudes development**

Attitudes of midwives and men toward mothers were the achievements of the project.

Midwives' Attitudes toward mothers were changed positively. Midwives started serving mothers who came to the health centers.

*"But with the coming of this project and with the provision of mama kits, mothers felt confident and the health workers started changing their attitude positively towards these mothers helping them support. .... Diligent and able to support their own people amid these challenges, the working conditions." (G)*

Men's attitudes toward women also derived as an achievements of the project.

*"Men began to appreciate that a woman should rest when she is pregnant and right now women's health has changed." (E)*

### **Perceived achievement 3: Behavioural changes of community**

Community also changed their behaviours of Safe Motherhood.

Mothers changed their behaviours of antenatal and facility-based delivery

*"Mothers are willingly going for antenatal in the health centers without being forced" (D)*

Family planning was also derived as an achievements of the project.

*"Family planning is actually so well because mothers are spacing their children" (D)*

Male involvement of Safe Motherhood was also mentioned.

*"People became aware of family planning, gender equality. Because in the culture of Acholi, they treat woman like you already bought that woman. She is a property. She is an asset. It has also changed men's perception towards ladies in that way because at least they have begun to look at ladies like valuable people who need their support." (E)*

Men now share the health information together with their wives.

**Table 3:** Stakeholders' perceived challenges of the safe motherhood project in northern Uganda

Category	Sub-category
	Acholi (Northern Uganda) Culture vs. Safe Motherhood
Sociocultural Barriers	Polygamous Men Busy to Visit HC with Wives Social Barrier (Fund Preparation, Cloths) to Health Center
Attitudes toward Women	Attitude of Men toward Women Attitude of Midwives toward Women
Accessibility, Human Resources for Delivering Safe Motherhood Services	Access to Health Center (Referral Systems, Road, Security) Limited Human Resources of Safe Motherhood (Health Center, URCS, Village Health Team-VHTs) VHTs' Burden of Finance, Time, and Distance
Incentives, Facility Development, and Funds for Promoting Safe Motherhood	Limited Number of Mamabags Missing Items of Mamabags No Incentives Led Less Motivated to Visit Health Center Facilitation of Health Center Delay of Funds from URCS-HQ to Branch
Sustainability of the Project	Local Government Ask Wider Coverage Sustainability of Safe Motherhood Project

*"60% to 70%, they don't share things like health-related issue with their wives, but during this project, we had volunteers who are doing the community dialogue to change our attitude towards really some understanding issue of her." (F)*

Mamabags played a role to motivate mothers to visit the health centers for antenatal care and facility-based delivery.

*"Mamabags because when they go to the health center and they are given, their fellows from the community would see. Because the Mamabags had a lot of materials inside it, so everyone longed for that." (D)*

Men also started saving money to prepare for having baby.

*"Men also started realizing that they also to save money, it's also really saving, they save money to prepare for the newborn, like soap, towel, those one who can afford to buy." (F)*

As achievements of the project, sleeping under mosquito nets were derived.

*"Mothers and both children they are sleeping under nets." (F)*

Testing HIV, Malaria was also told as achievements of the project.

*"Men these days they sit together to receive their HIV test results" (D)*

#### **Perceived achievement 4: Linking all stakeholders of safe motherhood**

Stakeholders mentioned the project linked all stakeholders as an achievement of the project.

First, the VHTs as persons who are at the center of the link of safe motherhood movement was derived from the interview.

*"Mothers in the community really used to come to me because they already know that I am the person who can advise them because in the community dialogue, I move together and talk to them and give them advice." (B)*

*"VHTs are people staying in the community. And once they go home visiting even at their own time, they start talking about safe motherhood. Then, people will get reminded. ... What is long lasting is the knowledge and the practice where the VHTs continue to sensitize communities, where the health facilities, health workers, people are sensitizing." (G)*

Community people and VHTs were linked by the project.

*"It created a very good working relationship in between me and community members" (A)*

Red Cross branch where the project was implemented, the government health sectors, and the health centers were also linked owing to the project.

