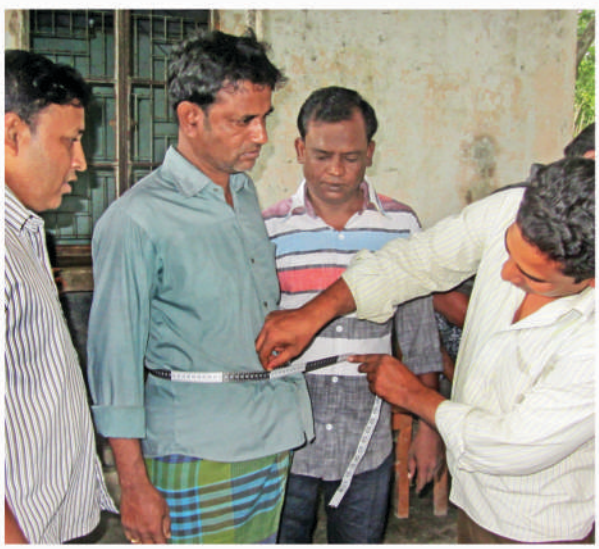
Risk Reduction of Non-Communicable Diseases in Jessore District

Final Report



Asia Arsenic Network

In association with the Ministry of Foreign Affairs of Japan
under the scheme of"Grant Assistance for Japanese NGO Projects"

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February 2016

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Preface

Non-communicable Diseases (NCDs) are the world's number one killer, causing 63% (36 million) of all 57 million deaths globally. NCD is a burning issue for the world. Nearly 80% of NCD deaths occur in low- and middle-income countries.

In Bangladesh, too, NCDs account for 59% (conventional only) of the total deaths, exceeding other causes such as childbirth-related and infectious diseases. The under-privileged communities in the country are bearing the heaviest toll of this burden. According to the "National NCD Risk Factor Survey 2010", 99% of the survey population had at least one NCD risk factor and 29% had more than three risk factors. Rural inhabitants and urban slum dwellers particularly suffer the most. Lack of skilled human resources to address NCDs, lack of NCD surveillance system, lack of proper information and coordination between public and private services and lack of awareness among the people increase the NCD burden.

The Directorate General of Health Services (DGHS) included non-communicable diseases in the strategic plan for Health, Population & Nutrition Sector Development Program (HPNSDP, 2011 – 2016). The DGHS suggested the Asia Arsenic Network (AAN) to utilize its experiences in arsenic mitigation and arsenicosis patient management to combat NCDs, since arsenicosis has been managed by the NCD Section of DGHS and preventive care for arsenicosis and non-communicable diseases are similar.

"Risk Reduction of Non-Communicable Diseases in Jessore District" is a three-year project launched in April 2013. The activities are divided into three parts; (1) awareness build-up on risky behavior for NCDs in the first year, (2) improvement of health care services for NCD patients in the second year, and (3) establishment of multi-sector partnership for NCD risk prevention and rehabilitation of vulnerable NCD patients.

Some of the remarkable achievement by the project is seen in the NCD Risk Identification campaign ("NRI campaign" in short), behavioral changes by Community Group members to avoid or reduce NCD risks, and efficient IGA training programs for vulnerable NCD patients to overcome their lost economic condition. I would like to emphasize that anyone who came to know the severity of NCDs and the ways to avoid them can change their behavior as observed among the Community Group members.

All in all, the project successfully accomplished its aim to build a model for NCD prevention and management. This Final Report records the project activities in a meticulous way, and I hope many other organizations will come forward to replicate them to save millions of Bangladeshis from grave but avoidable diseases.

February 2016
Dr. Sk. Akhtar Ahmad
Chairman
Asia Arsenic Network
Professor
Bangladesh University of Health Sciences

Executive Summary

Having learned the severity of non-communicable diseases (NCDs) and risky behavior causing them, people could change their lifestyle. The project "Risk Reduction of Non-Communicable Diseases in Jessore District" appointed 241 Community Group (CG) members for undertaking some health tasks, more specifically to change some of their habit related to NCDs. We targeted that "More than 50% of CG members will accept behavior for NCD prevention". However, all of 241 CG members (100%!) wanted to try at least one task. In fact, most of them challenged plural behavior changes. And, to our surprise, all of them (100%!) were successful in achieving at least one task. In fact, 235 CG members (98%) changed more than two risky habits.

The World Health Organization sets four NCD risk factors of (1) unhealthy diet, (2) smoking, (3) lack of physical exercise and (4) alcohol. For the project AAN slightly modified them by replacing (4) alcohol with arsenic-contaminated drinking water. Bangladesh basically being a Muslim country, alcohol is not an NCD-related problem, but arsenic contamination in drinking water is likely to cause adverse health effects including cancer.

Based on the Bangladeshi version of four NCD risk factors, CG members listed the following tasks to be practiced for NCD prevention:

1. Start physical exercise
2. Reduce using of dry tobacco
3. Avoid using additional salt
4. Reduce smoking
5. Stop smoking
6. Take more vegetable
7. Reduce use of excessive oil & oily food
8. Test own TW water for arsenic Union Parishad (UP)
9. Create scope for doing physical work
10. Finish dinner by 8pm and go to bed two hours after dinner
11. Drink safe water
12. Set up improve cooking stove

In finalizing the list of tasks, they were guided by the Social Support Group (SSG), a concept introduced by the project. One SSG consists of UP Members, religious leaders, teachers, village doctor, elite persons, health care service providers and students. They were (and "are") expected to continue their role as volunteers for the sustainability of the project outcome.

One of the outstanding features of the project was the "NCD Risk Identification campaign" ("NRI campaign" in short). It was the SSG who proposed the campaign saying that prior to the planned awareness-raising activities it was important to know the current health situation of their fellow villagers. During the NRI campaigns people had their weight, height, waist and blood pressure measured. Body mass index (BMI) was calculated with the weight and height.

There were 161 campaigns altogether during the period of November 2013 and January 2016, and 14,522 people (almost 13% of the population of 25 years of age or more in the project area) visited the camp. Among 14,023 people who underwent blood pressure measurement, 3,812 (27%) were categorized into "hypertension" and out of them 1,979 people (52%) came to know their high blood pressure at the NRI campaigns.

Diabetes test was made available by the Community Clinics on a pay basis at 123 NRI campaigns. A total of 2,391 people took the test by paying Tk. 30, and 590 (25%) were found with the high blood sugar level. Out of 590 people, 303 (51%) knew that they were diabetics and 287 (49%) were suspected of their diabetic condition at the NRI campaigns and advised to go a health institution for confirmation by a medical doctor.

BMI calculations found that 20% of males are in the category of "overweight to obese" and 30% in case of females. Other NCD symptoms were also recorded in the NRI campaigns including asthma (183 cases), stroke (27), and arsenicosis (15). There were 46 cases of heart disease as reported by patients. The disease could not be diagnosed at the camp because it needed some sophisticated equipment which is not possible to operate in the field level.

Prior to the project there was no service for NCD control and management in the local health institutions such as Community Clinics (CCs) and Family Welfare Centres (FWCs). During the project period the government provided equipments to measure weight, height, blood pressure and blood sugar to CCs and FWCs. Health workers at those health institutions received comprehensive training on NCD control and management by the project and developed their knowledge and skills through participation in the NRI campaigns. Now they provide good services utilizing them during their daily work. Accordingly, people with NCDs are now able to receive proper services and guidance.

The project aimed to promote health consciousness and healthy behavior among the residents in the target area along with the improvement of capacity of NCD prevention and management. Looking back the three-year activities and outcome, I feel that we could accomplish the aims.

Finally, on behalf of the Asia Arsenic Network and the project staff, I would like to express our heartfelt gratitude to the Ministry of Foreign Affairs of Japan for supporting the project. Our appreciation also goes to the people in the target area; without their sincere and enthusiastic participation, this success was not possible. We are also thankful to DGHS, UHC, Civil Surgeon Jessore and his staff, the students of the Nutrition & Food Technology Department of Jessore University of Science & Technology for their kind and appropriate guidance and suggestions.

February 2016
Tarun Kanti Hore
Program Manager

Content

Abbreviation

AAN	Asia Arsenic Network
ADC	Additional Deputy Commissioner
AFPI	Assistant Family Planning Inspector
AHI	Assistant Health Inspector
AI	Artificial Insemination
As	Arsenic
BMI	Body Mass Index
BP	Blood Pressure
BRAC	Bangladesh Rural Advancement Committee
CC	Community Clinic
CD	Communicable Disease
CG	Community Group
CHCP	Community Health Care Provider
CS	Civil Surgeon
CSG	Community Support Group
DAE	Department of Agriculture Extension
DC	Deputy Commissioner
DGHS	Director General of Health Services
DLS	Department of Livestock
DoF	Department of Fisheries
DPHE	Department of Public Health Engineering
EGPP	Employment Generation for Ultra Poor
EPI	Expanded Program on Immunization
FPI	Family Planning Inspector
FWA	Family Welfare Assistant
FWC	Family Welfare Centre
FWV	Family Welfare Visitor
GR	Gratuitous Relief
HA	Health Assistant
HI	Health Inspector
IGA	Income Generation Activity
MBBS	Bachelor of Medicine, Bachelor of Surgery
NCD	Non Communicable Disease
NGO	Non Government Organization
NRI	NCD Risk Identification
SACMO	Sub Assistant Community Medical Officer
SI	Sanitary Inspector
SSG	Social Support Group
TR	Test Relief
UDCCM	Union Development Coordination Meeting
UFPO	Upazila Family Planning Officer
UH&FPO	Upazila Health & Family Planning Officer
UHC	Upazila Health Complex
ULO	Upazila Livestock Officer
UNO	Upazila Nirbahi Officer
UP	Union Parishad
USC	Union Sub Centre
VGD	Vulnerable Group Development
VGF	Vulnerable Group Feeding
WHO	World Health Organization

CHAPTER 1

Chapter 1 Outline of the Project

1. Purpose

Non-communicable diseases (NCDs) are rapidly increasing as a global public health problem. The problem is universal and low- and middle-income countries suffer more as human and technical resources in the public health services are extremely limited in such countries. The project aims to (1) generate health consciousness among residents by health education which was totally absent in the project area, (2) improve the quality and access to local health services so that NCD patients can obtain treatment and advice easily, and (3) establish a system under which the ways to prevent NCD risks is widely known and poor NCD sufferers can improve their living.

2. Target Area

Jessore Sadar Upazila is under high NCD risks due to industrialization and heavy vehicle traffic represented by two busy highways, i.e. Jessore-Benapole and Khulna-Dhaka which run through the Sadar Upazila. Emission of carbon dioxide (smoke) from factories and heavy dust due to vehicle movement cause air pollution and increase NCD risks in Sadar Upazila. High level of arsenic contamination also increases the burden of NCDs. Since AAN has been working in the Jessore area for a long time, the following four unions of the Sadar Upazila were selected for this project, considering urban (2 Unions) and rural (2 Unions) areas and high and low ratios of arsenic-contaminated tube wells. The location of those four unions is shown in the map below (Fig. 1).

Table 1: Population of target area with selection criteria

	Name of Union	Population *1	Ratio of arsenic-contaminated tube wells *2	No. of registered arsenicosis patients *3		
				Male	Female	Female
Urban	Arabpur	41,361	12%	3	10	13
	Churanmankati	40,139	41%	56	38	94
Rural	Basundia	35,292	43%	26	16	42
	Diara	36,789	23%	3	10	13
	Total	**153,581**		**88**	**74**	**162**

Source **1: Population Census 2011, Bangladesh Bureau of Statistics (online)*
**2: National tube well screening data by BAMWSP*
**3: Registration record by Jessore Sadar Upazila Health Complex (as of 28 February 2013)*

The recent survey conducted by DGHS showed that there are 11,966 NCD patients in Jessore. The number could be at least three times more if suspected patients could be confirmed according to local doctors.

