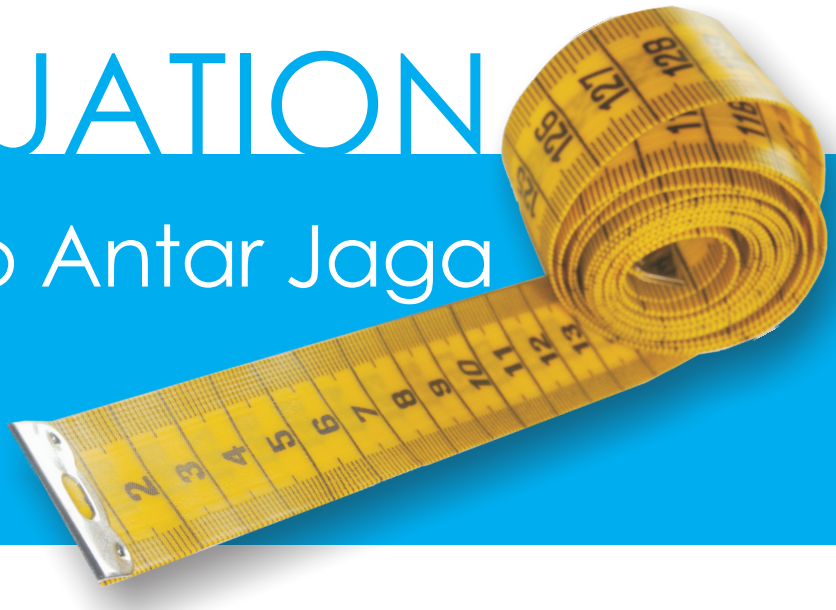
DEVELOPING THE DESA SIAGA PROGRAM

EVALUATION

of the

Desa Siap Antar Jaga

(DSAJ) program in villages supported by GTZ SISKES



IN NTB PROVINCE

Anwar Fachry, PhD (candidate)
Research Centre for Population and Development, University of Mataram

Rahmi Sofiarini, PhD
Senior Adviser, MPS & Desa Siaga, GTZ SISKES, Mataram

Co-researchers:
dr. Nyoman Wijaya Kusuma
Ketut Sudiarti, SKM

Contributors:
Dr. Gertrud Schmidt-Ehry, MPH
Dr. James Sonnemann, MPH
Dr. Lieve Goeman, MPH
Janette O'Neill
Karsten van der Oord

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DFID Department for International Development

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As the centrepiece of its community empowerment strategy to bring communities to play the most effective role possible in reducing Indonesia's rates of maternal and infant mortality and reaching the country's long term and Millennium Development Goals, the SISKES Project, with funding from BMZ and DFID and managed by GTZ, agreed to assist in the development and expansion of the village level Desa Siaga Program whose underlying concept is a community that adopts healthful behaviours, recognized high risk conditions, and takes prompt action within the village to respond effective and save lives. In Nusa Tenggara Barat Province (NTB), SISKES committed during its 2006-2009 project period to extend to five of the province's nine districts or municipalities the Desa Siaga model already introduced in the province's other four districts by AusAID's Indonesian Women's Health and Family Welfare Project (IWHFWP).

To assess the achievements of SISKES support by 2009, the Research Centre for Population and Development of the University of Mataram was contracted to carry out an evaluation during April-June 2009. In addition to the Project's defined indicators, the results were assessed from the perspectives of the OECD's Development Assistance Committee (DAC) criteria and the principles of the Paris Declaration. This document presents the overall findings from that part of the evaluation.

The costs of introduction and operation of Desa Siaga were assessed as well and summarized in a separate document[1].

Progress toward implementation of the Ministry of Health's broader vision for Desa Siaga was reviewed as well in those communities where that program support had also been introduced during the same period of time.

That broader program was not ready for evaluation in NTB Province yet, and the review findings will be published separately.

For more details of methodology and additional findings, the reader is referred to the principal investigator.

I. Desa Siaga – an evolving village level resource for health

Desa means village, and the term Siaga was formed from the three words Siap Antar Jaga to describe the village as watchful (jaga) and ready (siap) to bring (antar) or contribute. Desa Siap Antar Jaga (DSAJ) was developed originally from the GSI (Friendly Mother Movement) and used by a maternal and neonatal health project in West Java. The GSI itself was a government effort to engage the community itself to help to reduce maternal mortality by focusing on mothers during pregnancy and delivery by:
a) increasing villager awareness of the danger signs of pregnancy and delivery;
b) motivation of pregnant women to go to Posyandu[2] for antenatal care (ANC);
c) formation of community groups to organize and ensure the availability of transportation, voluntary blood donation, and finances if needed by a village woman during pregnancy and delivery.

[1] Cost Analysis DSAJ in NTB and NTT, based on the support of GTZ SISKES during 2006-2009. July 2009, Rahmi Sofiarini and Lieve Goeman
[2] POSYANDU: "integrated services post" at hamlet/sub-village level
[3] POSKESDES: "village health post" providing basic health care, including delivery. GOI-maintained, it is gradually replacing the community-maintained POLINDES facilities.

The concept and term Desa Siaga was taken up nationally and expanded in Minister of Health Decree 564/Menkes/SK/VIII/2006 which defined it as a much broadened concept covering many aspects related to health at community level: maternal and neonatal services to prevent deaths, improved nutrition, healthy lifestyle behaviour, improved sanitation, simple epidemiology and surveillance, and support for a Poskesdes[3] village health centre, staffed by a village midwife and providing primary health care services to the community. It employs a continuous community empowerment cycle in which the role of government is to facilitate the process by which the community organizing itself to use its own resources and capacities in a spirit of mutual support and togetherness to prevent and overcome its own health problems, medical emergencies, and disasters. The national concept of Desa Siaga is now a very broad concept.

The Indonesian Women's Health and Family Welfare Project (IWHFWP), an AusAID-funded project that introduced DSAJ during 2002-2006 in 20 villages of four of NTB Province's nine districts, used the original concept that focused more sharply on maternal, neonatal and child health (MNCH) and added family planning. A nationally-promoted broader program was introduced during 2006-2008, and by 2009 it had reached 888 of the 911 villages of the province, beginning with the placement and preparation of health personnel to facilitate the work of villagers at community level. Designed to begin simultaneously to install the needed infrastructure in all villages first, the MNCH program elements of the national Desa Siaga are not yet as fully developed as those of the villages assisted by IWHFWP and SISKES.

II. GTZ SISKES support for Desa Siap Antar Jaga in NTB Province

When GTZ SISKES elected to support extension of Desa Siaga as its major community empowerment focus during 2006-2009, it agreed to employ the approach already tested by IWHFWP in the other five districts of the Province. It aimed to increase community alertness and readiness to recognize dangers and take non-clinical action quickly to respond to maternal and neonatal emergencies through the establishment of alert systems covering notification, availability of emergency transportation/communication, a "walking blood bank" of villagers of known blood type ready to donate when needed, community funding, and a family planning information post. By 2009, SISKES assistance for these priority elements had been extended to 90 villages in the five districts.

