ORIGINAL RESEARCH ARTICLE

The Bajenu Gox as social mobilization and social norms transformation agents in maternal, child and youth health in Senegal

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Abstract

Maternal and new-born mortality remains the greatest existing disparity in health between low-income and high-income countries. To achieve improvement in maternal and child health, it is important to consider cultural and gender dimensions. We studied the role of Bajenu Gox women (BGs) in reducing maternal and child mortality through social mobilization and social transformation in Senegal. Quantitative and qualitative data on gender and health were collected in Dakar, Louga, Fatick and Kaolack, at the individual, family, community and institutional levels using semi-structured interviews, focus groups and community dialogues based on a participatory and inclusive approach. Data were collected from authorities and professionals working in the health sector (head nurses, midwives, Health Committee (CS), and family and community members who are directly concerned or have authority on the patient (pregnant women, breastfeeding women, children and adolescents, mothers and father's in-law, husbands, imams, priests). Results of our research showed that BGs intervene at three levels - beneficiaries, custodians of habits and customs or decisions, and custodians of moral obligations or decisions. The BGs contribute in the improvement of the main health outcomes, in particular: antenatal care, postnatal care for mothers and their children. Plus, many women and girls are now being referred to the appropriate structures for ante-and post-natal visits, family planning, etc. In conclusion, BGs have developed efficient methods of social mobilization to promote MCH, and BGs'are potential social and gender norms' transforming agents. *(Afr J Reprod Health 2021; 25[3s]: 105-120).*

Keywords: Bajenu Gox, Community health workers, Gender, MNCH

Résumé

La mortalité maternelle et néonatale reste la plus grande disparité en matière de santé entre les pays à faible revenu et ceux à revenu élevé. Pour parvenir à améliorer la santé maternelle et infantile, il est important de prendre en compte les dimensions culturelles et de genre. Nous avons étudié le rôle des Bajenu Gox (BGs) dans la réduction de la mortalité maternelle et infantile par la mobilisation sociale et la transformation sociale au Sénégal. Des données quantitatives et qualitatives sur le genre et la santé ont été collectées à Dakar, Louga, Fatick et Kaolack, aux niveaux individuel, familial, communautaire et institutionnel selon une approche participative et inclusive. Les données ont été collectées auprès des autorités et des professionnels de santé (infirmiers en chef, sages-femmes), des familles et de la communauté (femmes enceintes, femmes allaitantes, enfants et adolescents, beaux-pères et belles-mères, maris, imams, prêtres,). Les résultats ont montré que les BG interviennent à trois niveaux : les bénéficiaires, les gardiens des us et coutumes ou des décisions, et les gardiens des obligations morales ou des décisions. Les BG ont amélioré les indicateurs de santé. De nombreux femmes, enfants et jeunes filles sont maintenant référés aux structures appropriées pour les soins prénataux et postnataux, le planning familial, la vaccination. En conclusion, les BG ont développé des méthodes efficaces de mobilisation sociale pour promouvoir la SMNI. Les BG sont des agents potentiels de transformation des normes sociales et de genre. *(Afr J Reprod Health 2021; 25[3s]: 105-120).*

Mots-clés: Bajenu Gox, Travailleurs de la santé communautaire, Genre, SMNI

Introduction

Maternal and new-born mortality is the greatest existing disparity between low-income and high-income countries in health sector. Women play a crucial role in the health sector at the community level in Senegal, and especially in reproductive health. "Community Health Workers are greatly involved in both low- and middle-income countries and may be an important tool in reducing maternal

and child mortality"(Guilmore, McAuliffe, 2013)[1]. In Senegal, Bajenu Gox (BGs) are traditional influential Godmothers in charge of Maternal and Child Health (MCH) promotion at the community level. Their contribution to MCH improvement have led to the institution of a government program, the BG Programme (PBG)[2], in 2009. This program, mainly dedicated to the promotion of women's leadership, operates in the fourteen regions of Senegal with the objective of increasing the use of health services by children from 0 to 5 years old and by women before, during and after pregnancy. The originality and relevance of BGs' actions underline its inclusion in the National Health Development Plan (PNDS-II)[3] of Senegal where Community Health Workers' (CHW) support is a priority objective. They participate actively in community development through social mobilisation mainly for MHC but also for human rights and gender equity.

The maternal mortality rate is an important measure of human and social development. It is a revealing indicator of the status of women and in particular of women's access to health care and the consideration of their needs by the health system. It informs us about the risks associated with pregnancy and childbirth. It also informs women's health in general and indirectly about their socio-economic status.

In Senegal, despite significant progress in Maternal, Neonatal and Infant and Adolescent Health (MNIAH), there is an above average rate with 402 maternal deaths per 100,000 live births (EDS continue, 2005)[4].

On the other hand, the marginalization of women in decision-making processes continues, even in in resolutions related to their health and that of their children. This marginalization which has negative effects on health in the area of MNIAH tends to increase the level of poverty of low-income households, hampering the ability of low-income countries to achieve the Sustainable Development Goal (SDGs). This interventional research project seeks to support the Senegalese government to achieve SDGs for good health and gender equality and equity by assessing and improving the PBG action and thus BGs activities.

The objective of this study is to examine how BGs activities have influenced gender norms in the targeted communities and have contributed to the improvement of the MCH promotion.

Methods

Scope of the study

The choice of the sites was made from a participatory and collaborative way, and the intervention was coordinated by Regional Chief Physicians or District Chief Physicians throughout the duration of the project. The selected districts are located in the regions of Dakar, Fatick, Louga, and Kaolack. The research strategy used is that of case studies. Thus, 4 cases were selected in 4 peri-urban and rural areas located in the regions of Dakar, Louga, Fatick and Kaolack, namely Parcelles Assainies Unité 4 (Dakar), NDande (Louga), Diaoulé (Fatick) and Abattoirs Ndagane (Kaolack). And each of the cases represented a PBG implementation site coinciding with the coverage area of a health post in a Health District

The selection of the 4 sites has been made through a purposeful sampling by drawing from the batch of health posts working with the NGO 'Action and Development' (ACDEV), which is responsible for implementing the research project's interventions, in close collaboration with the District Medical Officer. In addition, the selection has taken into consideration the diversity aspect of cases in terms of urbanisation, access to health services, maternal mortality rate, degree of effectiveness of the PBG, state of functionality of the Health Committee (HC), level of isolation of the sites, presence of dynamic community networks and of support for Community Development Projects or lack thereof.

Parcelles Assainies Unite 4 Health Center is located in Golf-Sud administrative Sub-district, in the District of Guediawaye, in the Region of Dakar, the capital city of Senegal. It polarizes the following boroughs or zones Unité 3, Unité 5, Unité 4, Unité 1 and part of Cambérène 1. The Golf-Sud sub-district is the most populated town in the District of Guédiawaye with a population of 98,041 inhabitants (ANSD 2015)[5].