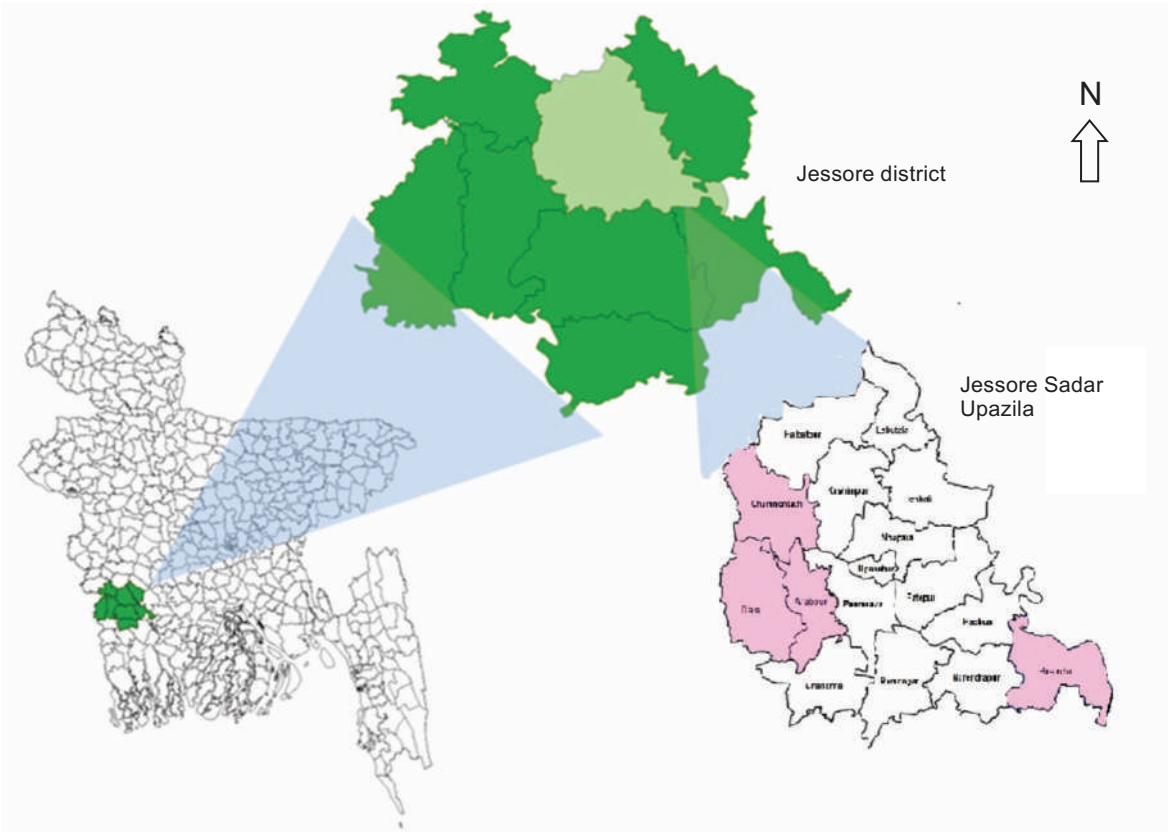


Fig. 1 Map of Target Unions (highlighted in pink)

3. Project Outputs

There are three outputs in this project as summarized below:

Output 1: Capacity development of residents through health education is conducted.

1-1. The health task will be selected each area.
1-2. More than 50% of CG members will accept behavior for NCD prevention
1-3. Awareness materials will be developed
1-4. 60% of villagers will understand the health task of their area.

Output 2: The quality and access to the health service is improved.

2-1. More than 30% of visitors of health institution (CC, FWC) will receive guidance.
2-2-1 The number of patients and residents at high risk, who are detected in NCD Risk Identification camps
2-2-2 60% of participants of NCD Risk Identification camp understand proper height and weight.
2-3. The number of registered NCDs patients under health management

Output 3: NCD risk prevention method by multi-sector partnership is arranged.

3-1. The number of discussion on NCD in UDCCM
3-2. The number of patient who receive rehabilitation services (to return to normal life)
3-3. More than 50% of trainee who conduct what they learnt from training

4. Project Duration

The duration of the project was from April 2013 to March 2016.

5. Launching Ceremony

The project formally started with a Launching Ceremony, which was finally held on 23 September 2013 at the District Collectorate Conference Room in Jessore. There were a total of 40 participants, including officials of district and Upazila level health-related organizations and other departments in addition to Union Parishad personnel.

Deputy Commissioner of Jessore joined as Chief Guest and said that “NCD” is a new program for him and according to his information none is doing this work except the government. He expressed his keen interest in the project.

Mentioning the risk factors from the "NCD Risk Factor Survey 2010" by the World Health Organization, Dr. Amir Ali, Director and Program Manager - NCD Control of the Directorate General of Health Services (DGHS), who participated as special guest, said that medical college hospitals and specialized hospitals are going to be strengthened for the purpose of NCDs care and support service, and that the initiative to establish a coronary care unit at district hospitals is being taken.

Deputy Director Family Planning said that his department will support AAN whenever needed for carrying out activities smoothly in field. Then the Chairperson of the session, Civil Surgeon of Jessore, said in his speech that NCD is becoming a burden to Bangladesh and we needed to work

Launching Ceremony (District Collectorate conference room, 23 September 2013)

together. He also mentioned that only AAN cannot solve the problem unless the concerned institutions come forward. On behalf of AAN, Mr. Kazuyuki Kawahara, Adviser, made a welcome speech and explained why AAN was going to carry out the project.

At the second session of the launching ceremony, Upazila Health & Family Planning Officer briefed on the NCDs situation in Jessore showing some survey data carried out under a DGHS program in January-February 2013. Then Project Manager made his presentation on the project outline. Finally, Mr. Mamuro Hanzawa presented the progress so far made.

In the open discussion session one NGO representative requested AAN to convey the risk factors to their beneficiaries, too, considering the importance of the issue. A school teacher requested all to support the water test by union parishads so that the source of arsenic safe water can be confirmed.

The program ended with a vote of thanks from the chair after the open discussion session. Overall, participants welcomed the timely and important program and recommended to conduct vigorous awareness activities and supply arsenic safe water.

CHAPTER 2

Chapter 2 Capacity Development through health education

Capacity development of residents through health education was one of the major activities of the project. It was relevant in view of the necessity of sustainability of project activities aimed to reduce risks that are likely to cause NCDs. Main target was set to form Social Support Groups and Community Groups and give them training on NCDs risk reduction. Union Supervisors and Field Facilitators appointed by the project are also expected to contribute to their communities to tackle NCD-related problems with their knowledge and skills gained through project activities.

Following tasks were planned and targeted under

Output 1: 1-1 The health task will be selected each area.
1-2 More than 50% of CG members will accept behavior for NCD prevention
1-3 Awareness materials will be developed
1-4 60% of villagers will understand the health task of their area.

1. Trainings and Workshops

1.1 Project Orientation

To introduce the project to the project staff including newly recruited members an orientation meeting was arranged on 1st June 2013 at the training room of the Arsenic Centre. Project Manager, Japanese Expert and Program Manager were the lecturers. After introducing each other, the presentation session started with project outline, activities, work plan, implementation strategy, accounts and administrative process and reporting systems. The participants were egger to learn about the project since NCD was a new issue for them. Especially NCDs situation knocked them. Most of the participants made a request for their skill development, to which project officials responded positively.

Mr. Mamoru Hanzawa at the Staff Orientation (Arsenic Centre 1 June 2013)

Project regulation and accounts process were also discussed briefly and job responsibilities were distributed among them. Participants were happy to learn about the outline of their work and to have gotten the chance to work on an important issue. They expressed their interest to do their best to the suffering community. Project planned to update their knowledge and skills on a regular basis.

1.2 Basic ToT and Awareness

As per the project plan a 2-day "Basic Training of Trainer & Awareness" was held focusing on awareness activities for the newly recruited 17 staff on 26-27 August 2013 at the Arsenic Centre. Training topics included facilitation, interpersonal skill, communication, motivation, adult learning, planning & controlling, reporting, monitoring & evaluation as well as awareness activities.

Multi approach of motivation, organization of various events and planning were discussed in groups. The digital instrument was used to demonstrate each topic pictorially. The participants were very attentive during the whole training session. In fact they conducted field activities and awareness-raising programs in the field with confidence.

Program Manager in a session of 2-day training on "Basic ToT & Awareness" (26 August 2013)

Participants in a group work session of the "Basic ToT & Awareness" (27 August 2013)

Multi approach of motivation, organization of various events and planning were discussed in groups. The digital instrument was used to demonstrate each topic pictorially. The participants were very attentive during the whole training session. In fact they conducted field activities and awareness-raising programs in the field with confidence.

1.3 Training on Awareness-raising

The first training on awareness-raising was arranged on 15th November 2013 for Union Supervisors and Field Facilitators (FF) at the training room of the Arsenic Centre. Project Manager provided the training for a total of 14 participants. Handling poster, applying technique, place and data recording were the main contents of the training. Project Manager also explained FFs how to respond to questions which people were likely to ask. On the following day all Supervisors checked the field performance of FFs.

Training on awareness-raising (15 November 2013)

1.4 Workshop on Exercise

The project selected four NCD risk factors of unhealthy diet, smoking, lack of physical exercise and arsenic-contaminated drinking water (instead of alcohol identified by the World Health Organization). Since the lifestyle and working habit of targeted people are different, the project planned to develop ideas of physical exercise, inviting Ms. Yoshie Sakaguchi, a graduate from the Nippon Physical Education College.

On arrival in Jessore from Japan, Ms. Sakaguchi first visited villages to observe rural lifestyle and people's working habits. Then a workshop was held on 26 March 2014 at the Arsenic Centre with 18 participants, including a local physiotherapist so that the techniques can be matched with the local condition.

After a session on the types of exercise, techniques, meaning, and effectiveness by Ms. Sakaguchi, the participants practiced various types of exercise group by group.

Ms. Sakaguchi (left) showing a technique at the daylong workshop (26 March 2014)

Participants in the exercise session (26 March 2014)

The daylong workshop was in two parts; one in the classroom and the other in the field. Participants learned villagers' feeling after applying those exercise techniques in the field. Some villagers were eager to start based on the given instruction and some were anxious whether they could continue without being monitored by project personnel. The project developed an "Exercise Guidance" for NCD patients in the second year.

2. Social Support Group (SSG)

Capacity development of communities is essential for the continuity and sustainability of targeted activities for any project. This project introduced a concept of "Social Support Group" for this purpose.

2.1 Criteria for SSG Member Selection

A Social Support Group (SSG) consisted of individuals who had willingness to do something for the betterment of people. Although the government already formed Community Groups and Community Support Groups at each Community Clinic, the project tried to form SSGs selecting its members in a participatory way. Considering the sustainability, socially accepted people and volunteer students were included in the SSG. Each SSG member was to cover three wards.

Table 2: Criteria for SSG member selection

Particular	Number
UP Member (Male)	3
UP Member (Female)	1
Religious leader; Imam & Purohit (Priest)	1-2
School Teacher	1-2
Students from local community (Male)	3
Students from local community (Female)	3
Village Doctor	1
Elite person	1-3
Health Personnel (among HA, FWA, CHCP)	1-2
Total	**15-20**

2.2 Role of SSG

The following activities were selected as major roles of SSG members:

- To convey necessary information on NCDs to the community, including institutions, social programs and meetings, seminars and places where people gather.
- To support organizing Community Group (CG) workshops.
- To support organizing awareness-raising activities such ascourtyard discussion session, video show, drama, etc.
- To take initiative for organizing medical camps.
- To discuss social and environmental issues/factors that cause NCDs with Union Parishad and/or Union Development Coordination Committee.
- To monitor field activities and provide necessary feedback.