SISKES support for DSAJ in NTB Province was designed to respond to several observations:

- the high proportion of maternal deaths that occur within two hours during and after the process of delivery,
- the recognition that most maternal deaths are related to one of three delays; - delay in making the decision to refer the pregnant women to a facility with the resources to respond, delay in finding transport to get her there, or delay in obtaining appropriate medical care upon arrival,
- the high proportion of maternal deaths that result from excessive bleeding,
- the fact that pregnancy and childbirth are part of the life of every woman in the community,
- the fact that pregnancy and childbirth are not the concern of women only, but of the family and community as well,

[3] POSKESDES: "village health post" providing basic health care, including delivery. GOI-maintained, it is gradually replacing the community-maintained POLINDES facilities.

- the persistence of myths and taboos related to pregnancy and delivery that can pose dangers if not clarified, and
- the knowledge that about 85% of maternal deaths are avoidable.

The community is frequently unaware it can play a role in saving the lives of pregnant women and thereby reducing the maternal death rate.

The DSAJ approach believes that everyone -- husband, neighbours, community/ influential leaders, midwives, and health facility personnel -- can assume specific roles and coordinate to promote birth preparedness and readiness in case of complications that save lives through:

- raising community awareness that pregnancy is their shared responsibility,
- understanding that every pregnancy and delivery poses unique risks to every woman,
- recognizing the value of assisting one another with non-clinical support, and
- involving in the process all stakeholders in the community.

SISKES support has empowered communities through the establishment of five alert systems (Figure 1) and promotion of three types of healthful behaviour:

1. Notification network: Recording all pregnant women in the sub-village/neighbourhood

2. Community fund network: Preparing financially for childbirth and facing health emergencies

3. Blood donation network: Preparing a blood donor supply when needed

4. Transport network: Preparing means of transportation/communication to reach better health facilities

5. Family Planning Information Post: Encouraging family planning following childbirth

a. Family accompanying the pregnant woman during antenatal care and delivery
b. Encouraging mothers in exclusive and early breast-feeding as part of neonatal care
c. Promoting prompt participating in family planning.

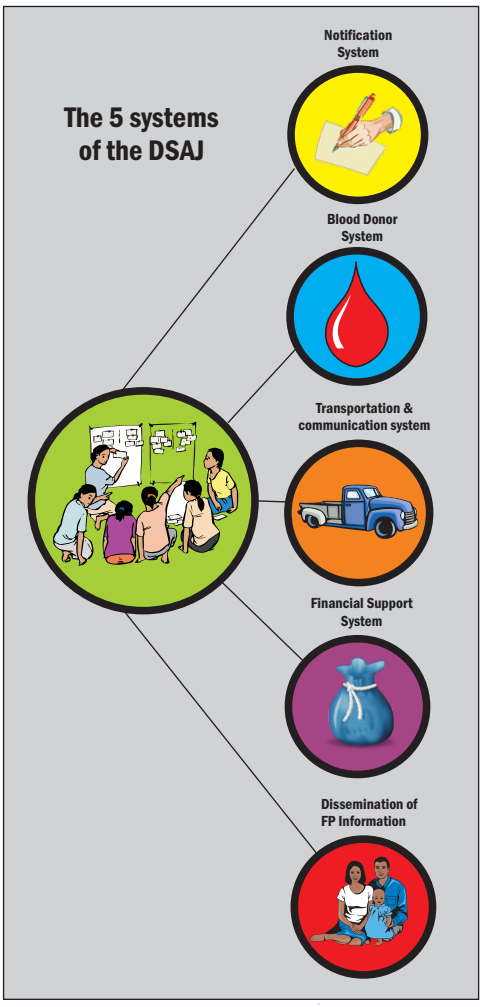


Figure 2. Scheme of the SISKES Implementation process

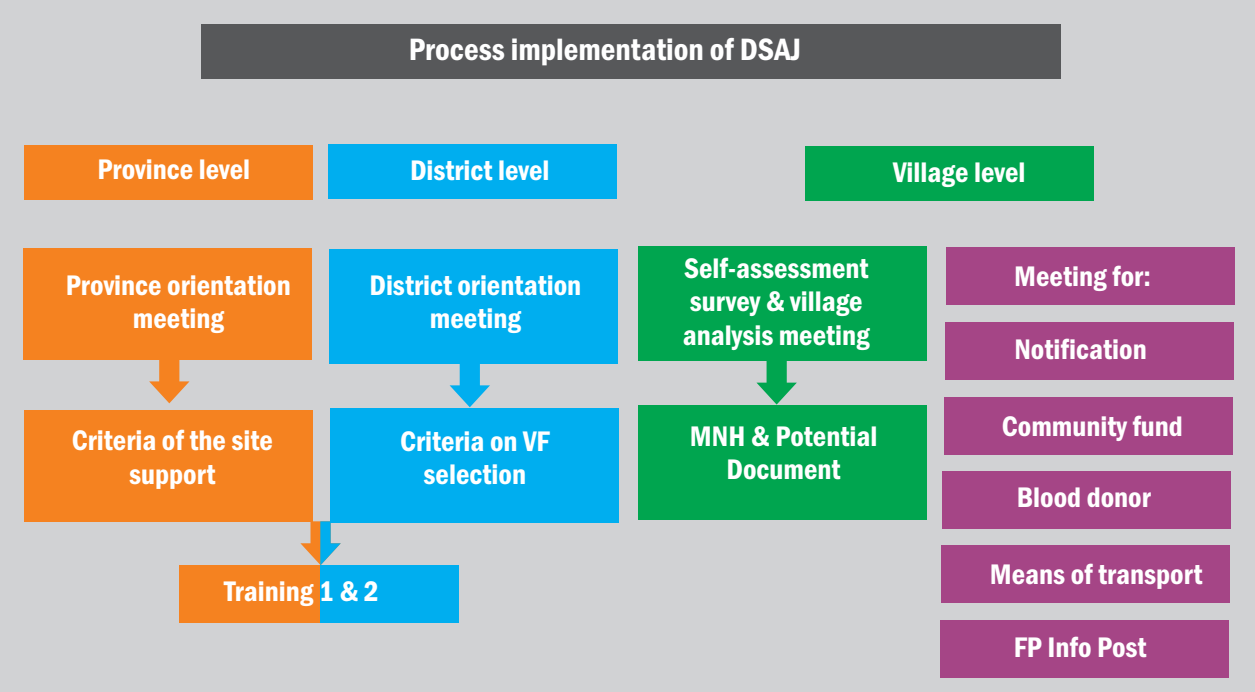
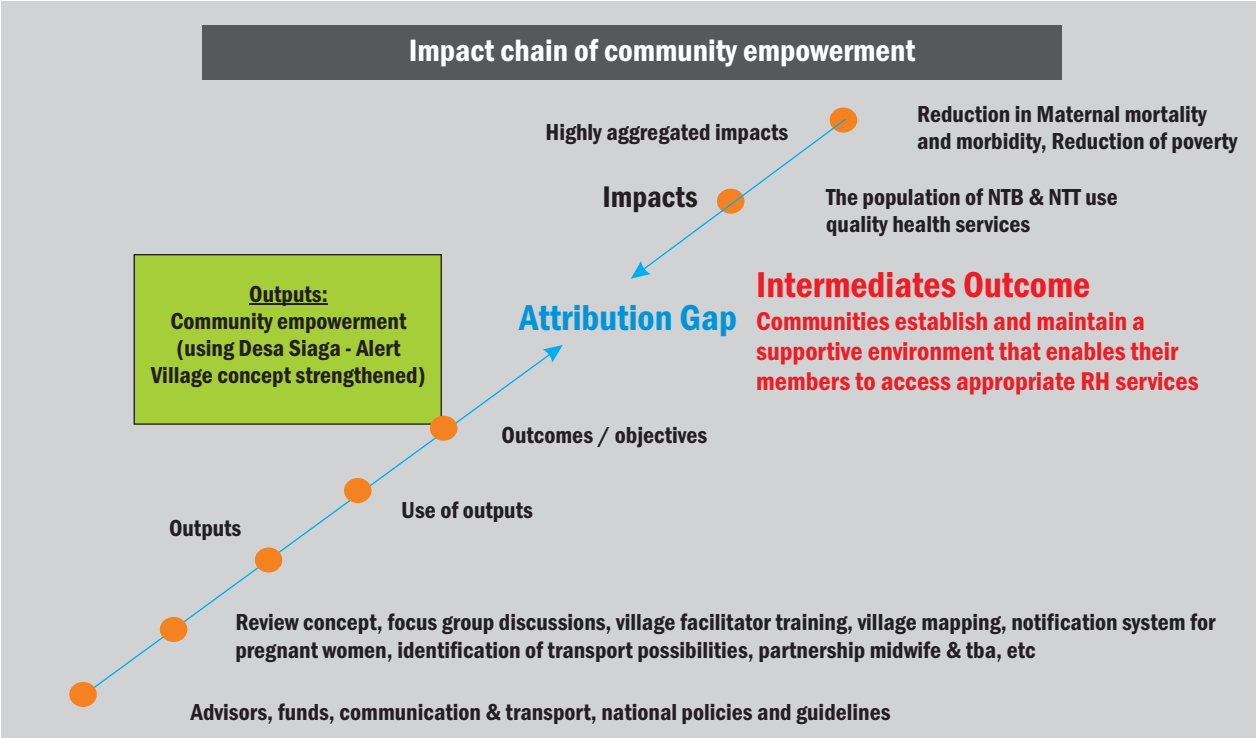