Diaoulé Health Center is located in the Fatick District, in the Fatick region. The Fatick region is located in central western Senegal with a population of 761,710 inhabitants in 2015 (ANSD, 2015). Diaoulé commune, located in the district of Ndiob, has, alone, 13,421 inhabitants.

Ndangane Abattoir Health Center is located in the District of Kaolack in the Kaolack region. The region of Kaolack has a Sudano-Sahelian climate.

The population of Ndangane is 22949 19. Temperatures are very high for most of the year **Ndande Health Center** is located in the District of Kébémer in the region of Louga. Ndande is the main city of both the sub-district and the Municipality of Ndande. The Ndande Municipality has a population of 25,351 inhabitants, which represents a large portion of the 86,595 inhabitants of the whole sub-district of Ndande (ANSD, 2015).

Population of study

The approach of this intervention research is based on the principle of research-action. It is inclusive, iterative and participatory, with the involvement of the various stakeholders who are BGs, health post staff members, families, community actors, local authorities and representatives of NGOs operating in the locality. All these actors were involved throughout the process of the study, from its inception and implementation to the intervention.

Research framework

This study, which is based on building of initiatives for innovative behavior changes, with the collection of monthly routine data for monitoring, observing and reporting on the BG's intervention, seeks to allow communities and decision-makers to take advantage of the research findings in their respective endeavors.

Type of study

Quantitative Study

The study sample consists of a representative selection of villages and city districts (cluster sampling). The strategy of this intervention study was based on four (4) pilot sites (villages or districts) distributed in both urban and rural areas, taking into account the various rates of maternal mortality in each location. In rural areas, the site refers to the area covered by a BG, in other words it represents a central village and its polarized villages.

Overall, the quantitative survey covered (n=63) Bgs, including all active BGs involved in the project. Depending on the area of intervention, the number of BGs interviewed varied. The maximum of the BGs participants was located (n=19) in Kaolack and a minimum (n=13) in Fatick.

- **Data Collection Methodology**

Based on a questionnaire designed to collect data from the BGs, an input mask was designed on the Stata software to facilitate data entry. Thus, the 63 questionnaires from the field were entered on Word before the database was exported to Stata. Then, after the cleansing and verification of the database, statistical processing and analyses were conducted using the same software (Stata). We started with the study of health registers, documentary films, and community dialogues.

- **Data Analysis Methodology**

Data analysis utilized descriptive statistics (use of frequency distributions and percentages) supplemented by a few cross-tabulations of specified variables so as to examine variations caused by socio-demographic parameters.

Qualitative study

The qualitative survey allowed for a total of (n=40) semi-structured interviews more in Kaolack and less in Fatick, including (n=8) discussions with health personnel (head nurse and midwife), (n=8) families (elderly and mothers-in-law/fathers-in-law), (n=8) women of reproductive age, (n=8) BGs and (n=8) young people in the community. In addition, there were 12 focus groups and 8 community dialogues.

- **Data collection methodology**

Using qualitative data collection techniques (semi-structured interviews (SSI) and group interviews (FGDs), further in-depth data were collected to provide more insights on the leadership actions of the BG, on what the communities think about the BG leadership, on the conditions that foster leadership actions among the BGs and the constraints they face. Other sources of data collection include: multi-stakeholder community dialogue with institutional stakeholders, community actors, research teams and decision-makers and collection of current data from health post registers.

- **Data analysis methodology**

The material collected in the form of observations made by participants and individuals as well as group interviews (FGDs) was recorded, entered and exported to NVIVO and QDA miner. A coding grid was designed, which allowed us to encode all the collected data. Then, after the encoding phase, we made requests using the same software (NVIVO and QDA miner) in order to facilitate the analysis.

The process of analyzing this material is neither different nor remote from the classical type of thematic content analysis. We started with the issues that could allow us to answer our research questions relating to the central themes of the project: the agency and the role played by BGs; the quality of MCH services, sectoral and inter-sectoral collaboration and community dynamics.

Methodological triangulation

To achieve our objectives, we implemented a case study and ethnographic survey based on various data sampling and collection techniques. These additional techniques were utilized to obtain a general overview of the situation. The integration of various sources ensures the cumulativeness of information and data validity through triangulation.

Theoretical framework

Using a gender analysis framework, the study explores the role of GBs in social and community mobilization and more specifically in mobilization around maternal and reproductive health, including the latter's contribution to the social reproduction of the sexual division of labor. In specific terms, the study uses a number of gender analytical frameworks (theories) including - gender and the theory of change and social transformation constructed by Harvard Gender Analytical Model and Carolyne Moser's Practical and Strategic Gender Needs/Interests model[6]. Specifically, the research draws on the gender mainstreaming framework[7] to explore the extent to which the activities carried out by the BGs in the respective communities take into account gender norms and behaviors. Project activities were examined from a gender perspective, exploring how well and to what degree the various communities put credence on gender related concerns for health care and outcomes. Importantly, a central answer is how are the actions of the BG linked to social change and/or gender transformation.

Results

Bajenu Gox socio-demographic and economic characteristics

The socio-economic characteristics of selected respondents using these various qualitative techniques are presented in this section. The members of the BG associations in the surveyed areas is made up of a cosmopolitan group with diversified trajectories and operating at different levels and with different realities. Therefore, it is important to point out that in accordance with the qualitative approach and the structuring of the sample, the data is presented by zone and by BG generation.

Individual profile of Bajenu Gox

Ordinarily, the profile of BG membership remains rather complex and sometimes difficult to enumerate because membership and social engagements do not follow a particular social order. However, the various modes of data collection made it possible to present information on their socio-demographic characteristics such as age, marital status, level of education, gender parity, employment situation and intrinsic motivations (see Table 1).

With regard to age, the result shows an overall predominance of the 50-60 age group with a strength of 21, i.e., one third of the sample population (see Table 1). The next age groups are respectively 40-50 years old (16) and under 40 (14). There are 12 BGs over 60 years old, which is the minimum observed. Of course, depending on the area of intervention (urban, semi-urban/rural/), some differences are noted. It is nowadays difficult to set the upper or lower age limit for being a BG. In fact, we have noticed a progressive entry of more and more young women.

The marital status of BGs is an important variable in this study given the work expected of them. Overall, as shown in Table 1, a large proportion of the BGs are in a polygamous household, for example, out of the 63 BGs surveyed, 27 are in polygamous unions, while 23 are in monogamous marriages. While polygamy remains a predominant feature in urban, semi-urban/rural/ settings including Kaolack, Fatick and Louga; this is not the case in Dakar (urban area) where monogamous BG women are in the majority (9/17). Similarly, monogamy is also observed among the younger women (40-50 age group). There are 3 single women and 10 widows. No divorced women were found among the BGs interviewed.