2.3 Formation of SSG

It was a new idea to form Social Support Groups (SSG) to lead the community level activities. On 24th May 2013, the project organized a workshop for developing ideas on how to form an SSG in Faridpur village of Diara union. UP Chairman, UP Members, school teachers, village doctors, social elites, identified and suspected NCD patients, people from slum area participated in the workshop with the presence of Faridpur villagers.

Healthcare Provider explains CD & NCD symptoms to clarify diseases. (Diara Union , 24 May 2013)

It was decided that UP Members would take the responsibility of SSG formation. UP Members called various people from each level, who gathered at a common place on a selected day. At first participants made a social map to get an idea of ward boundary, existing educational institutions, health service centre, bazaar and populated areas. Then the project staff briefed on the project outline and explained criteria of SSG member selection, its role and responsibilities. Then, chairman of the meeting explained the purpose of the gathering and asked the participants to propose names of SSG members according to criteria.

When a name was proposed by the audience, the chairman asked for opinion from all. In this way the SSG member selection was processed. Finally, the project asked them to select a leader of the group and one of the participants was selected as "Convener" of the group. It was really difficult to keep the number of members within 20 due to the participatory selection method.

Therefore, the average number of the group members became 23. Participants of the meetings were very much interested in the project since the issue was of importance and related to their lifestyle. Table 3 summarizes of the SSG formation meetings.

Villagers and UP Members with a social map at an SSG formation meeting (Churamankati union, 24 June 2013)

Table 3: Information of SSG Formation Meeting

Union	Ward	Date of formation	Attended participants	Maleer	Female	Nominated SSG members
Arabbpur	1,2,3 (old 1)	19-Jun-13	40	17	8	25
	4,5,6 (old 2)	03-Jul-13	59	12	9	21
	7,8,9 (old 3)	30-Jun-13	45	16	5	21
Basundia	1,2,3 (old 1)	23-Jun-13	45	16	9	25
	4,5,6 (old 2)	20-Jun-13	44	24	5	29
	7,8,9 (old 3)	27-Jun-13	49	18	7	25
Churamankati	1,2,3 (old 1)	20-Jun-13	45	16	5	21
	4,5,6 (old 2)	24-Jun-13	50	17	6	23
	7,8,9 (old 3)	02-Jul-13	49	15	5	20
Diara	1,2,3 (old 1)	04-Jul-13	34	15	6	21
	4,5,6 (old 2)	23-Jun-13	49	17	6	23
	7,8,9 (old 3)	26-Jun-13	42	16	8	24
Total			**551**	**199**	**79**	**278**

2.4 Training on NCD control for SSGs

For most of SSG members it was the first time to hear the name of "Non-Communicable Disease" (NCD). But they were familiar with some diseases of NCDs and even knew some victims. They were very interested, therefore, to learn how to avoid the diseases.

The first training was organized on 7 July 2013 at the Arsenic Centre, where 20 participants came from Basundia Ward Nos. 1, 2 & 3 out of the targeted 25. The main purpose of the training was to let the SSG members know about non-communicable diseases, signs & symptoms and its risk factors.

A common schedule was made keeping the contents; namely, the definition of communicable and non-communicable diseases with symptoms, its control and prevention processes. In the exercise session, SSG members made a list of NCDs which were familiar in their area. These were hypertension, diabetes, stroke and asthma in most cases. Then they identified reasons of those diseases, and finally, based on the reasons, they decided health tasks in their areas. Participants agreed that their lifestyle is the main cause of these diseases.

The key issue of the training was for SSGs to make a list of health tasks or an action plan for their areas. Union-wise health task is shown as Annex-1. At the training the NCD session was conducted by a specialized doctor. They were from Civil Surgeon Office, Upazila Health Complex and 250 bedded general hospital of Jessore. Civil Surgeon, and Upazila Health & Family Planning Officer also conducted some sessions. Among the targeted 278 participants 243 (87%) were present. Female participants' presence was higher at 92% than the male participants of 85%. The summary of the training programs is given in Table 4.

Civil Surgeon, Jessore, explains how to prevent NCDs to SSG members (10 July 2013)

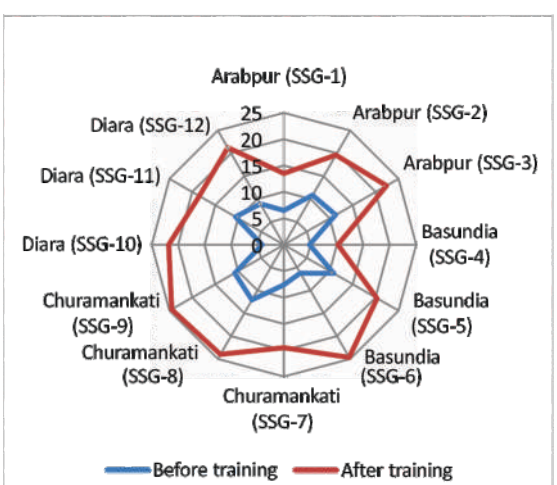
Table 4: Record of SSG Training

Date	Union	SSG Code	Male	Female	Total	Resource person
07-Jul-13	Basundia	G #4	13	7	20	Dr. Montajul Haque, UH&FPO, Sadar, Jessore
09-Jul-13	Basundia	G #5	19	5	24	Dr Imdadul Haque Razu, Medical Officer, CS Office
10-Jul-13	Diara	G #11	14	5	19	Dr. Atikur Rahman Khan, Civil Surgeon, Jessore
14-Jul-13	Arabpur	G #1	12	8	20	Dr. Sheikh Shamsuzzaman, Medical Officer, UHC, Sadar
16-Jul-13	Churamankati	G #7	16	4	20	Dr. Imdadul Haque Razu, Medical Officer, CS Office
17-Jul-13	Diara	G #12	11	8	19	Dr. Montajul Haque, UH&FPO, Sadar, Jessore
18-Jul-13	Basundia	G #6	13	5	18	Md. Fazlul Haque Khalid, Assistant Consultant, 250 bedded general hospital, Jessore
21-Jul-13	Arabpur	G #2	12	9	21	Dr. Imdadul Haque Razu, Medical Officer, CS Office
23-Jul-13	Churamankati	G #8	16	6	22	Dr. Imdadul Haque Razu, Medical Officer, CS Office
24-Jul-13	Diara	G #10	15	6	21	Dr. Mahabubur Rahman, Consultant, 250 bedded general Hospital, Jessore
25-Jul-13	Churamankati	G #9	14	5	19	Dr. Imdadul Haque Razu, Medical Officer, CS Office
28-Jul-13	Arabpur	G #3	15	5	20	Dr. Montajul Haque, UH&FPO, Sadar, Jessore
Total:			**170**	**73**	**243**	

The project communicated with those SSG members who could not join the training to share its contents with them.

All the 12 SSG trainings were completed by 28th July 2013. The project checked the knowledge of participants on NCDs conducting pre- and post-training evaluation tests. Almost every person developed their knowledge, as shown in the SSG-wise graph on the right.

Most of the SSG members supported organizing NCD risk identification campaigns and encouraging their communities for changing lifestyle.



NCDs Knowledge Before and After Training

3. Community Group (CG)

A Community Group (CG) is a group of people selected from each level of villagers on specific criteria. CG members were expected to take initiative for changing habits to reduce NCD risk factors. CG is the grass-roots level group of the project. The project provided them with guidance for reducing risks and monitored their lifestyle whether they were facing any problem to maintain their life all through the project period.14

3.1 Formation of Community Groups

The Social Support Group (SSG) was responsible for forming Community Groups, as decided at SSG's first meeting. At a CG formation meeting Health Worker placed a probable list of areas with NCD patients. In most cases the SSG formed a sub-committee to complete the list and finalize. Finally, the sub-committee placed the list of possible CG members with recommendation to the Convener for his approval.

The 20-member CG was formed then based on the meeting decision of criteria, which were:

- Person who is at least 25 years old
- Person who has already been identified as an NCD patient
- Person who seems to have a suspected NCD symptom
- Person who is willing to support for reducing the NCD risks among families and neighbors
- Persons from all clusters; namely, rich, poor, vulnerable, male and female

Community Groups were formed as shown in Table 5 by the sub-committees under SSGs.

Table 5: Formation of Community Groups

Union	Date	Participants of CG formation meeting	Patient identified	Patient suspected	Interested persons	Persons in patient family	No. of Selected CG members	Remarks
Arabpur	22-Aug-13	40	9	4	3	4	20	Rich group
	25-Aug-13	50	9	1	7	3	20	Muslim
	04-Sep-13	55	7	1	3	9	20	
Basundia	03-Sep-13	40	10	1	3	6	20	
	22-Aug-13	50	16	2	0	2	20	Illiterate
	29-Aug-13	22	12	4	1	3	20	Hindu
Churamankati	05-Sep-13	60	13	3	2	2	20	
	25-Aug-13	55	13	0	2	5	20	Poor
	03-Sep-13	50	11	4	2	3	20	
Diara	08-Sep-13	47	19	0	0	1	20	
	04-Sep-13	61	14	2	0	5	21	Educated
	29-Aug-13	43	19	0	0	1	20	
		573	152	22	23	44	241	

3.2 Responsibilities of CG Members:

1. To recognize health problems in the community
2. To develop skills for solving the problems
3. To set a target for solving the problems and maintain actively
4. To take necessary action for preventing NCDs
5. To find out a barrier to play preventive role and discuss with SSGs to remove it
6. To explain neighbors on NCDs' fatality and motivate them to take control measures

3.3 Workshop for Community Groups

The purpose of the CG workshop was to introduce the ways to avoid risky behavior and to discuss any difficulties for changing lifestyle. The workshop was planned for six times in three years for each CG. The first CG workshop was held in October 2013 and the final one in September 2015.

At every workshop the project introduced one important issue with regard to NCD control and asked participants whether they wanted any action for changing their lifestyle. Most participants decided to take one or more health tasks.

In the next workshop, project staff asked CG members if they faced any difficulties in carrying out their health tasks. The participation of CG members in these workshops was remarkable 95% in average.

Community Motivator at a CG workshop
(Diara union, 22 May 2014)

In case of absent CG members, the SSG member and project staff supported them to update the information visiting those members' houses. They were really interested in the risk factors of NCDs. Some villagers showed their interest even to join the Community Group. Initially the number of CG committee members was for 20, but it was changed based on the suggestion of villagers during the meeting.

After the first session, participants agreed to change their habits that may cause NCDs. Among 13 risky behaviors selected by the project, CG members chose those that they noticed most dangerous for their healthy life. They selected one or two habits which they wanted to change, as it might be difficult to avoid all risks at one time. Most of the members wanted to avoid taking extra salt during the meal. Some of them also wanted to take more vegetables, reduce tobacco use, increase physical activities, and make an improved stove.

The agenda of these six workshops are given below:

Year 1: Workshop 1	Year 1: Workshop 2	Year 1: Workshop 3
1. Introduction 2. Role & responsibilities of CG members 3. What is NCD? 4. Why we suffer on NCD 5. Sign and symptoms of NCD 6. How to control NCDs 7. Make an action plan	1. Review the action plan 2. Find out the difficulties and positive approach 3. Briefing of arsenic poisoning & its remedy 4. Make a counter action plan 5. How to overcome physical inactivity	1. Review the action plan 2. Find out the difficulties and positive approach 3. How to overcome physical inactivity 4. Diabetic & what to do 5. Make a counter action plan

Year 2: Workshop 4	Year 2: Workshop 5	Year 3: Workshop 6
1. Reviewed of the lifestyle changing task 2. What is stroke? 3. Why stroke? 4. How to identify symptom? 5. How to care stroke patient? 6. How to prevent stroke? 7. Open discussion	1. Review the action plan taken by the members 2. Find out the difficulties and positive approach 3. Purpose of introducing homestead gardening 4. How to select location? 5. How to make a bed? 6. Type of seeds and growing strategy 7. How to prevent insect?	1. Review lifestyle with the taken task 2. How to carry on changed lifestyle 3. How to share their success case with neighbors 4. What is health monitoring 5. Where & how health can be monitored. 6. Social responsibility.