Figure 3. Impact chain process of community empowerment to develop DSAJ



The sequence of implementation and support steps is illustrated in Figure 3 which also notes the "attribution gap" between activity outputs and the impact on the community: it cannot be determined with certainty to what extent the outcomes recognized are actually due to project and program activities or to other external influences (e.g., introduction of the MOH expanded Desa Siaga in the same or an adjacent villages, other project or MOH programs and activities, other sector interventions, socio-economic developments).

Provincial Health Office (PHO) and District Health Office (DHO) are the main coordinators and responsible for activities at province and district levels. The PHO was responsible for organizing the provincial orientation meeting, the first training on DSAJ concept using a "participatory learning approach", and the second training on organizing the community to establish the Alert System. The DHO is responsible for district orientation and monitoring and evaluation. The district family planning institution organizes FP training. The Health Centre and its Village Facilitators are most important at village level because the Health Centre has official responsibility for health related activities at village level.

Local NGOs, as District Facilitators, play a prominent role in linking all stakeholders with each other and providing technical support in the village during the establishment of the DSAJ. Functioning as an extension of GTZ for administrative matters and playing a catalyst role to facilitate activities, the NGOs have a temporary role. After establishment, the Desa Siaga is owned by the community and the health system.

III. Evaluation of DSAJ in villages assisted by SISKES

In an attempt to evaluate the achievements and effectiveness of the community empowerment process supported by SISKES during 2006-2009 to develop Desa Siap Antar Jaga in the five districts that had not been assisted previously by the Australian IWHFW Project, the University of Mataram was contracted to do a survey during April-June 2009.

Of three evaluations designed for the DSAJ effort, two were combined in this study: 1) to assess DSAJ by input, output, and outcome/impact indicators as well as by the DAC criteria; and 2) to assess the DSAJ program from the Paris Declaration perspectives of ownership, alignment, and harmonization. The third, to analyse DSAJ implementation costs, was carried out in a separate study[4].

A. Indicators for evaluation of DSAJ establishment and functioning

1. Input / process:
a. Guidelines available to conduct Self-Assessment MNH Survey and to create the community based alert systems
b. Number of Alert Systems established
c. Coordinator/volunteer active for each system
d. List of blood donors by blood group
e. Self-assessment survey conducted
f. "Village portrait" document completed for each village
g. Meetings held to establish the alert systems

2. Output:
a. Number of villagers (Kader) facilitating the community empowerment process
b. Five alert system functioning
c. Monitoring and evaluation functioning at each level

[4] Cost Analysis DSAJ in NTB and NTT, based on the support of GTZ SISKES during 2006-2009. July 2009, Rahmi Sofiarini and Lieve Goeman

3. Outcome/impact: Reproductive health indicators:

a. Antenatal care coverage (first and fourth visits of antenatal care) increased
b. Deliveries assisted by skilled birth attendants increased
c. Family planning acceptors (current users) increased
d. Number of maternal and neonatal death due to delays decreased

4. DAC criteria assessment:

a. Relevance of supporting the establishment of DSAJ
b. Effectiveness of supporting the establishment of DSAJ in reaching its objectives
c. Efficiency of project use of resources to achieve outputs
d. Impact of the project on intended and unintended beneficiaries
e. Likelihood that project-supported benefits will continue following project closure

5. Conformity with Paris Declaration principles

a. Alignment with national and local government policies and programs
b. Harmonization with other stakeholders contributing to the program
c. Program ownership

Table 1. Respondent groups and individuals

	Informant / repondent	Number
1	NTB Provincial Health Office	2
2	District Health Offices	5
3	District Family Planning institutions	5
4	District Facilitators	5
5	Health Center Facilitators	31
6	Village Facilitators	70
7	Heads of Village	70
8	Village Midwives	70
9	Mothers with 2 children under 5 years	280
	TOTAL	538

Methodology

Seventy of the 90 villages were randomly selected for the study, and questionnaires or interview guides were developed for nine groups of respondents. The total of 538 respondents represented nine groups of people as shown in Table 1.

Table 2. Villages sampled per district and respondents interviewed

SISKES supported district /municipality		Villages sampled	Respondents interviewed with structured format				
			Mothers	Village Head / Secretary	Village midwife	Village Facilitator	Health Centre Facilitator
1	Mataram City	12	48	12	12	12	
2	West Lombok	11	44	11	11	11	
3	West Sumbawa	13	52	13	13	13	
4	Sumbawa District	21	84	21	21	21	
5	Bima District	13	52	13	13	13	
	TOTALS	70	280	70	70	70	31

Data were collected by group or individual interview using the focus group discussions (FGD) guides or structured individual questionnaires. Data from four mothers per village were obtained from a household survey using the "random walk" method. Additional qualitative data were obtained from specific individuals as summarized in Table 2 and by focus group discussion.

Focus group discussion were held at district level in each of the five districts, and focus group discussion in two villages of each district (the villages showing best performance and worst performance).

Additional qualitative evaluation data were gathered by in-depth interview with PHO officials, DHO staff, district family planning institutions, and district facilitators. Finally, quantitative data from available documents were also collected from routine recording and reporting of programs, activities, project documents, and other secondary sources.

Entry data was done using the Access program, validated by data cleaning, and archived with Code-Book by the Pusat Penelitian Kependudukan dan Pembangunan (Research Centre for Population and Development) of the University of Mataram. Statistical test were done using SPSS version 15, and chi square tests were used to compare proportions statistically. A desk study of routine secondary data was also conducted for comparison.