Majority of the BGs (47.6% of 63) have secondary school education, with only 9 (14.2%) of

Table 1: Distribution of the Respondents by Socio-Demographic Characteristics

Variables	**Frequency**		**Total**
	Urban Area	**Semi-urban/Rural**	
>40 years	9	5	**63**
40-50 years	6	10	
50-60 years	12	9	
<60 years	9	3	
Marital Status	**Frequency**		**Total**
	Urban Area	**Semi-urban/Rural**	
Monogamous	14	9	**63**
Polygamous	12	15	
Single	3	0	
Widow	7	3	
Level of Education	**Frequency**		**Total**
	Urban Area	**Semi-urban/Rural**	
No formal Education	2	7	**63**
Literate	0	5	
Primary	7	10	
Secondary	25	5	
Higher Education	2	0	
Area of Intervention			
Urban Area	36		**63**
Semi-urban/Rural	27		

Source: PBG Study, 2019

Table 2: Perceptions of Nurse Supervisors

Interviews with health personnel reveal that BGs are involved in the functioning of the health system:	They go into the field to see health problems and report to the ICP or the midwife; They go to the houses to check whether pregnant women comply with their ANC or not; They make sure that sick women take their medication correctly; They go out looking for patients who no longer turn up for care; They are the intermediaries between the health post and the community.

Source: collect PBG, 2019

the BGs having no formal education. With regard to the intervention zone, there were more educated women with secondary education in the urban areas (Kaolack and Dakar), unlike in the semi-urban/rural areas (Fatick and Louga) where primary level recorded the highest. Notably, the younger females (those under 50 years), are the most educated.

At least 28 women (44.4%) reported having over 6 or more children. The BGs who have less than 3 children are 14 in number and they are the youngest who have just got married. Also, the average age of the last child reported by the respondents (the BGs) is 12.6 years. Depending on the area of intervention, the results are differentiated. The results vary with a maximum observed in Dakar (19 years) and a minimum in Fatick (6.6 years).

With regard to the economic situation, the results show that a significant proportion of women in BGs are economically of the average level. None of the BGs observed has a relatively high or rich standard of living (living and housing conditions). Data on economic activities show that many (68.3%) of the BGs (43 out of 63) are engaged in trading in the informal sector. There are 4 matrons, while 5 reported as nurses. At least 11 of the 63 BGs are engaged in multiple economic activities.

Problems related to gender dimension of health

In the areas surveyed, the mortality rate is still high among mothers and children aged 0 to 5 years. This is largely due to gender considerations and the violation of the rights of women/girls. According to our observations, inequalities between men or other "power holders" persist and are strongly linked to women's reproductive health. They are characterized by the precarious living conditions of most women and girls of reproductive age; their lack of empowerment and decision making; lack of use of contraceptive methods; lack of HIV/AIDS or cervical screening; lack of immunization

management and ante and post-natal visits. All this is due to the socio-historical, socio-cultural, socio-economic, geographical and political considerations that influence the modes of reception and acceptability of the various preventive and care methods offered.

Concerning the use of family planning services, most women of childbearing age encountered during the situational analysis have unmet need for family planning; the difference is of course greater in rural areas where traditional socio-cultural norms are still alive. This is because, in most health posts, the infrastructure and technical facilities are not fully appropriate and some providers are not so well qualified to facilitate prevention, reception and care for women and girls who wish to use contraception. We also observed unavailability of all the contraceptive ranges to enable women to make choices. This is why some women surveyed suggested to the health authorities to make available modern and diversified contraceptive products, and to provide the district and health posts with a functional operating with a gynecologist. They also suggested that awareness raising should be intensified in order to make the population, especially heads of households, more conscious of the benefits of family planning.

Many of the women and even husbands we met were afraid of the undesirable side effects of family planning. Others declined it for religious reasons due to rumors and for fear of divine punishment. Many women are also prohibited from using family planning (FP) because the husbands or families of the husband and sometimes the wives themselves wish to have several children. Some women claim that they had their husbands' permission when they last used modern contraception. Otherwise, they might go through real pressure and threats of dismissal or divorce; as these verbatim statements make clear:

> *We don't dare to do anything without our husbands' consent, especially in the area of family planning ...In our village, it is difficult to practice contraception because men do not adhere. Please come and sensitize the population, especially heads of households and religious leaders on the benefits of modern contraceptive methods in order to get them to adhere to modern contraception (Female FAR Ndande).*

So, for the most part the decision-making power is held by the husband in the family. No less important is the rivalry between co-wives. Because of inheritance problems, some women are obliged to have unwanted pregnancies.

Women and girls in the communities who participated in the study, are confronted with multidimensional violence (sexual, physical, cultural, symbolic and psychological). Many young unmarried girls/adolescents are sexually active but do not dare to take contraception. Some are confronted with hurtful and harmful traditional practices such as rape, incest, early marriage and early motherhood, which have a huge negative impact on their health along with increasing their economic, social, psychological and cultural vulnerability. Indeed, even if we did not notice infanticide during our stay, these forms of violence very often amounted to infanticide. In some surveyed areas, early marriages and in early pregnancies are still imposed as well as female genital mutilation. In addition, we have observed other forms of violence such as family and community conflicts exacerbated by issues of disobedience, punishment, jealousy, rivalry and violence against women, exclusion of the most vulnerable such as people with disabilities, etc. Such violence was most evident in the private or domestic reproductive sphere and illustrates the relationship between reproductive health and the rights of women and girls and the effects of their subordinate position in society.

These major social and community health problems have always fostered critical awareness among women as community leaders but even more so as chosen BGs. Awareness of the problems affecting the community, especially in terms of health, is the reason for the involvement of BGs in all the sites. It is a matter of social responsibility for BGs to participate in solving the health problems of and in their community. In a nutshell, this explains their strong dedication and willingness to take part of the improvement of the mother and child health. The project's intervention was cited as a determining factor in the BGs' willingness to act in the four sites, which has a positive impact on individual awareness of the community's health problems.

Yes, I have a social responsibility in solving the health problems of the population because sometimes when some women want to come to the health post and they don't have the means, I can help them, if I have the means, I give them, if not I take them to the health post so that they can be taken care of and then we look for the means to pay. So, I have social responsibilities, even when a couple or neighbors have problems, we are called upon to settle the conflict. We even go beyond our work, we are at the heart of their family and their intimate life, (EBG1-Diaoue).