*"We were one with the District Health Officer....At one time, we went for radio talk show together. ...Even at the health center, the health center facility also the in charge was very, very positive about this project, very supportive. And even after now, after the project, they still continue to support." (H)*

Mothers and midwives were also linked by the project.

*"We have been committed in our antenatal and we have got friends with the midwives." (I)*

The community and health centers, the VHTs and the health centers were also linked owing to the project.

*“There was a relationship with the community and the health facilities. ...Because they even had a link with the VHT. They even supported the VHT so that means the VHTs were referring mothers. They were able to identify mothers in the society and they were able to refer mothers, so VHTs are working at health center one, so they were doing part of our work in society.” (J)*

Mamabags also linked the stakeholders such as VHTs and mothers, mothers and husbands, mothers and midwives.

*” She goes to the hospital or health center, then she comes back with the Mamabag, yes, she will tell the colleague, please go. They will give you and you realize mothers keep going. The project also bridged the relationship between VHTs, the mothers, and also the husbands.” (B)*

### **Perceived achievement 5: Positive influence on safe motherhood in community**

The category of positive influence on Safe Motherhood is consisted of capacity and facility development of health center, facility development of health center, reduction of maternity-related complications, and being the model case of Safe Motherhood.

Capacity and facility development of the health centers was derived as achievement of the project.

*“With the continuous support of this project, health workers felt that it was really their role to kind of support their own people and stay in these health facilities and supporting them. ...they felt being able to be in the health facility at a time when the mothers needed them is a very big change.” (G)*

*“In the meeting, there are a lot of reports so there is a lot of presentation, so those are kinds of capacity building. When you tell me new things, you have built my capacity.” (J)*

Facility development of the health centers was also mentioned as one of the achievements of the project.

*“The equipment that you took to the health facilities in the maternity wards, those equipment were really of good quality. It really*

*helped our midwives. ...Scissors and the clips, weighing scale.” (A)*

Reduction of complications relating to mothers was derived as achievement of the project.

*“Kwashiorkor has reduced, ...malnourished children, they are very few in the community now.” (D)*

*“Jok is a name given to an abnormal baby, immaturely. ...These days it is not common. And during that program, they kept discouraging mothers from taking the local herbs and that is how it has changed the attitude of mothers towards local herbs and towards those people.” (E)*

Being the Model Case of Safe Motherhood was also derived from the interview. Stakeholders mentioned about this project was taken over and being as a model case of the Safe Motherhood project in northern Uganda.

*“First meetings we attended with the Minister of Health and when we brought the issue of using VHTs to register mothers that is something that Ministry of Health now took up...The role of VHTs to register, to be in touch with the pregnant mothers. That is something that Ministry of Health has also taken up. ...Ministry of Health didn't have that program of VHTs registering pregnant mothers for going from household to household encouraging pregnant mothers to go too. So, they borrowed it actually and now it is Ministry of Health's problem.” (G)*

*“I told the idea to German Red Cross. They started the Mamabag program, safe motherhood program, the refugees said to me...Even when German Red Cross was procuring, I gave the list that these Mamabags” (G)*

### **Perceived challenges of safe motherhood project (Table 3)**

Five categories were derived from their interview: [Cultural barriers], [Attitudes toward women], [Accessibility, human resources for delivering Safe Motherhood services], [Incentives, facility development, and funds for promoting safe motherhood], [Sustainability of the project].

### **Perceived challenges 1: Sociocultural barriers**

Culture of Acholi (northern Uganda) was mentioned as barriers of promoting Safe Motherhood in northern Uganda.

Cultural leaders often encourage teenage pregnancy and it had risk of complications of deliveries. Cultural leaders are more respected than local leaders of the local government.

*“It’s a battle between us the VHTs and the cultural leaders” (A)*

*“I n the culture of Acholi, there is teenage pregnancy that families do encourage” (E)*

Culture of polygamy also caused husbands to get difficulties in finding their times to escort their wives to the health facilities.