4. Development of Awareness Tools

Developing tools for awareness-raising is a very important part of this project. The initial plan of tools development was to come from CG workshops. But when the project was launched and its outline was introduced to union parishads, SSG members and the concerned health personnel of the Upazila Health Complex gave some ideas on awareness-raising tools. Based on those ideas, and with suggestions from others, various types of tools were generated as below.

4.1 Handling Poster

A “handling poster” is such a poster made by hand using individual photos of four NCD risk factors; namely unhealthy diet, smoking, lack of physical exercise and arsenic-contaminated drinking water. Colorful photos of these factors were pasted on an A1-size brown paper which also carried necessary messages on risk factors composed by computer. Titles, arrows and some picture captions were also written by hand.

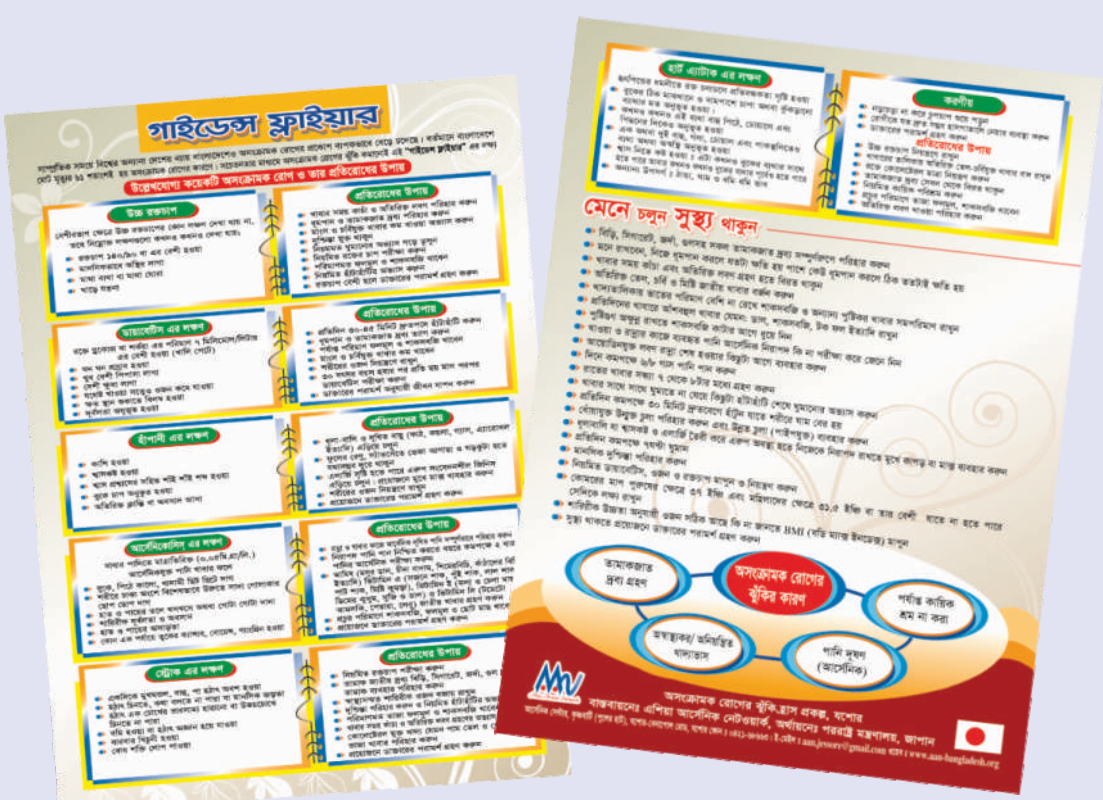
The handling poster was first used for CG workshops and later at the community level. Since CG members showed their interest in the tool and suggested to show this type of poster at the community level, the project developed eight pieces of handling poster at the initial stage. It was

very useful for participants to understand the meaning because of pictures, but it was difficult to carry and hang this size of poster without a helping hand. Project developed 4 posters for the activity. Later the idea was developed into PVC posters.

Handling poster

4.2 Guidance Flyer

A "Guidance Flyer" was made focusing on common non-communicable diseases and remedies as discussed at the SSG trainings and Union Parishad meetings. The Guidance Flyer was printed on A4-size paper incorporating the symptoms of hypertension, diabetes, asthma, stroke, and heart attack with remedies as well as some general messages. The back page has the information on the four NCD risk factors and how to get rid of them. The flyer was distributed as guidance to confirmed and suspected NCD patients through the Community Clinics and Family Welfare Centres of the target area. A total of 24,000 copies were printed and later the Guidance Flyer was distributed to educational institutions also.



Guidance Flyer

4.3 Flash Card

A “Flash Card” is one of the major awareness tools considered by the project for the application at the community level. Though the overall concept was made at an internal workshop among the project staff, it was a painter who drew the pictures on a canvas first and then they were developed more by a graphics designer. The flash cards mainly focused on four NCD risk factors and how to change risk behaviors. The project made 20 sets of the flash cards, each consisting of 11 sheets.

Flash card (risk factors)

Flashcard (how to overcome)

4.4 Festoon

It was felt that it would be effective if there were any posters or written messages during drama performances or at events. With a view to attracting people’s attention on such occasions, the project made 50 festoons with 25 messages on colorful pieces of cloth. They had messages on NCD risk habits and behavioral change and were hanged surrounding the event venue or the stage in case of drama performances. They were also used during meetings and workshops. They were given more emphasis during medical camps.

Festoons

4.5 Sticker

Four NCD risk factors and basic risky behaviors were the main focus of the sticker. It was developed so that people would learn the risk factors when they looked it. The stickers were placed at schools, colleges, health centers, and crowded places. Raw salt, sleeping time, tobacco and arsenic contaminated water were the key points noted by the villagers from the sticker.

A total of 10,000 pieces of stickers was printed. SSG members and Youth Club members played a vital role to paste the sticker in crowded places and houses in their community and vehicles for encouraging the community for healthy lifestyle.

Figure 18: Sticker

4.6 Poster

A PVC poster (digital print) was made for primary and secondary schools, Community Clinics, Family Welfare Centres and Youth Clubs. The purpose of the PVC poster was to teach people on NCD risk factors and the ways to overcome them. Teachers, health workers and Youth Club members selected suitable places and occasions to throw messages from the PVC poster towards families, friends, and anyone around them. Community Health Care Provider (CHCP) commented that the poster was very helpful for him to provide health education.

A total of 250 pieces of posters was produced.

PVC poster (Digital poster)

4.7 Billboard

A picture-based billboard was developed to educate the floating people especially males who stayed most of the time outside of their homes. It was necessary as without everyone's cooperation in a house it would not be possible to change the lifestyle.

Usually, Union Parishad members and SSG members selected the places for setting these billboards from the populated areas like bazar, mor, roadways and near institutions.

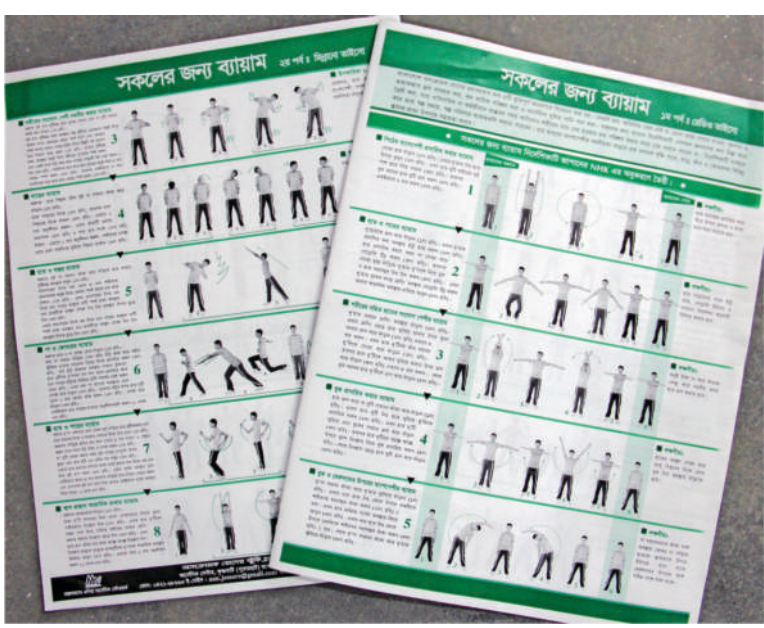
Thirty-three (33) billboards were installed in targeted four unions and one billboard each was set up at the Upazila Health Complex, Jessore 250-Bedded General Hospital and a highway roadside.

Billboard

To know the effect of the total 36 billboards, the project observed places and found that around 300-400 persons read the content daily. Many of the villagers said that the names of these diseases were familiar to them but smoking, oily food, arsenic and lack of physical exercise were not known to them as causes of NCDs. As a result they shared the messages in the society.

4.8 Exercise Guidance

Physical inactiveness is one of the major risk factors in Bangladesh. In villages we always wait for transport without walking or use a motorcycle, battery bike or engine bike for going even a short distance. To promote physical exercise among people of every cluster the project developed an "Exercise Guidance". The idea was borrowed partly from *Radio Taiso and Minnano Taiso* of NHK, a Japanese broadcaster.



Exercise guidance

The four-page guidance was named "Sakoler Jonno Bayem", meaning "Exercise for all", depicting exercise instruction with illustrations. It takes 10 minutes to complete the exercise and it is possible to do anywhere. The Sakaler Jonno Bayem guidance may help village women to do it in their houses. Doing the exercise regularly will relax and/or strengthen the joints and muscles which people do not use much in their daily life. It was suitable for anyone of any age to do this exercise.

A total of 9,000 copies of the exercise guidance was produced.

A Japanese Adviser of the project made the audio version of the exercise so that people can practice it using a mobile phone or sound system.

The Spread of Exercise Groups

It was found during the field visit of project staff that some people were doing the exercise in their houses using the "Exercise Guidance". Later they even made an exercise group to practice together!

The first groups were formed in Teghoria village under Diara union around November 2014; one with 10 males and the other with 20 females. When project staff visited the place all members came out together in a common place to learn the exercise more from the staff. Interested people in Arabpur, Basindia, Churamankati unions also followed suit by early September 2015.

The project tried to monitor those exercise groups' activities by checking members' blood pressure, height, weight and waist circumference and calculated BMI at aregular interval until January 2016. Interestingly those who do regular exercise say that they feel more comfortable in their regular work. Most of them reported that their pain on the back, elbows and knees had improved and they could pray five times comfortably.

The Headmaster of Muktessarri Secondary School of Arabpur union, who was an SSG member, requested the project to introduce the exercise techniques to his students. After the demonstration by the project, the Physical Education teacher carried on the exercise for 350 students during the assembly. It is understood that many students continue the exercise with their families and neighbors.