The intervention of the project has an impact on our willingness to act for the community because the project has motivated me a lot to go out to my community more and to be the EBG2-Abattoir intermediary between the project and the health post. The project has increased my knowledge and my relationship with my community, ...We would like to bring the community, the health staff and everyone together to explain to them all the project does for us before we say goodbye, (EBG2-Abattoir),

Assessment of BGs interventions and observable changes

The approach used is based on the exploitation of traditional values of community self-help, including "sponsorship" by BGs. The results revealed that the BGs are mobilized through the orientation of women, husbands and other key people in the community around immunization, ante - and post-natal visits, screening, family planning, hygiene, prevention of childhood illnesses, harmful traditional practices, etc. According to our observations, BGs intervene at three levels, targeting three (3) categories of social actors, i.e., beneficiaries, custodians of habits and customs or decisions, and custodians of moral obligations or decisions.

Taking each social category into account, BG identified and used specific intervention strategies in an intelligent and dynamic manner to influence behavior based on gender norms. With regard to the beneficiaries, BGs used both an accommodating and an empowering and confidence building approach to enable women to use health services.

As regards to the custodians of moral obligations or decisions, BGs encourage men and women to change gender norms regarding communication and decision-making within the couple by including them in all awareness-raising activities, as well as family members, the custodians of cultural values. As unavoidable partners, they should be all committed in the empowerment and the promotion of the change of norms. This approach, both encouraging and accommodating has enabled some men and mothers-in-law to let women and girls take contraceptive methods, say no to harmful practices, etc. Finally for the main custodians of habits and customs, i.e., the decision-makers, the approach is rather transformational because they have contributed in some way to the "social promotion of BGs by agreeing to cooperate with them. In this way, it overcomes systemic barriers, especially in terms of human resources, and the emphasis of a respectful and suitable quality of care.

The BGs have improved the main health outcomes, in particular: antenatal care, postnatal care for mothers and their children. According to qualitative indicators, many women and girls are now being referred to the appropriate structures for ante- and post-natal visits, family planning, etc.

From the professional point of view, the first observable change in the practice of BGs is in the area of family support, cooperation at the community level and the empowerment of the BGs by the health personnel in the eyes of the community and families

Support from families

Overall, BGs families interviewed for this study have a good assessment of the importance and quality of the services offered by BGs to the community. The importance of the "Bajenu Gox's" missions of assistance, support, mediation, etc. within the community was noted by the majority of the participants. According to them, these women contribute significantly to the family well-being. This is confirmed in the following statement:

She takes care of her family. She is also interested in all matters of hygiene. She does everything she can to help people with their health issues. She is always at the service of people and listens to their concerns. No one can give everything to their neighbors, but

responding to their concerns with the means at your disposal is something to be welcomed. Concerning malaria too, she works with the population to make them aware of the hygiene to adopt to prevent the disease. Every time she sees someone who is suffering, she brings them directly to the hospital, even yesterday my child's body was hot, she saw him and brought him immediately to the hospital. She bought the prescriptions and asked me to give him the medicine. And what she does is not only for her family, she does it for everyone… (Bajenu Gox family, Dakar).

I appreciate her work very much. I'm her husband and sometimes in the middle of the night they call her for a case and if she goes there, she can solve the problem. You know here the parents have a certain mentality; for example, if the girl is pregnant out of wedlock it can cause a lot of problems in the family and she always plays a mediating role to find a solution to this problem. I see that she likes her job, because she monitors the women on their immunization schedule. There are also women who come to her on their appointment dates because they can't read. I see that they do important work. (A BG's husband, Ndande)

Although BGs appreciate their work, their family members also recognize the importance of their mission to the people. However, a certain number of difficulties were also noted, including difficulties related to the time devoted to their work (a difficulty that came up more often in several discussions). In fact, the interviewees stressed that the BGs, even as mothers, spend most of their time helping and assisting community members, sometimes to the detriment of their own families.

Ah she doesn't rest; she's always listening to people. She can go a whole day without eating at home, she is always at the service of the people. Frankly, whether it is day or night, every time someone asks her for help, she leaves everything behind to solve these problems. (BG Family Dakar)

Sometimes, there are misunderstandings between BGs and community members. Two BG families stated:

The day before yesterday she was having arguments with a woman who disrespected her in her work. They work together but you if a young girl works with a woman who is of her mother's age the best thing is to understand her and have some respect for her but not to shout. That's the only concern I see in her work, the fact that she's working with a young woman who doesn't respect her. But she likes her work. (BG Family Kaolack)

Yes, there is no shortage of them, there is a case I attended to myself, the woman was due to give birth and when she brought her to the hospital, the midwife asked her to take her home until the next day and the woman's sister started causing trouble, saying that she, as her sister was the one who should bring her to the hospital and not the Bajene (Bajenu Gox) when she didn't know that the Bajene (Bajenu Gox) was closer to the woman throughout her pregnancy. Sometimes she hears unpleasant words when she is just doing her job and she just wants to help her community (BG Family Ndande).

In addition, thanks to the income-generating activities (IGAs) that they develop, some BGs manage to be financially autonomous. This financial autonomy allows them to help their families and community and thus improve their self-esteem and respect. In fact, being perceived as a form of payment for their services to the community, the IGAs have first of all improved the BGs' relations with certain members of their families and are making up for their absence. A BG respondent acknowledged:

In this sense, family members became more tolerant of the BGs' movements and some BGs admit that they have sometimes had their co-wives supervise or carry out on their behalf household activities such as cooking in response to an emergency involving escorting women in an advanced state of pregnancy to a health facility (BG Dakar…)

At the community level: acceptance and cooperation

The results of the research show that almost all the services offered by the BGs are known to both the

women of reproductive age (FAR) and the men in the community. In the opinion of the latter, the BG was identified as the one who provides guidance and advice to FARs on maternal and child health (MCH) and to young ladies on health issues, the one who is considered the paternal aunt (influential person in the family), who is often called upon to solve family problems and is active in the development of their community.