*“Man having many wives may not be able to attend to all these women.” (G)*

Social barriers for men to visit the health centers existed in Acholi region. Limited clothing choice was their challenge stopping them going to health facilities. Sometimes they were too busy to clean their clothes and hesitated attending their wives to the health centers.

*“One, they are busy working in the bush and two, they don’t have any clothes for going to the health center for the hygiene reason.” (F)*

### **Perceived challenges 2: Attitudes towards women**

Men’s attitude towards women was improved during the project as we derived from the interview. However, not all men engaged in the male involvement.

*“Some men, their attitudes are not even good up till now, not all” (F)*

Midwives’ negative attitude towards women also derived.

*“At the health centers, there was misunderstanding at times with the midwives. ...this midwife was so cruel to us” (C)*

*“Sometimes because of the many people they are handling, if the mother comes late and they are tired, they change their moods and become rude to the mothers.” (E)*

### **Perceived challenges 3: Accessibility, human resources for delivering Safe Motherhood services**

Accessibility to the health facility was mentioned. Road conditions, robbery, distance, money of

transportation, referral systems are hazards for visiting health facilities.

*“The distance from the villages to the health center by that time so mothers to cover was not easy even if you explain you go to the health center, sometimes they tell you to go there needs money. I have to get this and that. It’s not easy to go to the health center.” (E)*

Limited human resources of this project were derived. Limited number of the health center staff, URCS Staff, and VHTs were mentioned.

*“The midwife is not there, then the challenge is a mother has to travel a long way to a hospital in order to get service.” (B)*

*“In 2014, many staff left. So, there were a lot of human resource gaps. So, I was doing a lot of work.” (G)*

*“Volunteers, we are few in our location of the work. So, you find that I suppose to follow up many mothers and also this time are there during my work. ...the beneficiaries are many, so as a result this is also not easy because we do monitoring mother until she delivered and follow even postnatal care.” (F)*

### **Perceived challenges 4: Incentives, facility development, and funds for promoting Safe Motherhood**

Mamabags as incentives raised issues in selecting beneficiaries, storage of them, real intension of distributing them.

*“The criteria with that we were using for selecting these mothers also made a lot of people think that we are biased. Why do we select others and leave others? When you talk of poverty, all our people are poor.” (A)*

*“Some other missing items were being done, but we cannot go beyond that” (C)*

*“Sometimes mothers come just to get kit. They don’t exactly understand why they should come. They go to get kit so that when they want to come to deliver, they are not disturbed but we are trying to remove that understanding. It’s not a matter of getting kit but it is the matter for your health and the health of your child.” (J)*

Facility of health center to promote Safe Motherhood was also a challenge.

*“In the health facilities, drug stock out, inadequate health workers. So, these women at times go to health facilities, but they don’t get*

*all that they require, because maybe the drugs that they want are out of stock or when they go there, they find that the health workers have left or there are few.” (G)*

During the project period, delay of fund of the project affected some of the project achievements.

*“The challenges we had that I think mainly was it drove our funds, the resources from our headquarters to the project area.” (H)*

### **Perceived challenges 5: Sustainability of the project**

Sustainability of the project was also derived from the interview. VHTs and other stakeholders wanted the project to be continued.

*“Politicians or the district administrators wanted bigger, wider coverage and they wanted us to move to another – people moving to cover more area and yet our resources were limited to a given area.” (H)*

Sustainability without Mamabags was also participants' concern.

*“Project, if it had not stopped, I hope by now we would have reached every household in the community.” (A)*

*“Now when they come, we say, oh, sorry, the project has ended but you find she is a positive living mother and I have got no way I can refer now her. Although, it needs assistance to be given, you see, but I cannot now. I am so sorry. Although you are now pregnant, follow the procedures now or start early ANC, keep on taking the drug, you will survive. But the Mamabags, sorry, I cannot manage it now for you and it will be there.” (C)*

## **Discussion**

Regards to the perceived achievements, the project succeeded in increasing knowledge of Safe Motherhood in the community. They came to understand why they should go for the antenatal care and facility-based delivery.