4.9 Notebook with NCD Messages

It was thought effective to distribute a diary-type notebook with messages on NCD. The notebook named "*Learn Non-Communicalbe Diseases*" contains the information on:

- Defination of Communicable Disease, Non-Communication Diseases (NCD)
- Source of NCDs
- NCD's global and national severity
- Four major NCD risk factors

This notebook was designed also to include a blood pressure chart, some NCDs with controlling process, risky behavior and guide to change

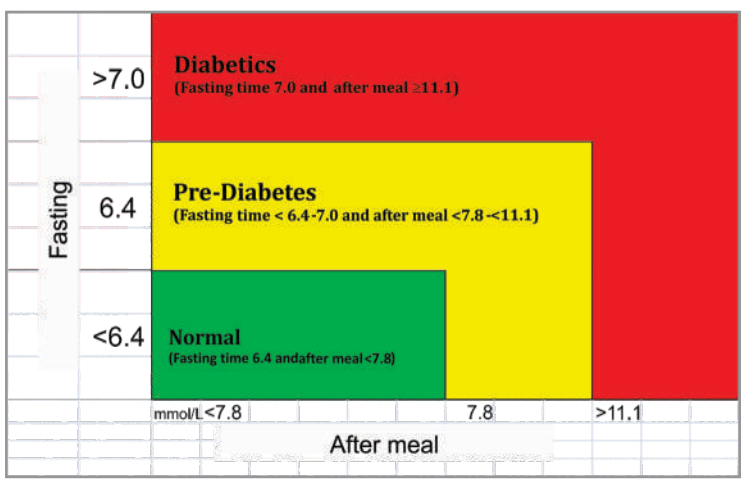
Notebook with NCD Messages

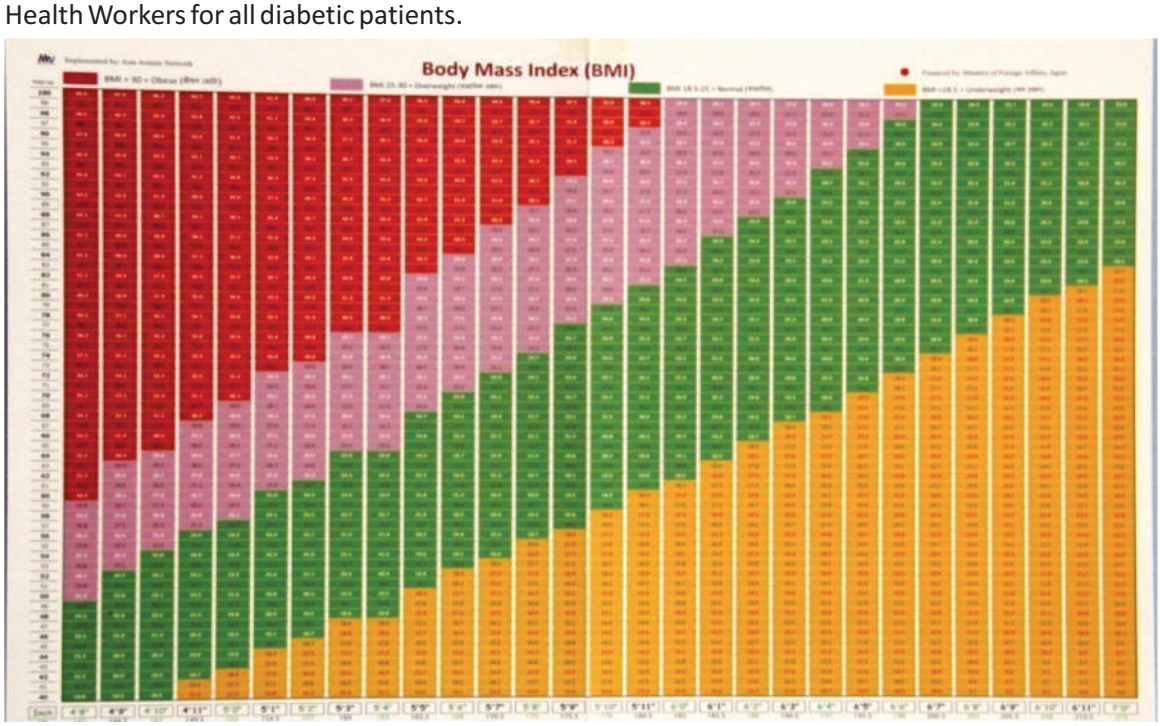
lifestyle, ideal weight according to height, diabetic chart and Body Mass Index (BMI) chart. Among the total 80 pages it has 70 blanck pages for keeping notes.

The project printed 350 copies of this "*Learn Non-Communicalbe Diseases*" message notebook in the second year and distributed to UP Chairmen and Members, government officers, health workers and teachers, who have the responsibility to advocate at the village level. It was expected that those diary recipients would learn about NCDs and deliver the important messages to friends, neighbors and students to reduce NCDs in their communities.

4.10 Diabetes Guidance Card

Nowadays the number of diabetic patients is increasing everywhere in Bangladesh. While conducting NCD's risk identification campaign, the project found that 15% of the campaign visitors had no idea of diabetes although their sugar level was high. Furthermore, it was observed that some diabetic patients did not care about doctor's advice. To make people aware of the importance of appropriate diet and lifestyle for diabetic patients, the project made a "*hand scalling*" picture-based food card. The project also provided guidance on nutrition with the help of the students of the Jessore University of Science & Technology and Health Workers for all diabetic patients.





4.11 BMI Calculation Chart

In view of the importance of height-weight ratio, the project developed a colorful Body Mass Index (BMI) chart. The BMI chart was helpful to see the ranges of “obese”, “overweight” and “underweight”. A total of 150 BMI charts was printed and they were distributed to institutions providing health services such as Community Clinics and Family Welfare Centres. The project also distributed the BMI chart to Youth Clubs and mosques so that people there might be more conscious of the importance of height-weight ratio.

4.12 Awareness Drama

An awareness drama was developed based on the concept of local lifestyle. Some of the topics covered in the drama were:

- Why do we suffer from non-communicable diseases?
- Which are the risk behaviors?
- How can we reduce the risks of suffering from NCDs?
- Do we need to make aware others?

Six characters (male-5 and female-1) were considered from rural culture. Comical and useful messages in general rural lifestyle made the dram meaningful and enjoyable. The drama was titled "*Porinoti*".

One scene of the drama

While other tools were designed for female participants, the drama was developed targeting male participants. The project recruited an experienced person for a certain period to develop the drama. Five professional actors and one actress were trained to perform the drama. Finally, a 30-minute drama was completed. Just before the drama performance, a message song was performed.

4.13 Documentary on Non-Communicable Disease

The severity of non-vommunicable diseases is not known to many. Some project staff and Health Workers worked together to develop a 15 minutes long documentary on NCD in the second year to make people aware of risky behavior and introduce multi-sector support to poor NCD patients.

After copying the documentary on DVD discs it was shared with the Upazila Health Complex (UHC) and educational institutions. AAN also utilized it for educating on various events and occasions. The documentary contained

not only NCD risks but the techniques to avoid them. The NCD's severity in the rural areas was incorporated as one of the key messages to the policy makers.

UHC appreciated this documentary and suggested the project to distribute a copy to each Community Clinic and surrounding unions in future.

5. Awareness-raising Activities

5.1 At Community using Handling Poster

While most of awareness tools were under development, the project organized a community level awareness program using a handling poster. The purpose of the handling poster was to introduce risky behavior that causes NCDs. The four risk factors and ways to avoid them were focused.

A Field Facilitator conducting an awareness session
(Jangalbadal village under Basunda union, 25 November 2013)

This awareness raising activity started on 11 November 2013 and continued till the last week of January 2014. Field Facilitators (FFs) of the project conducted the sessions.

From February 2014, the flash card was used for motivational work at the community level. Considering the size of the handling poster, the project tried to gather many people in a common place, whereas the flash card sessions were organized in a smaller gathering. It was the first time for most of the participants to hear the word of "non-communicable diseases". In average 23 people participated in such awareness-raising sessions during November 2013 and January 2014.

SSG members supported the project in selecting the places for this type of awareness-raising programs. The project also engaged four part-timers for a certain period to collect data at each location. The union-wise summary of the program is given in Table 6.

Table 6: Awareness-raising using a handing poster

Union	Session	Male	Female	Child	Total
Arabpur	58	206	773	304	1,283
Basundia	64	219	1020	500	1,739
Churamankati	64	288	1536	579	2,403
Diara	62	287	1263	278	1,828
Total	**248**	**1,000**	**4,592**	**1,661**	**7,253**

5.2 At Community using Flash Card

The community level awareness program was carried out in full swing in the 2nd year. Usually, the Field Facilitators (FFs) conducted the sessions by inviting people in a common yard which is near from their houses. Sitting in a circle, FF explained the severity of non-communicable diseases. The program covered the definition of communicable and non-communicable diseases, and risky behavior in relation to their lifestyle.

The word of "non-communicable disease" was new for most of the participants and therefore, they were not attracted at the beginning. However, when the names of diseases such as hypertension, diabetic, asthma, stroke, COPD, heart attack came up as NCDs, they started being active participants. The picture-based flash cards indeed could touch the heart of participants and some of them understood the point which the pictures were expected to convey.

The session was completed with an open discussion after the explanation, in which the participants talked about the ways to get rid of risky behavior.

This community based program using flash cards conveyed the risks of NCDs to 49,281 people in the four unions during the project period (1st year: 4,939, 2nd year: 24,998 and 3rd year: 19,344). FFs were able to carry out the program more comfortably in the 2nd year.

In case of the 3rd year the project promoted Health Workers and other local resources to motivate villagers on NCDs.

Community level awareness using flash cards (Vekutia, Arabpur union)

5.3 Drama - Massive Awareness Program

A drama titled "*Porinoti*" was developed to make villagers aware of NCD risks, specially targeting a male population who stayed outside most of the day. Although various awareness activities at the community level could help the project reach to women, it was essential to let the messages go to men as well.

The first performance of the drama "Porinati"
(Nutunhat of Diara Union, 9 February 2014)

The place of drama was selected by the SSG in corporation with Union Parishad. The first performance was held on 9 February 2014 at Durgapur bazaar, Nutunhat village under Diara union. The concerned SSG members and/or UP Members delivered short speeches about the purpose of the program.

The drama covered the adverse effects of smoking, indoor pollution, unhealthy diet, arsenic contami-nated water, physical inactivity, use of extra salt as well as the importance of main-taining dinner and sleeping time to avoide NCD risks.

Fifty-four (54) per-formances were given (13 in Arabpur, 13 in Basundia, 15 in Churamankati and 13 in Diara) during the three-year project period, observed by a total of 20,136 people. The ratio of male, female and child (8 to 12 years) spectators was 62%, 20% and 18% respectively.

Drama performance (Abdulpur bazar of Churamankati union)

5.4 At Tea Stall

Although 62% of the drama spectators were male, there were still many men without receiving any NCD-related information. Also, the record of various community level awareness activities showed only 11% participation from a male population. Therefore, the demand of a specific program came out from SSGs. This was the background of this awareness program at tea stalls, considering the role of male in a family to support the efforts to change lifestyle.

Awareness using flash cards at a tea stall
(Narangali Bazaar of Diara Union)

Based on the information of UP Member and SSG members, the project listed 584 tea stalls (179 in Arabpur, 126 in Basundia, 130 in Churamankati and 152 in Diara). At first, FFs visited tea stall owners asking for permission to conduct the program. It was seen that most of village tea stalls sold tobacco items but they agreed to conduct the program. FFs performed awareness sessions using flash cards in front of the customers.

Many customers of a tea-stall spent long time for gossiping and the project wanted to touch their mind so that they would be conscious of NCD risk behavior such as taking excessive salt, smoking as well as using dry tobacco. The program was designed to convey messages to promote:

1. early dinner by 8:00pm,
2. going to bed at least two hours after dinner,
3. checking blood pressure and blood sugar often,
4. reducing the amount of rice and increasing vegetable, etc.

The awareness at tea stalls helped the project to convey important messages to 7,262 males through 587 sessions, as summarized in Table 7.