> *...Yes, I see them with the young people. They raise their awareness; I saw it one day and it is an act that has made me much more aware. I saw them with young people and they were sensitizing them on issues related to the age of puberty, young people who didn't know much. They were asking them to follow the right path, to keep their dignity, to follow the path set out by their parents; "BGs" really made a big impression on me (FAR, Dakar)*

> *The BG is an adult who is in the neighborhood where anyone who has a health concern goes to her; she guides you or when you are pregnant, she gives you advice, she tells you what you should and shouldn't do (FAR Ndande),*

> *The BG's work is to take care of the children and the women in the neighborhood by looking after their health; she also helps poor families. She takes care of children and women of child-bearing age. She contributes to the smooth running of the neighborhood (FAR Kaolack).*

It should be noted that the BGs have a certain notoriety in the community and are often considered as "mothers" by the FARs, which means that they are listened to and trusted. As for the BGs, the populations are more attentive to their awareness messages and more open to their visits. However, the BGs mentioned that these changes were more observable among women even though men or heads of households are beginning to pay more attention to their awareness messages on topics such as maternal and child health, malnutrition, prenatal consultation (PNC) and postnatal consultation. The work of the BGs is of crucial importance for family well-being according to most of the people interviewed for this study. They mainly appreciate the quality of the BGs' services. They declare having confidence in them and confirm the BGs' availability and their ability to always be ready to serve their community in case of need. A few interviewees explain this in the following terms:

> *Yes, they are available because they respond to everyone who approaches them, they guide them to satisfaction (FAR Ndande).*
> *Most of the time, when you call them before you come, they will come to you. They are present, when you have worries, they are the ones who redirect you, to say the truth, "zero mistake" for them (Far Dakar).*
> *"...Ah of course because the "bajene" (Bajenu Gox) know how to keep the secrets of the patients and you have to have this quality to be a "bajene" (Far ndande)*
> *...Yes, we trust "AA[1]" really because she is reserved, everything you tell her, you're never going to hear it from another person. We really trust her along these lines, she is a trustworthy woman who never discloses people's secrets (Far Diaoule).*
> *They work as volunteers to meet the needs of the population; in addition, they are involved (Man in Ndande)*
> *... in everything that happens in their local communities. They face difficulties in this context and they work night and day. Their work is hard but it is noble work (Man in Dakar).*

In short, we could be concerned about someone who has no medical training, who is involved in the health care system. Faced with this challenge of a quest for social legitimacy in a field that is not necessarily within everyone's reach, BGs rely on the missions assigned to them to build a professional identity in this new socio-sanitary space. As a result, the *Bajenu Gox* have benefited from a clear definition of their role in the field of maternal and child health. Social recognition is important in the field of community health and is one of the key factors in the success of the positive or important work carried out by community actors, particularly BGs.

At the level of the health workforce: value

BGs are well appreciated by the health staff (midwives and Nurse Supervisors), who consider them as key actors participating in the promotional activities of health sector. According to them, BGs carry out many activities within the community that facilitate the work of health staff, but also promote increased attendance and use of health facilities by community members.

> *...since the advent of BGs, there is one indicator..., it's true that it's always low but they have played a very important role; it's ante-natal care, prenatal consultation (1). Previously women didn't come at all or always started with prenatal consultation (2), but since the advent of BGs, although we haven't yet reached the desired level, it's getting better (Nurse Supervisors, Ndande).*

According to the health staff, their relationship with BGs have suddenly become more professional and hierarchical in a positive sense and BGs were more inclined to perform their tasks as health actors from supporting/escorting pregnant women, to monitoring and VAD. As a result, there is more attendance of health posts even by people from remote villages. This change reflects a development in the BGs' persuasive capacities.

> *Heu hun. Now I feel their support especially on the prenatal consultation. There's a lot of people coming to the post for the prenatal consultation. There is support from some BGs; they escort patients to the prenatal consultation (Nurse Supervisors Kaolack)*

BGs are often supported by the midwife or Nurse Supervisors in the implementation and supervision of their activities.

> *...they are scheduled for the home visit and talks they need to do during the month.....so that they can take turns supervising them (Midwife Diaoulé).*

> *Even if the work of the BGs on the whole is well appreciated by the health staff as being of great value to the health structures, some BGs are judged to be inactive in the field according to this midwife: "I appreciate them a lot, but not everyone. There are some BGs that I don't even see, but there are a few that are very dynamic" (Midwife Kaolack).*

Finally, the relations with the health post staff have changed from the point of view of the BGs, but have above all brought rigor to the activities of the latter.

> *This is undoubtedly the opinion of one BG for whom "the Nurse Supervisors speech is currently more administrative and the relationships more hierarchical..., it shows us somewhere that we are part of the health post team (BG Kaolack…).*

Analysis of the perception of BGs shows that they are perceived, in the community in which they intervene, as women leaders who are vital in improving maternal and child health. They are women who, sometimes, despite the difficult working conditions, find ways to carry out the tasks assigned to them. Significant changes in certain gender norms are noted with empowerment of some FAR women and girls, knowledge of rights and awareness of the negative impact of early and forced marriage of adolescent girls. BGs address gender inequalities and related barriers at the household, community and institutional levels by adopting the rights-based transformative approach to gender inequalities.

Other notable changes are due to increased utilization rate of maternal and child health services at the project site; enhanced women's knowledge of danger signs during pregnancy; expanded immunization and nutritional coverage of children; better understanding among men and the community of their women's antenatal care and acceptance of family planning; improved use of FP by women, substantial decrease in upsetting practices towards teenagers: harmful pregnancy, genital mutilation etc.; decline in obstetric complications and maternal and neonatal mortality etc.

Discussion

The Bajenu Gox as a social mobilization and transformative agent

The roles of BG in social mobilization and transformative change are discussed in this section noting the critical drivers of such change. Some of

these factors are enlisted as gender specific transformative factors with systemic impact on MCH service provisions; and the role of BGs as agents of policy and political change.

i. BGs Mobilising for MCH improvement

According to Jocelyne Lavoie and Jean Panet-Raymond[8], "mobilization aims to encourage people affected by a social problem or sharing the same needs to commit around an action to solve this problem or satisfy these needs" (1998 :211 248). The PBG's main objective is to boost MCH indicators at the community level. To achieve their objectives, BGs do not only mobilize women and children but they work with all the community and family members.

Health promoters like BGs are key in African societies where populations do not spontaneously attend health facilities or at least, not before the onset of serious symptoms and sometimes opt for traditional and magico-religious techniques. Consequently, visiting families to encourage and facilitate the understanding and the use of health services by women/girls of reproductive age and their children can only be beneficial. Moreover, health's progress is also slowed down by gender inequality, as women are not taking decisions, even when it concerned their own health or their children's health. BGs interventions cannot only focus on direct beneficiaries (women and children) if they want to ensure changes. They therefore intervene at three levels, which correspond to three categories of actors: direct beneficiaries, guardians of moral or religious obligations, and health staff.

- Direct beneficiaries

The beneficiaries are women in age of reproduction. Most often they ensure the reproductive role in the household; they cook, clean, educate children… Sometimes, they also have a community role when they are involved in women's associations, organize ceremonies etc. Women do not have control over decisions relating to their health and those of their children. Such decisions are generally taken by their husbands, fathers, or other males in their lives.