C. Evaluation results

1. Indicators of output

a. Coverage of functioning DSAJ through SISKES assistance

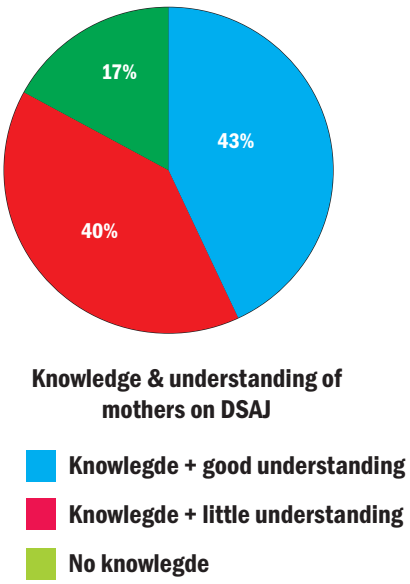
During 2006-2008, SISKES implemented DSAJ in 90 villages in five of the nine districts of NTB Province. The 90 villages (9.9% of the 911 villages in NTB) include about 450,000 of the 4.3 million people in the province. Within the five targeted districts, the coverage achieved is shown in Table 3

Table 3. SISKES coverage by number and proportion of village by district

	District	Total number of villages in district	Number of DSAJ villages supported by SISKES, 2006-08	%
1	Mataram City	50	15	30
2	West Lombok	121	15	12
3	West Sumbawa	49	15	31
4	Sumbawa	156	25	16
5	Bima City	38	20	53
	TOTALS	414	90	22

Coverage of DSAJ with SISKES support ranges from 12 to 53 percent of the total number of villages in each district. In asmuch as the Project's baseline figures showed no DSAJ villages in the five districts before 2006, increased coverage has been achieved.

Figure 4. Awareness of the DSAJ Alert Systems



b. Knowledge and understanding of the alert systems

Because knowledge of the alert systems is a pre-condition if they are to be used when needed, mothers were asked first about their awareness of the system. The evaluation found that 83% of the mothers surveyed knew about the alert system, even if about half had limited understanding of the system.

The mothers were then asked more detailed questions on the kinds of systems they knew.

Figure 5. Knowledge and use of DSAJ systems (n=280)

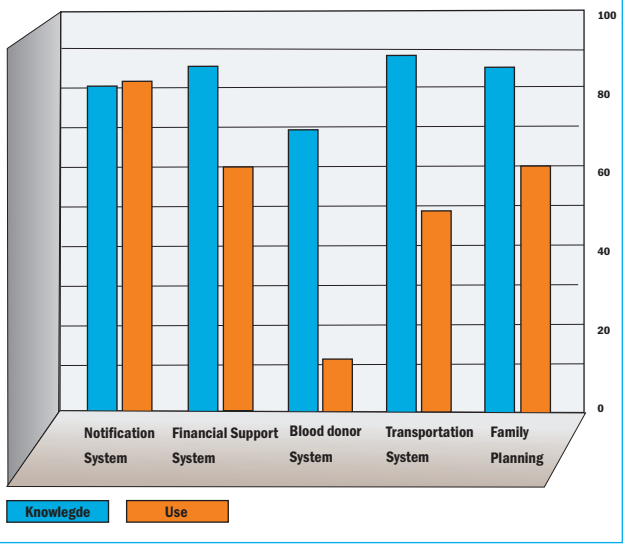


Figure 5 shows their awareness of the existence and actual use of the component systems in their community.

Most used (Figure 5) have been notification of vital and other events, family planning guidance, and funding support.

Table 4. Proportion of DSAJ communities that have used the alert systems

DSAJ alert systems	Mean number of times used, per village, since introduction of DSAJ
Community fund	13.5
Provision of means of tranportation/ communications	15.7
Receiving donated blood	2.1
Donating blood	8.2
Obtaining family planning information	25.1

Only the blood donor system, the one system created via village meetings, was rarely reported used. The others were created through sub-village meetings. It may also be that blood donors have not often been needed.

c. Use of the DSAJ alert systems

The records from each system were used to determine how often they had been used during the period of DSAJ operations. Table 4 shows the average number of times each alert system has been used per village since the DSAJ system was introduced (approximately one year, on average).

Table 5. Proportions (%) of mothers reporting each system as useful

Degree of usefulness	Notification	Financial Support	Blood donor	Provision, transportation	FP info
Very useful	33	41	32	44	40
Useful	46	41	39	38	43
Quite useful	12	11	15	11	12
Little useful	2	1	0.8	0.8	0.8
Do not know	8	7	13	7	5

d. Usefulness of the Alert Systems

The mothers were also asked how useful they consider the DSAJ systems. Table 5 on the previous page shows their responses.

All five systems were judged "useful" of "very useful" by approximately 80% of the mothers, with financial support, family planning information, and financial support rating highest.

e. Convenience of the Alert Systems

The mothers were also asked how convenient they consider the DSAJ systems. Table 6 shows their responses.The Alert Systems were rated as very or more convenient that before by 73-84% of the mothers. About 10% reported no difference and almost no one thought convenience had become worse.

Figure 6. DSAJ accessibility to the poor

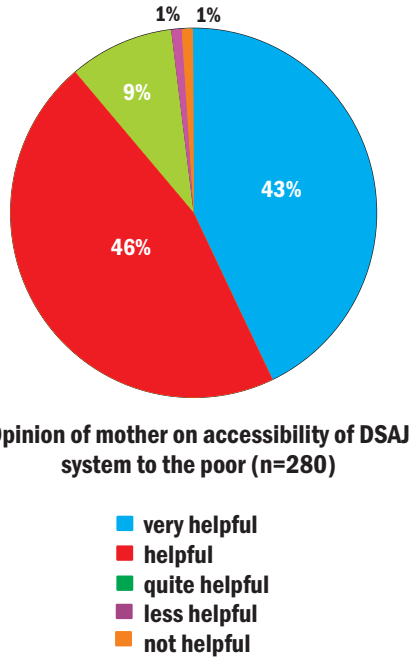


Table 6. Alert systems convenience as compared with before DSAJ

Degree of convenience	Notification (%)	Financial Support (%)	Blood donor (%)	Provision of means of transportation (%)	FP Info (%)
Very convenient	24	26	23	29	27
More convenient	59	54	50	54	57
No difference	10	12	15	10	10
More difficult	0.4	0.4	0.0	0.4	0.4
Do not know	7	8	13	7	6

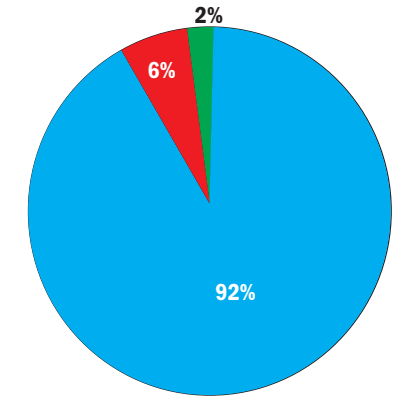
f. Accessibility to the poor

To assess whether the program is "pro-poor" in terms of giving greater attention to poor women and children, mothers were also asked whether the Alert System has improved health services access for the poor. Figure 6 shows that 90% of mothers thought it had done so. Ten percent thought it has become less accessible.

g. Equality by gender

The mothers were also asked whether men and women have equal access to the Alert System. Figure 7 on the following page presents their opinions on equality of access. Ninety-four percent of mothers believed that the alert systems are open to access by male and female villagers equally.