Table 7: Summary of Tea Stall Awareness

Union	No. of Sessions	Participants						
		Male		Female		Child		Total
		Number	%	Number	%	Number	%	
Arabpur	179	179	89	85	3	196	8	2,548
Basundia	126	126	83	39	3	171	14	1,305
Churamankati	130	130	91	37	3	65	5	1,186
Diara	152	152	88	0	0	265	12	2,169
Total	**587**	**587**	**88**	**161**	**2**	**697**	**10**	**7,208**

5.5 Awareness at Schools

The idea of awareness activities at schools came from the SSG and union parishads. The project discussed among UP Members, SSG and staff, who agreed to conduct awareness activities at primary and secondary schools. It was keenly felt that the school awareness was important to educate students so that they themselves would be conscious of NCDs. Children were also expected to carry messages to their families on risky lifestyle and how to avoid the risk factors.

5.5.1 At Primary School

Considering the necessity to void risky behavior that may cause NCDs right from the childhood, project made a plan to make primary school students aware of NCDs and risk factors so that they would maintain their lifestyle and play an important role to develop their families' lifestyle free from NCDs.

UP Chairmen of the four target unions issued letters informing the headmasters of primary schools of the awareness program, which was followed up by FFs to confirm the schedule.

FF conducted the awareness using a handing poster for students and teachers in a classroom. After the session, teachers shared the content later in other classes.

Awareness program (Jaghati Govt. Primary School under Churamankati union)

There were 90 primary level schools in these four target unions with 10,820 students. The project could deliver NCD messages to 9,707 students (90%) through the program. Students joined in the open session freely and made various questions on unhealthy diet, lack of physical exercise and arsenic contamination. Participated students promised to convey the messages to their families.

Table 8: Summary of awareness program at primary school

Union	Target		Covered		
	No. of School	Student	Session	Student	Ratio
Arabpur	18	2,405	57	1,917	80%
Basundia	24	2,834	70	2,339	83%
Churamankati	21	2,928	70	2,677	91%
Diara	27	2,653	75	2,774	105%
Total	**90**	**10,820**	**272**	**9,707**	**90%**

5.5.2 At Secondary School

The number of secondary level schools in the four unions was 38, and 13,598 students were registered. The project first met with the Secondary Education Officer of Sardar Upazila to discuss the idea of school awareness. He agreed with the idea and issued a letter on 23 September 2014 to the headmaster of each secondary school instructing to create an opportunity to learn the risks of NCDs so that they could educate students on the topic.

Project staff then visited the schools with the letter and finalized a schedule for awareness activities. The first orientation for teachers started from Basundia union on 25 September and ended on 30 October 2014 attended by 638 teachers (86%) out of targeted 739 engaged in teaching in 36 secondary schools.

The contents of the orientation included the topics of:

- Introduction of AAN,
- Definition of communicable & non-communicable diseases,
- Severity of NCDs,
- NCDs risk factors,
- NCDs in Jessore Sadar upazila,
- Result of baseline survey and what AAN will do for reducing risks.

Project staff conducted the orientation visiting schools. Secondary Education Officer also joined in the orientation at the Gaidgachhi Banagram Dakhil Madrassa in Basundia union on 1 October 2014. The Officer said that it was a nice opportunity to learn NCDs since the subject had become a serious concern for our daily life. He requested teachers to learn about NCDs as much as possible and teach them to students whenever they had opportunities as the childhood habit may develop as risky behavior to cause NCDs.

The project left a soft copy of presentations at each secondary school. After conducting an open discussion, the project also handed over a form to the headmaster for filling their plan of teaching NCDs in the class.

According to the plan by each school, project staff visited the secondary schools and observed the teaching session. Most of the cases teachers explained from the printed copies of AAN presentations.

Those teachers who received orientation from the project conducted 234 teaching sessions in total, where 11,322 students (83%) received NCD messages out of targeted 13,598 students. It should be noted here that the project was unable to organize orientation for two secondary schools under Arabpur union due to busy schedule of the schools. As a result only 83% students received NCD messages at 36 schools out of total 38.

A teacher of Jessore Cantonment School is making his students aware of NCDs (Arabpur union)

To know the effectiveness of the program, the project talked with some students in different institutions and found that most of them could remember some risky behavior like taking raw salt, smoking, dinner after 8 PM, sleeping just after dinner, lack of physical exercise and drinking arsenic contaminated water. Though the project could not ascertain, but it was found that students were telling what they had learned to their parents.

Table 9: Summary of awareness program at secondary schools

Union	School	Target Students								
		Boys	Girls	Total	School	Session	Boys	Girls	Total	
Arabpur	10	1,629	2,130	3,759	8	60	1,058	1,591	2,649	70%
Basundia	13	1,740	1,914	3,655	13	63	1,394	1,569	2,963	81%
Churamankati	7	1,619	1,746	3,365	7	54	1,436	1,479	2,915	87%
Diara	8	1,376	1,443	2,819	8	57	1,194	1,599	2,793	99%
Total	**38**	**6,364**	**7,233**	**13,598**	**36**	**234**	**5,082**	**6,238**	**11,320**	**83%**

5.6 House-to-House Awareness

In this program project staff made house-to-house visits and asked family members if they knew about NCD and its risk factors. FFs also asked various questions including if there were any NCD patients, how the family cooked food, if they were interested in physical exercise and testing tube

well water for arsenic, and so on. If anyone of the family members was unable to respond, the FF tried to make him/her aware with explanations.

From November 2014 to March 2015, FFs visited 14,781 households and interviewed family members of 12,961 households (88%) as no one was available at 1,813 households. It was found that in many cases male did not share information with their families.

House-to-house awareness (Bhekutia village of Arabpur union)

Table 10: Summary of House-to-house awareness

Union	Visited Households	Total members of visited HHs	Participants in the interview				Could not interview	
			Male	Female	Child	Total	Household	Family member
Arabpur	3,366	13,864	1,007	3,811	1,488	6,306	318	1,149
Basundia	3,618	15,277	1,053	3,913	1,584	6,550	398	1,410
Churamankati	3,677	15,239	669	3,507	403	4,579	370	1,323
Diara	4,120	17,273	722	3,648	446	4,816	727	2,808
Total	**14,781**	**61,653**	**3,451**	**14,879**	**3,921**	**22,251**	**1,813**	**6,690**

Case Study: Chanbanu

My story: The rays of new hope

"I am Chanbanu. I am an asthma patient. I am a housewife and live in Islampur village of Churamankati Union with my family. When I was only 13 and was a student of just class 4, I had to step into my in-law's house. My husband Moslem Bapari was dull-headed and had problem in his brain. As a consequence, I had to take all the responsibility of my family at such an immature age.

"I found my new family inundated with lots of problems along with financial problem. I had no idea on family planning and my in-laws family didn't care about it. I gave birth to six sons and one daughter, which further increased financial problem to maintain a large family. I set up a grocery shop in my house for my husband. I led my family with the little income from the grocery shop and farming little land. Meantime, all my sons and daughter grew up and some of them got married. They started to work as day labour and led their own family with their little income. Then it became harder for me to meet the daily necessities for my family. The situations became worse when all family members frequently suffer from chronic coughing.

"In such situation, AAN staff started to come to our village. They arranged different programs like yard meeting, NRI camp, and arsenic test to make people aware to reduce the risks of the non-communicable diseases. I took part in their different awareness programs and came to

know lots of new things that I didn't know before, such as extra salt on plate, dinner before 8 pm, go to bed at least two hour after taking dinner, reduce fats and oil consumption, increase vegetable consumption, importance of regular exercise, avoid chewing tobacco and smoking, drink arsenic-safe water etc. All these were not easy for me to maintain but as I was passing through very hardship, I started to practice those in my life, and in my family as well, with a hope of wellbeing of mine and my family members."

5.7 Other Awareness Activities

Many NGOs are working for various development programs in the target unions. The project invited them to join hands in raising awareness on NCDs and risk factors among villagers. FFs conducted an awareness program using flash cards to NGO representatives. In addition they also conducted the program at Community Clinics (CC), Family Welfare Centres (FWC), Extended Program on Immunization (EPI) Centers and at union parishads at the time of distribution of allowances for VGD and VGF card holders, as summarized in Table 11.

Table 11: Awareness at Health Service Centres, NGOs, Union Parishads and Mosques

Union	Participant						
	CC	FWC	EPI	NGO	Union	Mosque	Total
Arabpur	143	0	52	142	61	0	398
Basundia	74	0	0	204	0	0	278
Churamankati	172	31	90	97	47	0	437
Diara	344	27	27	0	147	21	566
Total	**733**	**58**	**169**	**443**	**255**	**21**	**1,679**

The project gave extra efforts to various awareness activities with a view to leading to people's habit change, which is most essential to prevent NCDs. All in all, the number of people who participated in some kinds of awareness activities amounted to 109,564 in total during the first two years. As seen in Table 12, the house-to-house and school awareness activities in Year-2 accelerated the delivery of NCD messages to a wider and larger population.

Table 12: Summary of various awareness activities and No. of participants

Type of awareness	Year-1	Year-2	Total
Community level	12,192	24,998	37,190
Tea-Stall		7,262	7,262
Drama	15,004	5,132	20,136
House to House		22,252	22,252
Primary School		9,707	9,707
Secondary School		11,320	11,320
Others (CC, FWC, NGOs groups)		1,697	1,697
Total	**27,196**	**82,368**	**109,564**

In addition, Health Workers, Community Health Care Providers and village doctors also conveyed awareness messages relevant to NCDs to villagers. Health Workers talked about NCDs during their house visits, EPI program and counseling sessions, while the Community Health Care Providers made people aware of NCDs at the Community Clinic. A number of villagers also received guidance on NCDs from village doctors. They started NCD awareness in the 2nd year after receiving basic training on NCD control.

The project collected the number of people who received information on NCDs from those stakeholders on a monthly basis, as summarized in Table 13.

Table 13: Awareness by Stakeholders

Actor	Year-1	Year-2	Total
Health Worker (HW)	33,624	31,125	64,749
Community Health Care Provider (CHCP)	22,588	22,916	45,504
Village Doctor (VD)	26,580	41,945	68,525
Total	**82,792**	**95,986**	**178,778**

NCD Rally

On 27th January 2016, the project supported Arabpur union for organizing an NCD rally at the union parishad's request, though it was not in the original project plan. The union wanted to make its residents conscious of the sufferings by NCDs. UP Chairman and Members led the rally accompanied by Senior Health Education Officer, teachers, students, Health & Family Planning workers, local villagers, and project staff. Altogether there were more than 360 participants.

The rally started at 10:00am from the Union Parishad complex and moved through nearby villages. Colorful placards and festoons with various messages were carried by the participants of the rally. A discussion was held at the end of the rally where UP Chairman, Health Education Officer, a school teacher and project staff made speeches introducing risky behavior that may lead to NCDs and the ways to avoid it. UP Chairman said that the rally was able to convey the messages to the families of rally participants as well as those people at surrounding households.

CHAPTER 3

Chapter 3 Improvement of Quality and Access of Health Service

To develop knowledge and skills of health service provider on NCDs and make health services convenient for each cluster of people was the main target under output 2. The activities to achieve the target started in the second year. Considering vulnerable and minority groups the project put its extra effort towards "equity" rather than 'equality" since many severe NCD patients were identified among the people from poor strata and some of them were unable to go to hospital due to poverty, and the ignorance of families. The project also considered "4 As" for equity which were 1) Affordability, 2) Availability, 3) Acceptability and 4) Accessibility -- the matrix of Universal Health Coverage.

Following tasks were planned:

Output 2. 2-1 More than 30% of visitors of health institution (CC, FWC) will receive guidance.
2-2-1 The number of patients and residents at high risk, who are detected in NCD Risk Identification camps
2-2-2 60% of participants of NCD Risk Identification camp understand proper height and weight.
2-3 The number of registered NCDs patients under health management

1. Training for Health Workers

The purpose of the training was to develop knowledge and skills of Health Workers (HWs) on non-communicable diseases. According to the list of Upazila Health Complex, there were 73 HWs in the four target unions. The project divided the 73 HWs into two batches to organize the training. The first batch of the training was held on 2 September 2014 for 37 HWs of Arabpur and Churamankati unions. The Civil Surgeon Jessore joined the training as chief guest and lecturer and a Medical Officer of the Sadar Upazila Health Complex as lecturer.