Then the project was successful in changing the attitudes of men and midwives toward women. Attitudes of men changed after the project and it would change mothers' lives during and after pregnancy. Positive attitudes of midwives might affect mothers' health seeking behaviours, hence it was a big change for Safe Motherhood.

Not only knowledge and attitudes of beneficiaries, consequently the behaviours also changed. Mothers started visiting health facilities at least four-times antenatal care and deliveries to get Mamabags. Mamabags played an important role in motivating mothers to visit health centers. Once they visit health centers, mothers and fathers get information on Safe Motherhood from health professionals and VHTs. Therefore, the real intention of this project was realized in their behavioural changes.

VHTs were trained by the project and they became the center of the link of stakeholders, activists in the community, and promoters of Safe Motherhood. As VHTs, who are also residents in the community, acted as advocates for the rights of mothers, the people's awareness of Safe Motherhood improved, they gained knowledge, their attitudes changed, and this led to behavioural changes. Two in every thousand people volunteer for the Red Cross and Red Crescent Movement worldwide and the regions with the highest ratio of volunteers to staff are sub-Saharan Africa<sup>2</sup>. Red Cross volunteers in Uganda were highly valued in involving community and advocating local governments about Safe Motherhood. This system can be applied to other health activities in Africa.

By implementing the project, each stakeholder was connected toward the goal of Safe Motherhood. It can be said that VHTs were able to build face-to-face relationships with local people and health centers, Red Cross branches, district health offices, and mothers with midwives at health centers. Among them, the Mamabags also played a crucial role in connecting mothers with VHTs, fathers, and midwives. The simultaneous introduction of both the VHTs and the Mamabags paid off.

By those achievements above, positive influence of Safe Motherhood in community appeared. We installed the equipment which was utilized for delivery by midwives because of their quality. In addition to providing materials, it can be evaluated that we were able to appeal to the minds of health professionals. As a result, midwives welcomed beneficiaries and beneficiaries came to visit health facilities. The stakeholders talked that the project decreased the number of maternity-related complications such as premature birth and malnutrition among children. It can be said that VHTs has steadily continued their activities such as community dialogues, which has a positive ripple

effect not only during mothers' pregnancy period but also for the subsequent child growth.

Stakeholders talked system which were built by this project could serve as a model case for implementing other maternal health activities in Uganda. For example, the system of mobilizing VHTs to keep track of all expectant mothers has already been taken over by the district health offices, and other Red Cross partners also supported URCS for distributing similar Mamabags. The positive impact left by the project can be seen as sustainability of the project.

The challenges encountered by the project were lessons learnt for us in terms of the sociocultural considerations, attitudes toward women, accessibility and human resources, incentives, and sustainability.

Northern Uganda has traditionally practiced polygamy, and during long-standing conflicts it was customary for men to provide for many women and for women to do all the housework. Therefore, even in peacetime, men were married to many women, and therefore it required both financial power and time to escort many women.

Social barriers were also confirmed, such as not being able to visit health centers because they were not prepared with clothes and goods for visiting health centers. Although the socio-economic situation in northern Uganda has been recovering, there are still many people left behind, and disparities are emerging. Comprehensive development cooperation will be necessary in addition to Safe Motherhood project. Safe Motherhood education at early age is also effective for advocating people. There is evidence that school based comprehensive sexuality education program among young adolescents in rural Uganda was effective<sup>3</sup>.

We reported that attitudes towards women had changed as one of the achievements of the project, but there were still people who had not changed. Some men are still unable to change their attitudes towards women, but this will be a time-consuming effort, as some may be culturally cultivated. It was also said that some midwives were rude to mothers. One of the reasons for this is the shortage of midwives. We reported that midwives' attitudes toward mothers had changed as an achievement, but we assume that the fact that the mothers rushed to the health centers in search of

Mamabags made them busy, causing the deterioration of attitudes. If so, it is necessary to make up for the shortage of personnel and make improvements.