Figure 7. Equality of access by gender



Opinion of mother on accessibility of DSAJ system by gender (n=280)

- yes, equal to women & men
- No
- Do not know

2. Reproductive Health outcome indicators

a. Antenatal care coverage

One reason for the notification system is to identify pregnant women for monitoring and assistance by professional health personnel during their pregnancy. The main message of the village facilitator in every meeting is that "every pregnancy and delivery is a risk," so every pregnant woman should attend antenatal care during her pregnancy. The study documented the antenatal care visit in the first trimester (K1) and the fourth visit during the third trimester (K4) of pregnancy in order to determine whether antenatal care attendance increased after establishment of the notification system. The study found that K1 increased from 87% to 92% ($p<0.05$), and K4 from 84% to 87% ($p<0,05$). Thus, the desired impact was observed. Analysis of secondary data available from the health facilities showed similar trends of improvement.

b. Delivery assisted by skilled birth attendants

Another objective of DSAJ is to enable pregnant women to be assisted by skilled birth attendants[5] (SBA) when giving birth.

The survey found that 88% of the mothers had been assisted by an SBA in their most recent pregnancy (since the introduction of DSAJ). For there previous delivery, the percentage with SBA assistance was 75% ($p<0.01$). This was no doubt influenced as well by the placement of more midwives at village level. Many midwives work in partnership with local traditional birth attendants, but the proportion of births assisted by TBAs decreased from 23% to 10% between the second last delivery and the most recent one.

Another indicator of skilled care at the time of delivery is the place of delivery. The survey asked where the most recent and previous deliveries had taken place. It was learned that the proportion taking place at health facilities increased from 43% to 59% ($p<0.01$). With increasing awareness of the risks inherent in every pregnancy and delivery, women increasingly prefer to be assisted by skilled birth attendants and to give birth at health facilities such as government hospital or private hospitals, health centers, Polindes (the "village birthing post" of a Village Midwifes), and private clinics of midwives as well as doctors.

The Village Midwife of Sambinae in Bima City explained how skilled birth attendance and place of delivery had changed in her experience:

"Before the availability of a village birthing post (Polindes) building and establishment of the Alert Systems, only 20% of deliveries were assisted by health personnel. After the Polindes was built the number of deliveries assisted by health personnel increased to 40%. Then, after establishment of the Alert System, deliveries assisted by health personnel became 100%, and all take place in the health facilities."

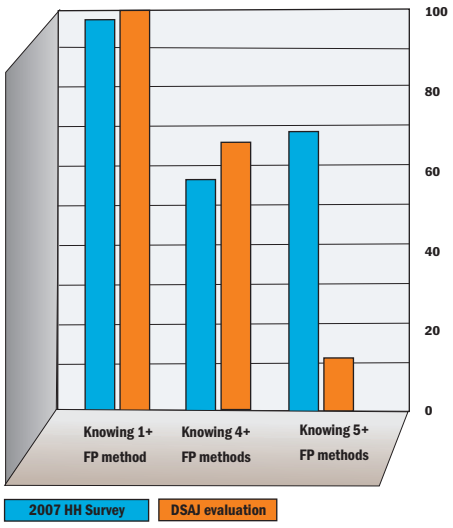
The implementation of DSAJ has contributed to change behaviour of pregnant women in seeking health services. More women are being assisted by skilled birth attendants at delivery, and more deliveries take place in heath facilities. This significant change is confirmed by secondary data.

[5] In NTB an SBA is predominantly a midwife with at least 3 years of pre-service training

c. Family planning acceptors

Maternal deaths can be reduced by planning pregnancies to avoid unwanted and unsafe pregnancies. In this context, the objective of including a family planning information post is to bring family planning information closer to village women so that they can help each other with information and are empowered to choose a method to prevent unwanted pregnancies.

Figure 8. Mothers' knowledge of FP methods



The indicator selected to measure the impact of the FP information Post is mothers' knowledge of family planning methods compared with baseline data gathered by the SISKES household survey of 2007.

As shown in Figure 8, the survey showed that knowledge of at least one method increased from 98% to 100%, knowledge of at least four methods from 56% to 66%, and five or more methods from 31% to 42%. This substantiates the village level reports of the usefulness of the FP Information Post to increase knowledge and how DSAJ increases access to services.

d. Client satisfaction with village level MNCH services

Although the DSAJ program concentrates on non-medical activities to reduce maternal deaths, it must be complemented by accessible and effective medical care when high risk patients are brought to clinic or hospital. Thus, the SISKES approach integrated DSAJ support with its other District Health System Improvement components. All the villages selected for DSAJ support were in the

Table 7. Mothers' satisfaction with MNH services at Polindes, 2009 compared with 2007

Client satisfaction with MNH services at Polindes	Mean 2007	Mean 2009
Hospitality of personnel who provided services	7.9	9.0
Skill of personnel who provided care and treatment	7.8	9.0
Completeness of equipment	7.6	8.9
Cleanliness of health service facility	7.8	9.0
Waiting time for services	7.4	9.1
Privacy when providing services	7.4	8.9
Security when providing services	7.7	8.9
Providing confidence in the result of treatment	7.8	8.9
Ease in reaching the place of the facility	7.8	9.0
Cost is relatively inexpensive	7.9	9.1

catchment area of a Health Centre offering Basic Emergency Obstetric and Neonatal Care (BEONC)[6] and that had also received health centre management training. Each village had an APN[7] trained midwife living in the village as well as a POSKESDES[8]. The effectiveness of this collaboration as an impact of the DSAJ program and other SISKES supports should be apparent in the level of satisfaction of mothers with the MNH services provided at village level.

To determine whether client satisfaction has increased during the period of DSAJ introduction, the household survey included rating by the mothers of ten service components that had been included in the GTZ SISKES baseline survey of 2007. Each component was rated from 1 to 10, with 10 being the best and one the worst. Table 7 on the previous page shows the results.

It can be seen that mothers' satisfaction with MNH services at Polindes, already fairly high in 2007, has increased since then on all ten measures. The change cannot be claimed as the result of the DSAJ program only, but indicates that the efforts on the community side have been integrated with complementary improvements on the service delivery side.

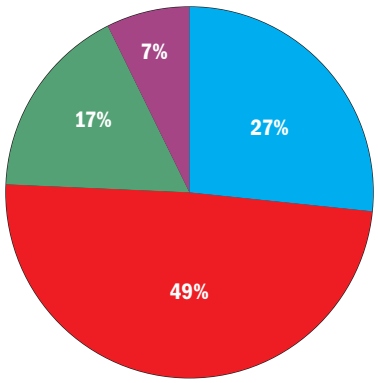
e. Maternal and neonatal death due to delays

This indicator is difficult to assess because health system records do not note the likely role of delay in obtaining appropriate care as a cause of death. Better data on changes due to reduced delays will require future study focusing on the health facility level. To evaluate whether a reduction in delays had likely occurred, and the risk of death reduced in consequence, the study used two proxy indicators – the opinions of midwives on:

1) changes after establishment of the DSAJ transportation/communication system in maternal and neonatal care by Village Midwives when handling emergency cases needing referral, and

2) handling of emergencies requiring blood transfusion before and after the blood donor system was established.