- Guardians of moral or religious obligations

The guardians of moral or religious obligations are often the one taking the decisions. In this category, we find husbands, stepfathers, stepmothers, religious leaders, village chiefs… In the household, stepmothers play the role of tradition keepers and have a big influence, in particular, in the area of MCH. They influence the husbands and, if the husbands are absent, they are the ones taking the decisions for their stepdaughters and granddaughters. This category is then the more difficult but at the same time the more important actors to collaborate with.

- Health staff

Once the guardians of moral or religious obligations are convinced, the BGs have to lead women in the community to the health staff, based in the health center. BGs are involved in community health activities, however, the border between their activities and those of the health staff is very thin. Most of the time, beneficiaries met BGs first who discuss with them and direct them to the health post in order to meet with the health post staff. Their work is therefore complementary and their collaboration is beneficial. Some chief nurses are aware of the value or worth of this collaboration and motivate BGs by showing their recognition and involving them in their activities. This collaboration helps make BGs' work more credible in the eye of the community, reinforces their partnership with the health staff but also BGs' capacities and counterbalance the lack of remuneration.

However, we have observed some negative aspects in the collaboration. First of all, the lack of supervision of the BGs by health staff. It often happens during large mission in the field like screening campaign. It is due to the lack of availability of the health staff who is less inclined to move out of the health centers. Another problem has been noticed, which is the gap between the health staff's professional training and BGs'. Almost all BGs we encountered require adequate training. BGs are aware of the fact that training or exchanges with health staff will help them have a better understanding of some medical requirements, be able to answer to more questions from the communities and then be more independent. If BGs have a better understanding of what they do and why they do it, they could determine the stakes of their actions and develop more specific strategies and prioritize their missions. Nevertheless, it has been observed that,

since the departure of project leaders, exchanges between health staff and BGs have decreased.

ii. *Adopt the right strategies to ensure MCH improvement*

BGs adopt different strategies to convince and persuade the beneficiaries and guardians of moral obligations. BGs carry out home visits and organize talks in order to implement these strategies. Three strategies were observed in the four study sites and are represented in the figure bellow.

When BGs intervene for improved MCH health services, they change the community's perception of how to deal with the issue. The beneficiaries are often poor, vulnerable to disease and tend to have behaviors that adversely affect their health. To a certain extent, without adequate training on how to use gender equality frameworks, BGs have addressed issues related to human rights, gender and social justice through their activities in households and health centers. It is important to be aware of the scope of BGs' fields of action to appreciate the efforts made and the impacts of their daily interventions, some of which are itemized in Figure 2.

The report on the use of health services in the community covers the period from March to December 2019. It confirms that almost all community members are mobilized as there is a change of behavior among men and women. We note a better knowledge of prenatal care within the home, an increase in adherence to family planning and a consequent reduction in harmful practices towards adolescent girls (early pregnancy, genital mutilation, etc.). We also observed that men have acknowledged the contributions of BGs to the improvement of MCH services and uptakes, as well as the enhancement of family relationships and community affairs. Husband and father respondents assert:

> *"Yes, in terms of the work of the BGs, I think they are useful in this neighborhood because they are not even limited to the health post. You see them in all the other activities of this locality. They call and mobilize people and encourage them to respond if something happens in this district ". Parcelles Assainies, Dakar*

The social mobilization strategies used by the BGs can be assessed from the point of view of Pederson, Greaves and Poole's work (2014)[9], which shows that BGs' MCH promotion strategy is clearly gender-transformative. BGs addressed and informed girls and women on their specific needs which corresponds to the stage labelled as "Accommodate", in figure 3. It seems that BGs have however started to integrate some aspects of gender transformative approach as they work with both men and women of all ages to raise awareness on gender-based health inequalities and change their perception and behavior towards women. In addition, some of the changes noted among men and the elderly group, like the decline of female genital mutilations, early marriages and pregnancies are very optimistic.

We can then affirm that BGs are change agents within communities. Some bodies of literature conceptualize CHWs as social change agents, functioning as social and cultural intermediaries at the interface between the health system and the community. "As change agents, they are arguably strategically placed to facilitate community participation, stimulate critical thinking and act as a catalyst to social action to address the social and cultural determinants poor health status." (Theobald *et al*., 2015)[10]

Although the BGs successfully created access to health facilities for women of reproductive age, and equally impacted positively on gender power relations amongst couples and family members, women do not still have control over their bodies and their children's. Women's decision-making power is yet limited in comparison to that of men and other community gate-keepers.

In their "Guide to gender analysis frameworks", March, Smyth and Mukhopdya, (1999)[11] defined "access" as the opportunity to make use of a resource, and "control" as the power to decide how a resource is used, and who has access to it. Women do not take decisions and when it seems like they do, most of the time: (1) their