Civil Surgeon Jessore is providing lecture on NCD control (Arsenic Centre, 2 September 2014)

Presentations at the training included the introduction of AAN, participants' expectation, definition of communicable & non-communicable diseases, type of NCDs, controlling and management. The project also provided proper guidance.

The second batch training was held on 3 September 2014 for 36 HWs from Basundia and Diara unions. Another Medical Office of the Upazila Health Complex joined as lecturer. The participants were very happy with the opportunity to attend the program since the training was full of new knowledge for them.

2. Training for Village Doctors

The project organized village doctor trainings from 7 to 10 September 2014 in four batches. Medical Officers from the Upazila Helath Complex and the Civil Surgeon's office provided the training.

The purpose of village doctor training was to develop skills for early detection of NCDs and management of NCD patients. Earlier the project discussed the training plan with Upazila Health Complex, Village Doctors Association and Union Parishads to select 20 participants from each union.

The contents of the training included the definition of communicable & non-communicable diseases, type of NCDs and controlling & management. Many village doctors said that this was the first training on NCDs for them and that they would utilize this experience for NCD management. They also agreed to give proper guidance to NCD patients. At the end of the training each village doctor filled a prescribed format with the information on treatment, referral and guidance to an NCD patient.

Village doctors of Diara union discussing causes of NCDs (10 September 2014)

3. Glucose Test Training

During the HW training the Civil Surgeon remarked the importance of measuring blood sugar and suggested to use a test kit for checking it. The project welcomed his idea and made a plan to introduce it to the CC and FWC.

In the afternoon of 4 March 2015, the training was organized at the Sadar Upazila Health Complex. The purpose of the training was to establish a cost effective blood sugar checking system so that villagers who were afraid of needle injection in the body and unable to pay a diabetic test cost of Tk. 30 would have the access to the blood sugar testing.

There were 27 participants consisting of CHCP (17), AHI (3), SACMO (5) and HI (2) in the training. The Upazila Health & Family Planning Officer (UH&FPO) provided the training where UNO of Sadar Upazila was the Chief Guest. Upazila Family Planning Officer was also present as Special Guest.

At the end of the training, UNO handed over 4,400 pieces each of blood sugar test kit and containers to collect urine to 22 health service providing centers (18 CCs and 4 FWCs) in the four target unions. The project contributed register books to those centers for keeping test results.

UNO of Jessore Sadar Upazila delivers his speech as Chief Guest (left) **and distributes test kits** (right)
(Meeting Room of Upazila Health Complex, 4 March 2015)

4. Training on NCD's Risk Identification

Project organized training on "NCD's Risk Identification" at the Ueno Memorial Training Room of the Arsenic Centre in the morning of 4 March 2015 in order to create local resource for identifying NCD risks and develop their skills for the purpose. In the training 30 members from three Youth Clubs, 1 priest and 11 Imams participated. The three Youth Clubs were involved in some social activities and the Imam who was an SSG member was interested to promote health check-up after the prayer. The Youth Clubs would provide the NCD risk identification service in the village and Imams at their mosque so that villagers would know their NCD-related condition and be more conscious of their health.

Imams and Youth Club members at the training on NCD's Risk Identification (Arsenic Centre, 4 March 2015)

5. Orientation on BP-BMI Measurement for SSG Volunteers

The project started supporting SSG members for conducting a BP-BMI (Body Mass Index) campaign on 25 November 2013. After conducting a couple of campaigns, the project identified the necessity of skill development of the staff and the SSG volunteers. On 1 February 2014, the project invited Dr. Sk. Akhtar Ahmad, Professor of Bangaldesh University of Health Sciences to introduce the idea of BMI and how to calculate BMI. From this orientation conducted by Prof. Akhtar and Mr. Hanzawa, the Project's Health Advisor, 63 SSG members learned the meaning and techniques of blood pressure measurement and BMI. They were happy to come to know the techniques to calculate BMI for reducing NCD risks. They assured their volunteer participation for the BP-BMI campaign in their areas.

6. Exposure visit

The members of some SSGs were taking initiatives to promote NCD risk factors check to villagers. The project identified that some SSGs were doing remarkable work and recommended union parishads to organize a program so that good practices of an SSG could be shared with other SSGs. Union parishad selected a host SSG from the union and invited other SSGs to visit the host SSG.

One SSG member is sharing her experience with other SSGs during exposure visit program (Arabpur union, 19 Feb 2015)

The first exposure visit program was held on 16 February 2015 in Churamankati union where SSG No. 8 invited members of other two SSGs. The Senior Health Education Officer of Civil Surgeon's office joined as Chief Guest in the program.

Most of the cases the host SSG introduced their activities such as:

- how villagers were encouraged to set up an improved cook stove,
- how arsenic test program became successful,
- how BMI and NCD's risk identification became popular.

At the last session of the meeting the participants selected the best method of awareness and advised the sites that needed to be developed from the point of health consciousness.

Four exposure visit programs were organized in February 2015 considering the scope of sharing and learning from each other.

7. NCD's Risk Identification Campaign

The NCD's Risk Identification (NRI) Campaign progressed speedily in the second year. A total of 161 NRI campaigns were carried out during the project period. The number of campaigns was 28 in the first year, which increased to 71 in the second year, followed by 62 in the third year.

The purpose of the campaign was to make villagers conscious of risky behavior, necessity of regular health checking in relation to non-communicable diseases. For holding the campaign SSGs played key roles. However, the collaboration with the Health & Family Welfare Department gave an extra shape in this campaign. Usually the SSG members selected the campaign spots and asked Health Workers to support through a prescribe format.

Among the total 161 campaigns, 121 (75%) were held at the community level inside villages while 32 (20%) were at CCs and 8 (5%) at FWCs.

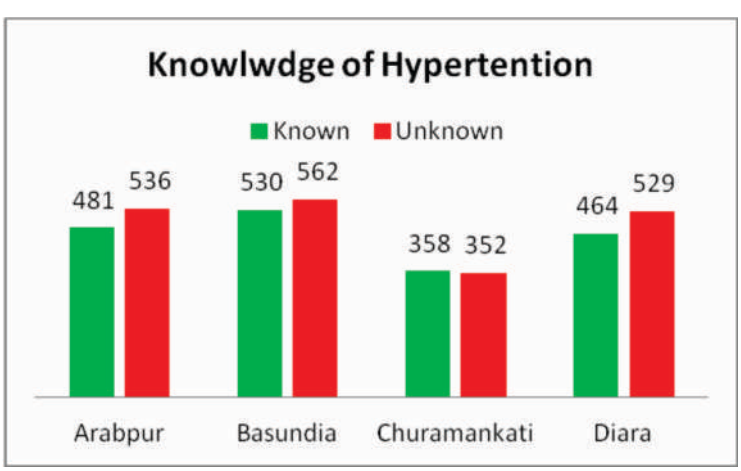
Table 14 shows the union-wise number of participants, male and female, in the NRI Campaigns

Table 14: Participants in the NRI campaigns

Union	No. of Campaigns	Male	Female	Total
Arabpur	42	921	2,429	3,350
Basundia	38	1,181	2,760	3,941
Churamankati	36	1,016	2,091	3,107
Diara	45	1,595	2,529	4,124
Total	**161**	**4,713 (32%)**	**9,809 (68%)**	**14,522**

- **Blood Pressure:** In this campaign a number of volunteers supported the project with measuring height, weight, waist circumference. Health Workers measured blood pressure (BP) and blood sugar.

  Among the total 14,522 visitors, 14,023 had their BP checked and the BP of 3,812 persons (27%) only was under hypertension level. The project tried to judge whether they had known their hypertension condition and found that among those who had hypertension above the limit only 48% had known it but 52% came to know their hypertension for the first time at the campaign.



- **Waist Circumference:** Waist circumference may show the risk of NCDs. It is necessary to maintain waist circumference within 37 inches or >94cm for male and 31.5 inches or >80cm for female. The excess circumference may affect for hypertension and diabetes in some cases. Most of the visitors said that they had never been informed about the mater earlier and this was the first time for them to learn.

  The union-wise summary of waist circumference above the range is shown in Table 15.

Table 15: Waist circumference above the range

Union	Male		Female	
	>94 cm	%	>80 cm	%
Arabpur	99	11%	1,024	44%
Basundia	72	6%	1,211	44%
Churamankati	167	16%	1,112	53%
Diara	150	9%	1,163	46%
Total	**488**	**11%**	**4,510**	**47%**

- **Arsenicosis Patients:** During the campaigns 27 arsenicosis patients were found. They were referred to the Upazila Health Complex for identification. Eight persons were from Ababpur, 16 from Basundia, 2 from Churamankati and 1 from Diara.
- **Diabetes Test:** For the NRI campaigns the Community Clinics made diabetes test available on a payment basis for 123 campaigns out of the total 161. Tk.30 was collected for the test. Some cases SSG members paid the cost for poor and vulnerable persons who were unable to pay the test fee from their pockets.

  The summary of the diabetic test is given in Table 16.

Table 16: Summary of diabetic test

Union	Came for checking sugar			Already patient		Newly identified	
	Total	Male	Female	Number	%	Number	%
Arabpur	426	158	268	66	15%	49	12%
Basundia	621	207	414	77	12%	79	13%
Churamankati	466	146	320	68	15%	64	14%
Diara	878	326	552	92	10%	95	11%
Total	**2,391**	**837**	**1,554**	**303**	**13%**	**287**	**12%**

Note: Diabetes test facilities were made available 123 campaigns out of 161.

- **Body Mass Index (BMI):** Based on the measurement result of height and weight people's BMI was calculated. It was seen that the "overweight to obese" is 20% in case of male and 30% in case of female.

Table 17: Summary of BMI of the visitors to NRI campaign

Union	BMI							
	Obese		Overweight		Normal		Underweight	
	Male	Female	Male	Female	Male	Female	Male	Female
Arabpur	3%	6%	19%	27%	65%	57%	13%	10%
Basundia	1%	4%	13%	23%	80%	62%	7%	11%
Churamankati	3%	7%	20%	26%	69%	57%	8%	10%
Diara	2%	5%	19%	24%	73%	62%	6%	10%
Total	**2%**	**5%**	**18%**	**25%**	**72%**	**60%**	**8%**	**10%**

Photographs from NCD's Risk Identification Campaign

8. Knowledge Survey

From the second year the project conducted a survey interviewing those who attended in the NRI campaign. The survey form was designed to ask them about their knowledge on proper weight and blood pressure. At each campaign 10 people were interviewed and the filled survey forms were collected at 30 campaigns. The result showed that 60% visitors could remember proper weight but the knowledge of proper blood pressure was seen among 40% visitors only which had been expected to be 60% at least. To overcome the situation the project discussed the issue with the Health Workers and they were to convey the messages regularly.

9. Guidance on NCDs

Beside the Health Workers at the field level, NCD guidance was provided at the Community Clinics (CCs), Family Welfare Centers (FWCs) and Sub-Centers on a regular basis after the training. The project started collecting relevant information from them in September 2014.

By the end of January 2016 the number of visitors to 18 CCs and 4 FWCs was 135,066, in which 30% of the visitors received guidance one way or the other. The guidance was provided through the measurement of blood pressure (BP) and blood sugar, and oral advice on other NCD symptoms coupled with the provision of a Guidance Flayer. The health service providers took the responsibility as like their regular work and visitors were happy to get the service.

It seemed that the project just achieved one of the goals that 30% visitors would receive proper guidance. It is expected that the ratio will increase in future thanks to the efficient work of service providers.