Figure 9. Midwife assessments of ease in handling referral cases after DSAJ



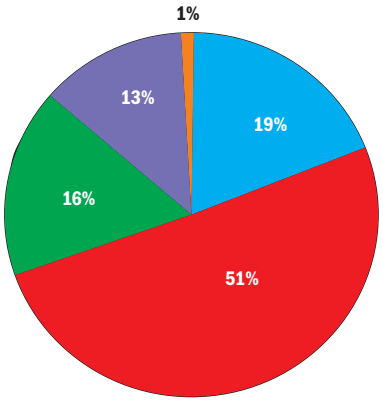
Opinion of handling emergency cases that need referral in Polindes before & after transportation system. (n=70)

- Very easy to handle
- Easy to handle
- Quite easy to handle
- No difference

In the opinion of the midwives questioned, 93% said that the DSAJ emergency transportation system has made the handling of referral cases easier (Figure 9). Only 7% of the midwives mentioned thought the transportation system has made no difference in their services. As for ease in finding blood donors, 71% of the Village Midwives (Figure 10) believe the existence of the blood donor system has assisted them in handling cases needing blood.

[6] HC with BEONC: a health centre staffed 24-hours a day and equipped and staffed to handle basic obstetric and neonatal emergencies
[7] APN training: Normal delivery refresher training that enables the midwife to upgrade normal delivery care, recognise potential emergencies and need for referral, and make prompt preparation for referral.
[8] POSKESDES: health post in the village providing basic health care. Women can deliver there. GOI-maintained, it is gradually replacing the Polindes which is a community-maintained facility.

Figure10. Midwife assessments of ease to find blood donors



Opinion of handling emergency cases that need blood transfusion. (n=70)

- Very easy to get blood donor
- Easy to get blood donor
- Quite easy to get blood donor
- Did not know

The impact of the alert system in assisting midwives providing health services is reflected in a story written by the village midwife of Tanjung at Bima City:

"The last year became an enjoyable time for me as a midwife who works at the village level. This is because the things that used to worry me when assisting a delivery do not happen anymore, and this year there have been no maternal or neonatal deaths.

Of course fatigue always occurs because I assisted 162 pregnant women to deliver their babies safely in the last year. My exhaustion disappears when I see a lovely baby born safely from a mother who has just passed a critical time.

I am sure this is happening because my village became an alert village, facilitated by GTZ which brought an innovative approach to the village. It is still fresh in my mind that a few years ago I managed a case of maternal death and other haemorrhage cases that shocked and frustrated me as midwife.

Nowadays, these old stories are no longer faced because I am encouraged as a midwife to see a lot of change in the community after they developed their alert system.

Maybe as an outsider you will not believe a lot of the changes that have occurred just within one year, but for me as someone who is involved and has experienced these changes, I can tell you that when I need to refer a woman, it is very easy to find means of transportation. I just call the coordinator of the transportation system and the transport is ready for the people. Before it was very difficult to persuade pregnant women to give a birth at the Polindes, but now, even if they are just about to deliver, they come to the Polindes. 100% of pregnant women delivered in the Polindes in 2008.

The Kaders are very active in notifying pregnant women and disseminating family planning information. I now realize this has happened because of the increased understanding of the people and their willingness to change to help each other. At the early stage of the implementation process, I felt doubts that it "can make a change," but after one year there are broad changes, pregnant women can be treated adequately, and babies who are our future are born safely".

3. Evaluation using the OECD/DAC criteria

The Organisation for Economic Co-operation and Development has established a set of five key criteria to evaluate the appropriateness of international development activities – relevance, effectiveness, efficiency, impact, and sustainability. Known as the "DAC criteria" after the organisation's Development Assistance Committee that first elaborated them in 1991, they are used by GTZ as an additional method to evaluate its work. The DSAJ evaluation attempted to include them in its guidelines and questionnaires.

Study respondents were asked to score the DSAJ activity according to each of the five DAC criteria on a scale of 5, with 1 being best and 5 the worst.

[9] 1. Very good; significantly better than expected
2. Good; fully in line with expectation; no significant defect
3. Satisfactory; falling short of expectation but with positive results dominant
4. Unsatisfactory; significantly below expectations; negative results dominate despite identifiable positive results
5. Clearly inadequate; despite several positive partial results, negative results clearly dominate
6. The project/program is useless, or the situation has deteriorated on balance..

The score on each of the five criteria can then be determined, and then combined after weighting according to DAC guidelines, to produce an overall score[9] for the project activity. At village level, scoring was done by village heads (n=70), Village Facilitators (n=70), Village Midwives (n=70), and mothers (n=280). At district level, it was scored by DHO staff members (n=10), family planning officials (n=5), District Facilitators (n=4), and Health Centre Facilitators (n=31). At province level, two PHO staff members scored the effort. Table 8 presents the overall ratings of DSAJ for the five criteria from various stakeholders. The overall result of 2 is "good", fully in line with expectation, no significant defects.

Scores of approximately 2 were quite consistent across the criteria and from group to group. The best overall scores were for program relevance and impact; sustainability and efficiency received slightly poorer scores.

Mothers appear least convinced of the value of DSAJ, and Village Midwives had concerns as well.

The evaluation team attempted to combine the qualitative information from the focus group discussions with the scores for specific DAC criteria as well.

Relevance

In terms of relevance, for example, stakeholders at village level will see its relevance underpinned by their tradition of helping each other, as mentioned in two of village FGDs in Bima City:

"The DSAJ concept is rooted in the existing tradition of the community in helping each other when somebody dies in the community, but DSAJ has extended the existing tradition to saving lives, and DSAJ has made the tradition of helping each other more structured, systematic, and manageable by the community."

Table 8. DAC criteria scores of DSAJ by respondent group and overall

Criteria	Type of respondent									Total
	Mother	Village facilitator	Village Head	Village Midwives	Health Center facilitator	District facilitator	Family Planning institution	District Health Office	Provincial Health Office	
1. Relevance	2.7	1.5	1.7	1.6	1.8	1.7	1.4	1.9	1.1	1.7
2. Effectiveness	2.9	1.9	1.5	2.3	2.2	1.6	1.6	1.8	2.0	2.0
3. Efficiency	2.5	2.1	2.3	2.3	2.1	2.2	2.0	2.6	2.0	2.2
4. Impact	1.7	1.5	1.4	2.7	1.7	2.0	1.6	2.0	1.5	1.8
5. Sutainability	2.7	1.8	2.0	2.1	2.2	2.4	2.8	2.0	2.0	2.0
Total Rating	2.4	1.7	1.7	2.2	2	2	1.9	2	1.7	2

Effectiveness

In terms of effectiveness, DSAJ was judged to be effective not only as an approach to mobilize the community to take greater responsibility for their own health, but its implementation raised gender awareness that pregnancy and delivery are not solely the concerns of women: they are the responsibility of everyone. Villagers also mentioned that through DSAJ they learned about blood transfusion. They are now aware that bleeding during pregnancy, previously perceived as natural during childbirth, carries risks and can be treated. The process of implementation was found to focus on more than establishment of the alert systems. It was a process to empower the community with more knowledge and choices that enable them to make the right decision at the right time. Mothers also see the alert system as pro poor and as strengthening togetherness among the community members.