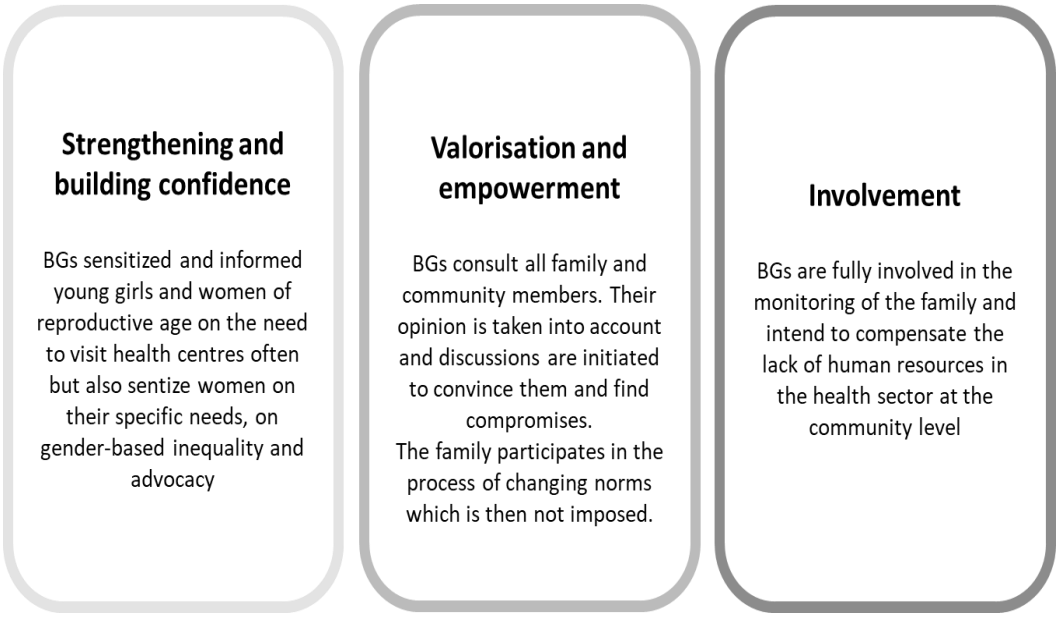

Figure 1: Social mobilization strategies observed among the women surveyed

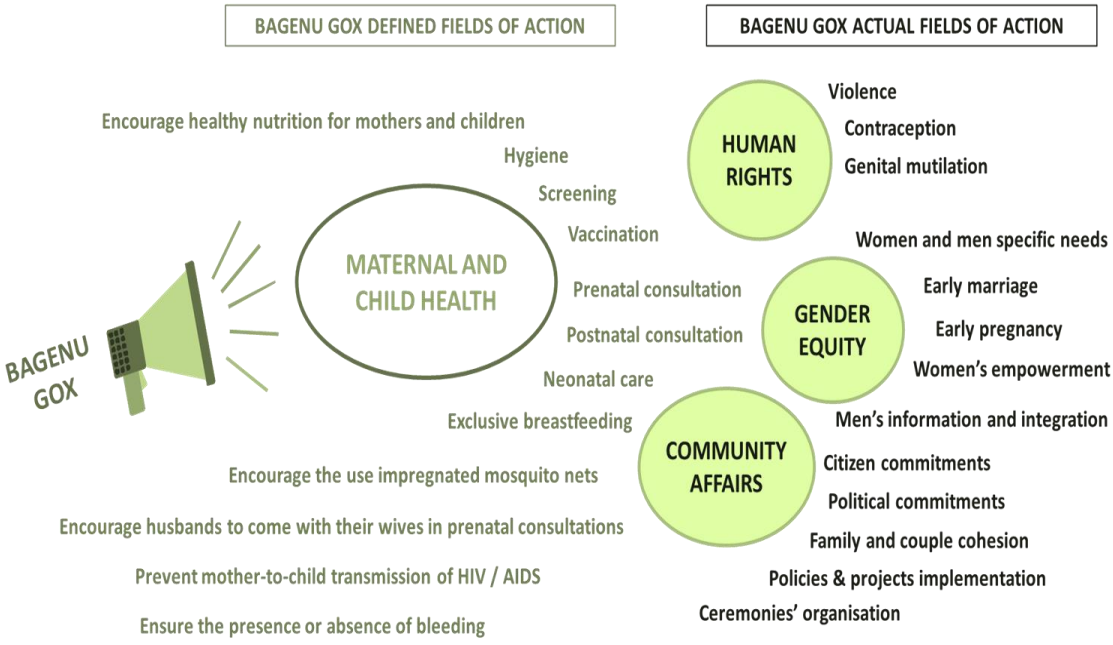

Figure 2: The actual scope of the fields of action of the Bajenu Gox. Inspired by the article 4 of the Ministerial Order on PBG creation

choices are highly influenced by the husbands and moral keepers inside and outside of the households, (2) their initiatives have been validated/authorized by the husbands or moral keepers. At this level, social change is appreciable but does not automatically lead to a change in gender power relations, since control over decisions or sexual division of labor have not been addressed.

Figure 4 presents UNICEF's socio-ecological model representing different scale of actions to transform gender norms. Using this model to explain BGs' activities, evidences from BG activities show impacts at individual, interpersonal, and at the community levels. BGs are already linked with service systems like health centers, hospitals and even schools (with their

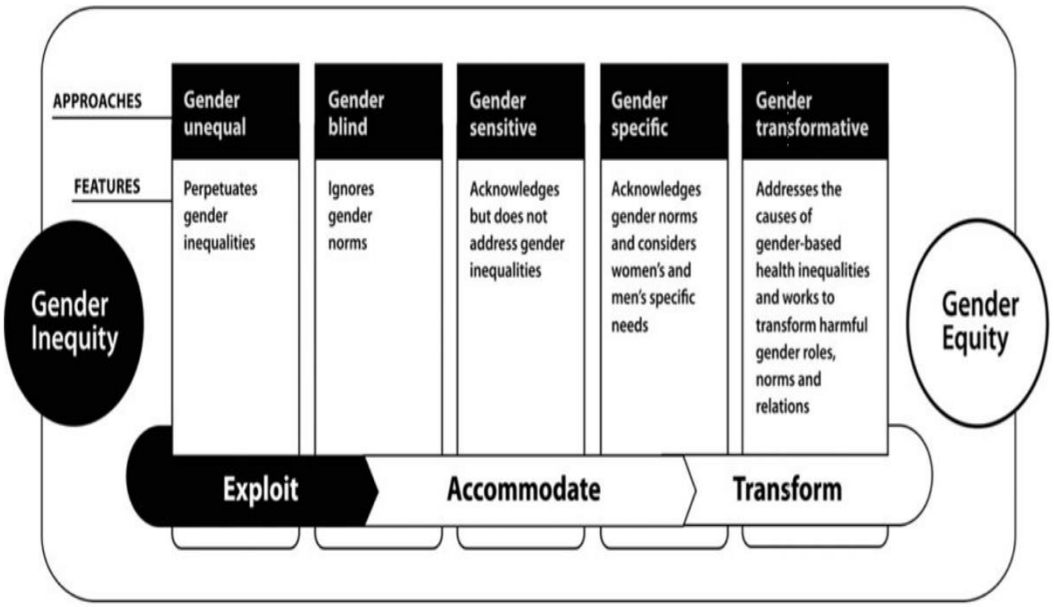

Figure 3 : Gender continuum modelization of Pederson, Greaves and Poole in "Gender-transformative health promotion for women", 2014