Relating to this, limited health human resources were derived. We have seen VHTs, health center staff, and URCS staff working with limited workforce and time. If mothers visit the health centers but there are no staff or VHTs are unable to visit homes due to lack of time, it will be difficult to continue activities. Change of staff and the wide range of responsibility could be improved by increasing the number of staff.

Bad roads, bandits, transportation costs, and a poor referral system were the barriers to visiting health centers. Especially in the rainy season, the road condition was the concern for all to come to health facilities. The deterioration of public security will further reduce their visits to health centers. Road safety and people's security are inevitable. The project no longer distributes Mamabags as incentives, there is concern that the number of mothers visiting health centers will decrease if these barriers are not removed.

Stakeholders talked about the distribution criteria of the Mamabags, the fact that the contents were missing, and the fact that Mamabags were distributed without truly understanding the reason why they should come to the health centers. The Mamabags were distributed with the aim of encouraging mothers to complete four antenatal cares and delivery at health facilities, and to prepare necessary items for deliveries. However, it is unclear whether people can continue to come to health centers without these incentives.

We reported that the health center was equipped with the necessary equipment as an achievement of the project. We fear that this lack of facilities, combined with the understaffing reported earlier, will lead to disappointment among mothers and discourage them from visiting health centers.

Finally, sustainability of the project was derived from the interview. All interviewee stakeholders complained of the needs to continue of the project.

The VHTs are continuing their activities in the community. They said that there were still needs in the community, such as pregnant women living with HIV/ AIDS and pregnant women suffering from poverty. Local politicians and district administrators have asked the Red Cross to expand

the coverage area of the project, but activities to protect the health of people in the community should be the responsibility of the health administration. However, due to the long-lasting conflict, the health administration service is still recovering and is largely dependent on donors from outside country. Support ends when funds are cut off, and donors are replaced. As a result, services are not well-reached by community. It is the most needy and vulnerable people who are most affected by these health inadequacies.

### **Ethical considerations**

The researchers, following the ethical standards of the Declaration of Helsinki, ensured research participants' autonomy and confidentiality of the participants and the organization with the approval of the Research Ethics Committee of the Japanese Red Cross College of Nursing (2017-034). Before the study, the researchers explained the purpose, methods, anonymity, and free will to participate of the study. The participants consented to participate and signed a form. All the interview was recorded upon the consent of the participants. Personal information was pseudonymized.

The translators and transcription company were informed about the ethics and confidentiality by the researchers. Confidentiality agreement was obtained from them by signing a form.

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into nursing, caring and the Red Cross. Funding source has no roles.

### **Conclusion**

By using Mama-bags as a motivating factor and involvement of VHTs, the project succeeded in supporting the Acholi people change in knowledge, attitudes, and behaviors. VHTs were the core of the activities and linked stakeholders in their community. The system implemented, in which all pregnant women were registered at health centers through VHTs and continuously monitored until postpartum, has become a model case and has been taken over by local health administrations. On the other hand, for the Safe Motherhood movement to be sustained, the socio-cultural and infrastructure barriers still exist, we therefore suggest that it is important to continue over time.

### **References**

1. Uganda Bureau of Statistics. Uganda Demographic and Health Survey. Retrieved 29/09/2022 from <https://dhsprogram.com/pubs/pdf/fr264/fr264.pdf>. 2011.
2. International Federation of Red Cross and Red Crescent Societies. The value of volunteers Imagine how many needs would go unanswered without volunteers. Retrieved 29/09/2022 from <https://volunteeringredcross.org/wp-content/uploads/2019/02/Report-Value-of-Volunteers.pdf>. 2019.
3. Kemigisha E, Bruce K, Ivanova O, Leye E, Coene G, Ruzaaza GN, Ninsiima AB, Mlahagwa W, Nyakato VN and Michielsen K. Evaluation of a school based comprehensive sexuality education program among very young adolescents in rural Uganda. *BMC Public Health*. 2019 Oct 28;19(1):1393. doi: 10.1186/s12889-019-7805-y. PMID: 31660918; PMCID: PMC6819440.