Efficiency

In terms of efficiency, DSAJ was observed to be one of the only programs implemented by involving people at the sub-village level. Unlike most village level programs that select some people from the sub-village level as representatives, the DSAJ mobilizes people in every sub-village of the village, so that almost all villagers were aware of the program. Efficiency of the program in terms of its costs is discussed in greater detail in a separate document[10].

Impact

The previous section of this document on reproductive health indicators describes several of the important outcomes expected and studied. Two additional outcomes of interest to the project were its impact on gender and collaborative community self-help behavior.

- Gender impact

One objective of DSAJ implementation was to increase general awareness that pregnancy and delivery are the responsibility of all, not only women. To see the impact of the message, mothers were asked who accompanied them on antenatal visits and delivery both before and after the introduction of DSAJ. It was found that the percentage of women whose husbands accompanied them for antenatal visits increased from 17 to 49%, and from 62 to 78% during childbirth[11]. Thus DSAH has had an appropriate gender impact.

- Impact on community self help

Another intended impact of DSAJ implementation was extension of the mutual self-help concept to the alert systems to enable the villagers to cope more easily and promptly with emergencies, thereby saving lives. The focus groups revealed that strengthening the mutual support system has released burdens and created a spirit binding villagers together. It has proven to be beneficial in enabling the community access and to afford health services.

Two stories demonstrate the direct benefits of the community empowerment through the "Community Based Alert System. "

- Marni, 35 years old, of Lembuak Village, West Lombok District:

"I developed breast cancer and had to be brought to Sanglah Hospital in Denpasar, Bali (the next island to Lombok) for an operation. I was in a bit of a panic about transportation to Denpasar, but in the spirit of helping each other, I was brought to Denpasar by car

[10] DS cost analysis in NTB and NTT, based on the support of GTZ SISKES during 2006-2009. July 2009 by Dr. Rahmi Sofiarini and Dr. Lieve Goeman.

[11] The relatively high number of fathers present during delivery may also be influenced by the requirement that the first words a Muslim newborn hears should be the Adzan "call to prayer" pronounced by a male, often the father.

free of charge. Some of my neighbours came with me in the car to provide support and company. I was very thankful and hope this help for each other is sustained in my hamlet."

- Yati Citra Dewi, 24 years old, of Poto Village, Sumbawa District:

"I became unconscious after giving birth, and after the doctor examined me, he asked my family to provide two bags of blood. Hearing this, I did not panic because I knew very well that in my village there are blood donors available with my type-O blood type, and this was not difficult to get. My husband contacted the blood donor coordinator, and the blood donor was sent to the hospital. I am proud of the DSAJ program. The many benefits generated by it make going to the health facilities easier, getting blood donors is easier, and financial support is available through our own savings. Through DSAJ people are encouraged to go hand-in-hand to ease painful suffering and to overcome critical conditions."

Sustainability and roll out

Sustainability of the DSAJ program in the long term must view DSAJ in the context of the national and local government overall development programs. DSAJ is a central part of the national Desa Siaga program, one of whose indicators is the presence of a community-based alert system for emergencies and disasters. The experience of implementing DSAJ has been documented. A toolbox has been produced that estimates the costs involved and facilitates advocacy and implementation and could assist any institution or individual to introduce the program.

The NTB Provincial Government has set reduction of maternal death as a top priority by launching an official program called AKINO, signifying "Zero maternal deaths in the villages." Community mobilization for surveillance, birth preparedness, and readiness for complications are part of the AKINO grand design. Thus, the DSAJ concept has been part of a prioritized and sustained effort of NTB Province.

DSAJ, as part of the national Desa Siaga concept and to implement AKINO, is being adopted in many areas. Twenty-one of the 31 Health Centre Facilitators questioned reported that they have already introduced the DSAJ concept to other villages using budgets for the program for the poor, for community participation, or for the Gerakan Sayang Ibu Mother Friendly Movement.

The PHO of NTB Province has hosted a visit by the PHO of Bengkulu Province in Sumatra to visit one of the DSAJ villages. The Bengkulu PHO was impressed and expressed interest in the toolkit and application of the concept in Bengkulu. The Bengkulu PHO even invited the village facilitator to come to Bengkulu.

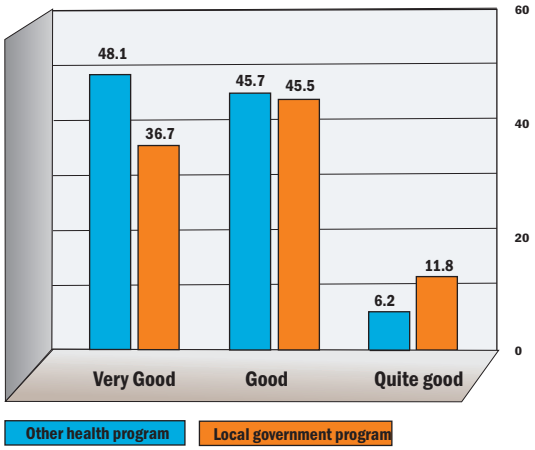
5. Conformity with the principles of the Paris Declaration

Three principles of the Paris Declaration regarding the appropriateness, coordination, and ownership of international donor support to development assistance programs were assessed in the evaluation of DSAJ implementation by GTZ SISKES: 1) alignment with government policies and programs, 2) harmonization with current policies and programs, and 3) cementing local ownership and commitment to the program. Village Midwives, Village Heads, and Health Centre Facilitators of DSAJ villages were questioned about these principles. Their responses follow.

a. Alignment with national and local government policies and programs

First, it should be noted that DSAJ is an integral part of the national Desa Siaga program. When asked whether the two are complementary or overlapping, 98 of 100 respondents replied that they are complementary. Futhermore, almost all stakeholders asserted that DSAJ is aligned with both the local government program and other health programs (Figure 11).

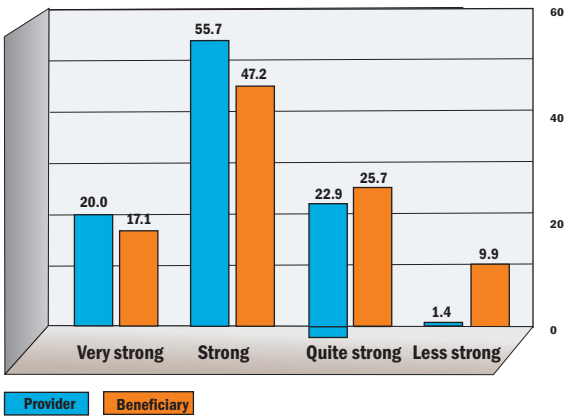
Figure 11. Stakeholders views of DSAJ alignment with other health programS



b. Harmonization with related activities and stakeholders

DSAJ has been implemented in NTB Province by various stakeholders at various levels. A clear agreement was reached on which activities at which level are organized by whom, and roles, tasks, and responsibilities for each stakeholder were agreed before implementation began. To evaluate their harmonization, providers and beneficiaries were asked for their opinions. Both groups rated as strong the harmonization of SISKES support and their own system (Figure 12).