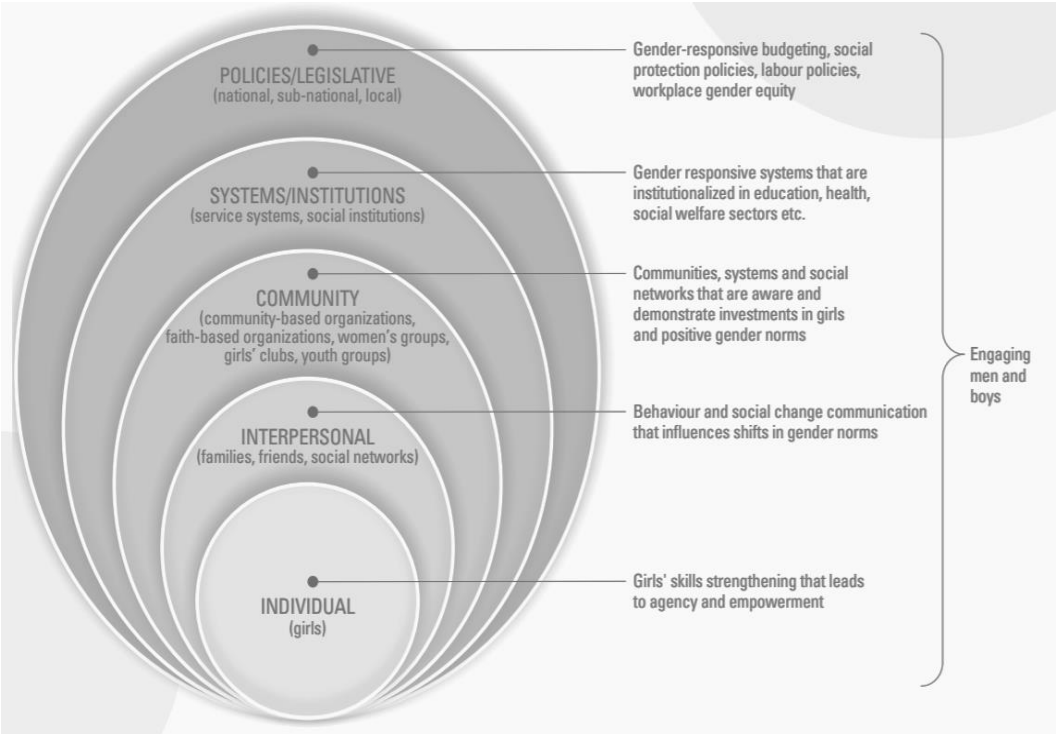

Figure 4: The Unicef socio-ecological model and opportunities for gender-transformative programming inspired by Edström & Shahrokh/Reframing[12] Men and Boys in Policy for Gender Equality (2016)

duties extending to the school system). Although BGs have no authority to change school curricula, they work with local communities to improve school management and the social environment of learning. And while BGs are yet to take on gender issues at the national level and/or advocate for

broader policy issues such as gender budgeting and gender responsive planning among others, they are significantly laying a solid foundation for grassroots mobilization for women empowerment, which are often absent in many of the national discourses on gender equality and social inclusion frameworks. National Government would need to collaborate with groups like BGs to make national and sectoral policies on women effective at the grassroots level. National policies addressing MCH concerns can only be made successful at the community level through government collaborations with groups like the BGs.

Conclusion

Notably, BGs made significant contributions in the area of women empowerment and access to MCH services in their various communities. They thereby earned respect, credibility, leadership, and significance as change agents for transformative development. Empowering and motivating BGs is crucial in Senegal where universal health coverage, maternal and children mortality as well as gender equality are huge challenges. Women and children's access to healthcare and women's control over their choices on this issue are at stake. Besides, BGs' activities, and thus their performance, are limited by many factors, among which the loss of motivation, the absence of training on aspects related to their interventions (health, gender, human right among others), the lack of structure of their profession, the need for support from health personnel working in the communities, the nonexistence of collaboration between BGs and the qualified health workers, and resistant inhibiting social and gender norms. The involvement of BGs in our project, the formalization of BG associations, the funding of IGAs are the main initiatives taken in the framework of our project. We noticed that health centers were more visited by women (especially those in the reproductive age), while men and the youth are generally the least seen by health staff. We observed a correlation between the performance of the BGs and the following indicators: i) financial (funding of IGAs), ii) the organizational (formalization of BGs associations), and iii) the political support received by the BGs (for example, the direct support provided by the IDRC project to boost the BGs' MDGs/SDGs related goals served as a great motivator). The BGs as change agents, succeeded somewhat in correcting social and gender norms that are detrimental to women and girls, thereby bringing about behavioral changes among men and gate-keepers (for example, community leaders, religious leaders and the elderly) on such sensitive subjects like contraception, early marriages/pregnancies or genital mutilation. However, the changes engendered by the activities of BGs in the various communities would need to be sustained by continuous policy action, and through ongoing grassroots mobilization by similar groups like the BGs. As well, complementary researches and monitoring actions/activities will have to be done. Notably, as BGs have engendered a process of transformative change, it becomes very important that they are provided with necessary financial and administrative/political support for sustained positive impact at the grassroots, and beyond.

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Competing interest

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article

Contribution of authors

All the authors have participated in the writing and the reading of this manuscript, and all have agreed to its final version. These researchers (Saidou Konté, Fatou Diouf, Mouhanadou Bamba Faye, Mamadou Sakho) under the supervision of (Rosalie Aduayi Diop, Oumar Mallé Samb, Samba Cor Sarr, Omar Sarr, Cheikh Tidiane Athie), designed the study, developed data collection tools, collected and analyzed the data and presented findings to the health and community leaders.

References

1. Gilmore B and McAuliffe E. Effectiveness of community health workers delivering preventive interventions for maternal and child health in low- and middle-income countries: a systematic review. BMC Public Heath. 2013; 13, 847.
2. République du Sénégal, Programme Bajenu Gox : Une porte d'entrée pour soutenir une approche communautaire intégrée visant la santé de la mère et de l'enfant : /analyse situationnelle de la capacité d'agir de la Bajenu Gox dans sa zone d'intervention, Mars 2015.
3. République du Sénégal, Plan de Développement Sanitaire (PNDS), 2009-2018 Direction de la Santé ; Division de la Santé la Reproduction 2010.
4. République du Sénégal, Agence Nationale de la Statistique et de la Démographie (ANSD) Enquête Démographique et de Santé Continue (EDS-Continue) Dakar, Sénégal, 2005.
5. République du Sénégal, Agence Nationale de la Statistique et de la Démographie (ANSD) Enquête Démographique et de Sante Continue (EDS-Continue) Dakar, Senegal, 2015.
6. Moser C. Gender Planning and Development Theory, Practice and Training, Routledge, London and New York. 1993.
7. Moser C. "Gender planning in the third world: Meeting practical and strategic gender needs". World Development. 1989.
8. Lavoie J and Panet-Raymond J, La pratique de l'action communautaire, Ebook (e Pub), Presse de l'Université du Québec 2014.
9. Pederson A., Greaves L and Poole N. "Gender-transformative health promotion for women: a framework for action", Health Promotion International, Vol. 30 N°1, 2014.
10. Theobald S, MacPherson E, McCollum R and Tolhurst R. Proche des prestataires de santé communautaires après 2015: réaliser leur rôle dans des systèmes de santé réactifs et s'attaquer aux déterminants sociaux de la santé sexospécifiques, 8 décembre 2015; 9 (Suppl. 10): S8.doi: 10.1186 / 1753-6561-9-S10-S8. eCollection 2015.
11. March S and Mukhopdya A. Guide to gender analysis frameworks. Oxfam Publication. 1999.
12. Edström and Shahrokh. Reframing Men and Boys in Policy for Gender Equality: Conceptual Guidance and an Agenda for Change. - EMERGE Framing Paper, Promundo-US, Sonke Gender Justice and the Institute of Development Studies, Brighton: IDS. 2016.