Figure 12. Ratings on harmonization of DSAJ implementation with ongoing system



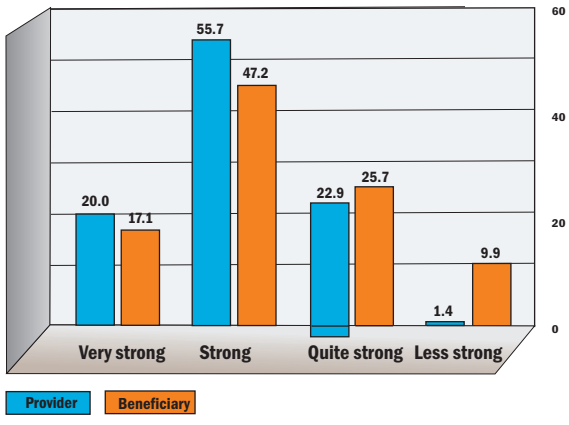
SISKES support has been delivered through the government structure and harmonized within the partner system.

Proposals for each activity were developed by partner using an agreed layout, and local subsidies providing funding. Clear definition of where activities take place helped implementation proceed without time conflicts or delays waiting for approvals. This resulted in transparency as to where the money went and for what. At village level, the villagers knew how much money come to their village and how much they had contributed to establish and maintain the alert system. The amount of funding was reported in monitoring meetings so everyone in the village could know what support was received.

c. Long-term ownership of the DSAJ system

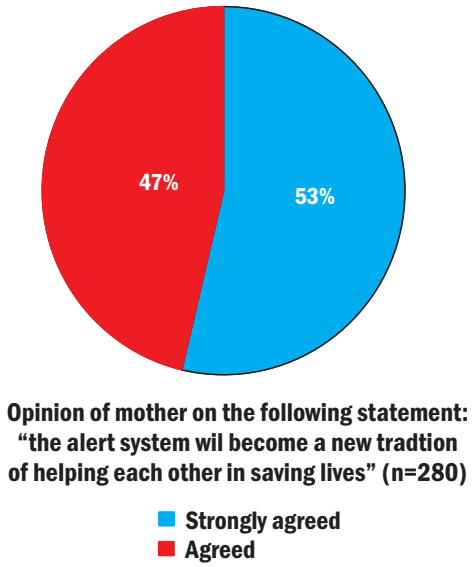
SISKES attempted to establish the alert system by and for the community and organized by the village facilitator strengthened by the health centre facilitator. It becomes the responsibility of the community to use and maintain the functions of the system established. However, the community needs to be encouraged and motivated to continue to maintain the system. Figure 13 shows that the beneficiaries felt strong ownership on the system, the providers almost as strong. Both the beneficiaries and providers felt ownership of the DSAJ system established.

Figure 13. Stakeholder opinions on DSAJ ownership



When mothers were asked in the village survey whether they believe the Alert Systems will become a new local tradition of villagers helping each other to save lives, all respondents agreed (Figure 14).

Figure 14. Likelihood of the Alert System to create a local tradition of mutual assistance



Mutual assistance in the spirit of *gotong royong* is a central concept in Indonesian culture and traditions. The mothers obviously felt that applies to the Alert Systems of the DSAJ.

To summarize, the DSAJ Alert System was judged by the mothers surveyed to be helpful and to make their lives more convenient. Inasmuch as it is open for access by males and females equally, it demonstrates gender equality and the empowerment of women.

d. In brief: Level of effort (costs) and critical lessons learned in implementation of DSAJ

The costs of introducing and operating DSAJ in all 90 villages assisted by SISKES are detailed in a separate document[12]. Here, we only present the results briefly in Table 9.

Costs for establishment and operation of DSAJ for one year per village were found to vary from a minimum of Rp.35, 265,800 to a maximum of Rp. 71,145,600 in the villages of NTB Province.

Table 9. Total costs per DSAJ village per year, by step of implementation, NTB Province

Costs, all steps for introduction and one year of operation, per village			
Establishment cost	**Steps**	**Cost (IDR)**	**%**
	Step 1: Orientation meeting at Province, District levels	**4,046,000**	**8**
	Step 2: Training I	**7,843,600**	**15**
	Step 3: Conduct self assessment survey	**3,300,000**	**6**
	Step 4: Training II	**5,422,800**	**10**
	Step 5: Establishment of 5 Desa Siaga alert systems	**22,572,000**	**42**
Operation	**Step 6: M&E at village/District level**	**10,230,000**	**19**
	Total cost per village	**53,414,400**	**100**

[12] Cost Analysis DSAJ in NTB and NTT, 2009.

Of the total average Rp. 53,414,400 (4,109 €) cost per village, approximately 80% represented the costs of establishing the system and 20% for operations. About 29% of the total costs financed three activities at province level, 32% financed four activities at district level, and 39% financed ten activities at village level. The analysts concluded that the operational costs could also be "piggy-backed" with activities of other programs to reduce those costs.

From the focus group discussions conducted at village and district levels, the evaluation learned that there are two particularly critical lessons for successful implementation. The first is selection of the Village Facilitators. The criteria for selection should be followed strictly in order to find a person highly committed to organize and improve the community, not only her/his personal development. The second is that the program must be developed as part of the roles and responsibilities of village and sub-village officials. The blood donor and transportation systems in particular must become the village/sub village system for response to emergencies and ensure continued ownership. The notification system becomes the demographic database for the sub-village level and can be updated regularly.

e. Summary of evaluation findings

- At the output level, the coverage of DSAJ achieved in the five targeted districts was 22% of 414 villages. 83% of mothers have a good understanding of the alert system and its functions. Of the five systems, the community fund is most used, followed by the transportation network and family planning.

- At the outcome level, reproductive health service indicators demonstrated significant improvement since DSAJ was introduced. Significant change occurred with DSAJ in terms of husbands accompanying their wives for antenatal care and childbirth. Both first and fourth antenatal care visits improved. Delivery assisted by skilled birth attendants increased as did delivery at a health facility. Family planning knowledge and proportion of current users increased in comparison with 2007 baseline data. Client satisfaction with village level health services increased from 2007. Similar trends of improvement were seen in the routine (secondary data) reports from Puskesmas and DHO examined that reflect these reproductive health service indicators. The alert systems have triggered community members to help each other to save lives.

- The DAC Criteria were used to assess the GTZ SISKES activities for their relevance, effectiveness, efficiency, impact, and sustainability. Overall, the stakeholders involved in program implementation rated DSAJ as a 2 on a scale of 1 to 5 where 1 is best and 5 is worst. This is translates as "good" and "fully in line with expectations, no significant defect".

- Assessing DSAJ program implementation in the spirit of the Paris Declaration principles, both providers and beneficiaries see the program is aligned with the government programs, harmonized with the government systems, and highly sustainable. Each level is responsible for activities defined for its area of responsibility, and support has been delivered collaboratively and embedded in the structure of the health system.

- The cost total costs to implement DSAJ in one village for one year averaged Rp. 53,414,400 (4,109 €) with 80% of this establishment of the system and 20% for operations.

Because the program is based on local traditions of helping each other, the alert system has high potential for sustainability, and since it also improves reproductive health behavior and outcomes for more than one generation, it is worth the investment of the funds and effort. The system is used not only by pregnant women but also by community members in general, and it is especially beneficial for women, children, and the poor.

Through establishment of DSAJ the community has contributed to the utilization of health services, access to health facilities, and to a reduction in maternal and infant deaths by improving behavior, recognizing risks, and taking prompt action to reduce delays at the community level.

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