Table 18: Union-wise NCD's guidance given (September 2014 to January 2016)

Union	No. of visitors (over 25 years of age)*1	BP Test	Diabetes test	Guidance Flyer provided	Other NCD symptoms	Total	% of visitors who received guidance
Arabpur	19,858	4,615	410	4,195	703	9,923	50%
Basundia	36,139	5,260	783	4,362	452	10,857	30%
Churamankati	46,820	3,525	543	4,306	87	8,461	18%
Diara	32,249	4,236	816	5,701	127	10,880	34%
Total	**135,066**	**17,636**	**2,552**	**18,564**	**1,369**	**40,121**	**30%**

*Note *1: As per the monthly reports of Community Clinics and Family Welfare Centers under the four unions*

10. Follow-up

NCD patient follow-up was one of the designed tasks of the project and started in September 2014. The selection of patients for the follow-up was confirmed through discussions at the Community Clinics just after the completion of the NRI campaigns. The selection criteria was:

1. Patients who were confirmed as NCD patents,
2. Persons who do not take medicine regularly in spite of advice by doctors,
3. Severe patients who cannot afford to take medicine regularly.

Finally 41 NCD patients were selected under the follow-up program from the four unions. Basically, Health Workers were to follow them up on a monthly basis and the project's Field Facilitators were to monitor them every two months.

CHAPTER 4

Chapter 4 Multi-Sector Partnership for NCD Prevention

The third year of the project (April 2015 – March 2016) was designed to establish multi-sector partnership with the Union Development Coordination Committee (UDCC) for the poor NCD patients. Those patients who were suffering economically to tackle NCDs were to be considered for income generating activities. The project, in cooperation with union parishads, made linkage with service providing departments at the Upazila level for the purpose to develop technical skills of those poor patient families so that they could utilize them for their economical improvement.

Following tasks were planned and targeted:

Output3: 3-1 The number of discussion on NCDs at the UDCC meeting
3-2 The number of patients who receive rehabilitation services (to return to normal life)
3-3 More than 50% of trainees will conduct what they learnt from training

1. Meeting with Union Parishad

The project planned to discuss all concerned matters with the Union Development Coordination Committee (UDCC), which was originally organized by a JICA development program and appointed by the Local Government Division nationwide. UDCC was expected to function to solve local problems effectively.

UDCC Meeting in Arabpur Union (30 November 2014)

Table 19: Type of meetings where NCD Issues were discussed at Union Parishad

Union	Info-sharing	Monthly	Budget	UDCC	Total
Arabpur	6	4	3	5	18
Basundia	6	6	1	1	14
Churamankati	6	6	2	1	15
Diara	6	9	2	2	19
Total	**24**	**25**	**8**	**9**	**66**

After orientation meetings with Union Parishads, the project promoted them to hold the UDCC meeting regularly. As a result, the UDCC meeting was held five times in Arabpur, twice in Diara and once each only in Basundia and Churamankati unions. Considering a large gathering and time for arranging invitations, it was not convenient for some union parishads to hold UDCC meetings on a regular basis.

The project, therefore, tried to share the progress with Union Parishads at the monthly meetings and organized an information sharing meeting twice a year for each union. In addition, the project was invited to participate in the union budget meetings to share its plan. At the information sharing meeting the project plans and performed activities were discussed and union parishads provided various suggestions for smooth implementation and better outcome. At the monthly meetings the project briefed the progress of activities and during the participation in budget meetings it shared an idea of budgeting for arsenic-safe water supply. In case of UDCC meetings, NCD issues were discussed by Health Workers (HWs) as well as project staff.

2. Staff Orientation

At the very beginning of the third year all project staff participated in a day-long capacity building session to learn how to implement the NCD patient rehabilitation program. First they made a list of government agencies that would provide training services for income generation activity (IGA). The list included the Departments of Livestock, Agriculture Extension and Fisheries, Youth Development and some other NGOs. The staff also discussed the selection process of beneficiaries and emphasized the importance of monitoring after providing trainings to relevant NCD patients and their families.

The occasion also served as refresher training for the project and they increased their capacity and knowledge on the project implementation for the third year.

3. Beneficiary Selection

With the cooperation from Union Parishads and UP Members, a house-to-house survey was conducted to make a list of NCD patients in the target unions. Patients' socio-economic condition, level of symptoms and other relevant information was collected by the project staff for the survey. Primarily, all poor and sever NCD patients were listed as eligible beneficiaries for trainings and for the final selection process their disease severity and financial vulnerability were taken into consideration more carefully. Then a socio-economic and health survey was further conducted using a semi-structured questionnaire.

Finally, 65 patients were selected for IGA training from each union also considering the following criteria with different weight point according to the importance. They scored 40 points or more and were selected.

Selection Criteria for IGA Training:

- Number of NCD patienst in the family (5 points for each patient)
- Severity (5 points)
- Cancer (10 points)
- More than 1 student (5 points)
- Disability (10 points)
- Per head income less than BDT 2,500 (30 points)
- Woman-headed family (10 points)

4. IGA Training

4.1 Procedure of training arrangement

Training demand was also collected from the target patients during the beneficiary selection process. Union Parishad and the project contacted the various government departments for providing a resource person for conducting training, and the project prepared a training schedule in consultation with the concerned department. Then Union Parishad issued a formal letter to a responsible officer of the department's Upazila office. The responsible officer accepted the application and agreed to conduct the training.

Union Parishad and the project locally arranged a training venue and concern offices provided the resource person for conducting the IGA training.

4.2 Trainings on cow and goat rearing and poultry farming

Three daylong training courses were conducted by Upazila Livestock Office for 230 beneficiaries from the four target unions. They were on cow, goat and poultry rearing. Total actual target number of beneficiaries was 260 but some failed to attend the training due to their work and some were not interested to receive training only. They wanted financial input support but the project did not have this scope.

The objective of these training courses was to assist the NCD patient families:

- To increase income to recover income loss due to their diseases;
- To make an effective linkage with service providers; and
- To explore the different paths of rehabilitation so that they can increase their income.

Training on cow rearing (Basundia, 23 August 2015)

Table 20: Number of beneficiaries union-wise and course-wise

Union	Cow Rearing	Goat Rearing	Poultry Farming	Total
Arabpur	14	13	28	55
Basundia	26	16	15	57
Churamankati	28	18	14	60
Diara	25	18	15	58
Total	**93**	**65**	**72**	**230**

4.3 Vaccination

Disease of cattle and poultry is a big problem for farmers. It also discourages them to rearing the livestock. Most of the beneficiaries said that they were not interested so much in rearing livestock because of diseases. The project put emphasis on periodical vaccination to prevent livestock from diseases.

Vaccination (Churamankati, 2 November 2015)

All cattle of the beneficiaries were vaccinated by the Upazila Livestock Office. For poultry they collected vaccine from the same office. Vaccine costs were borne by each beneficiary proportionally based on the quantity of their cattle.

The vaccination was conducted mainly by the veterinary field assistants. It led to create a very good relationship between beneficiaries and Upazila Livestock Office for vaccine and other veterinary supplies.

4.4 Artificial insemination

To increase the productivity and maximize income from cattle, artificial insemination (AI) is essential. The local cattle breed is not commercially profitable as they eat more and produces less. It was very difficult, however, for most of the beneficiary to purchase costly high yielding cattle variety due to their limitation of resources. The project encouraged the beneficiaries to improve their local cattle by AI.

Total 23 beneficiaries had their cows inseminated artificially. Department of Livestock and BRAC provided AI services in the project area.

4.5 Poultry farming

Backyard poultry rearing can provide households with an additional regular income as well as improved nutrition (eggs and meat). With this in mind, the project provided the training on poultry rearing to 72 beneficiaries but did not give them any financial support for poultry farming.

Vaccination is very important to prevent the poultry disease. To reduce poultry mortality the project linked the beneficiaries with female poultry vaccinators and helped interested persons to take a vaccination training through the Upazila Livestock Office so that they could receive different inputs and Livestock Department's support more smoothly.

5. Linkage with different organizations

A rehabilitation program is always very challenging. Without any financial input support it is more challenging. It was very difficult to rehabilitate a large number of people within only one year and without any provision for financial input.

The project, therefore, always tried to introduce the poor and severe NCD patients to the facilities of other organizations explaining how to avail themselves of such facilities. It was found that 60% of interviewed patient households actually contacted some organizations and received rehabilitation training, and in addition 55% respondents communicated with different organizations for support.

If they keep this communication with these organizations and search for new opportunities, one day they will be able to come out of their poverty through this organizational support.

6. Social Safety-net program for rehabilitation

Social safety net programs are public measures provided by the government to protect people from various types of economic and social hardships resulting from a substantial decline in income due to various types of contingencies such as loss of cultivable land, crop failure, land and homestead loss due to river erosion, unemployment, sickness, maternity, invalidity, old age or death of earning members. The following social safety-net programs are currently available in the country:

1. Cash transfer
   - Allowances for old age, widowed and distressed, disabled
   - Conditional cash transfer
   - Primary education stipend program and stipend for female
2. Public works or training based cash or in kind transfer
   - Rural maintenance program
   - Employment Generation for Ultra Poor (EGPP)
   - Vulnerable Group Development (VGD)
3. Emergency or seasonal relief
   - Vulnerable Group Feeding (VGF)
   - Gratuitous Relief (GR)
   - Test Relief (TR)

The project tried to utilize these social safety-net programs for rehabilitating some NCD patients. A close collaboration was built with the union parishads and other concerned authorities to make one of them available for vulnerable NCD patients. The project provided a list of vulnerable NCD patients to Union parishad at various meetings. They kept the list and sometimes approved a particular safety-net program for eligible persons based on their selection criteria as recorded in Table 21.

Table 21: Status of social safety-net program received by the NCD patient

Type of Support	Arabpur	Basundia	Churamankati	Diara	Total
Vulnerable Group Feeding (VGF)	3	9	2	6	20
Disabled allowance		3	3	1	7
Old aged allowance	3	5	6	4	18
Financial support	2				2
Vulnerable Group Development (VGD)	1				1
Widow allowance		1	1		2
Shelter	1	2			3
Seed				1	1
Total	**11**	**20**	**12**	**17**	**60**

7. Other NGOs

The project made a good networking with most of the NGOs in the target areas. It was difficult for them to support those people who did not fall in their selection criteria because they had specific goals and objectives for each project committed with donor agencies for utilizing their fund. In spite of their willingness they were not able to provide any support, therefore, to the people outside of their intervention target. However, the project was able to introduce some NCD patients to a few NGOs for rehabilitation and they got support like training and other benefits from the NGOs.

8. Training on Homestead Gardening for CG Members

A daylong homestead gardening training was provided to all 241 Community Group (CG) members by a trainer from the Upazila Agriculture Office (Department of Agriculture Extension). The main reason of this program was to increase the vegetable production for household consumption and increase physical activity as an alternative to exercise. The homestead gardening was intended to use the available space around the CG members' houses to grow vegetables in beds and pits, fruit trees and spices. Specific techniques that were demonstrated included the use of organic compost and multiple crops.

Producing vegetables and fruit provided the households with direct access to important nutrients that may not be readily available or within their economic reach. Homestead gardening proved to be a good way to improve household food security and nutrition. Often it was also a source of additional income because some households could sell a portion of the garden's produce should they wish.

With the development of communication, people became physically less active. They forgot to walk because various types of vehicles are available everywhere. This situation is severe among the women of Bangladesh especially the middle class to upper-class. If they grow vegetables in the homestead, they have to spend some time for soil preparation, watering, fencing and whatnot. It will increase their physical activity.

Physical movement is very essential for reducing the risk of non-communicable diseases (NCDs). The project provided the homestead gardening training to the CG members considering it. The

training was supplemented with the distribution of six types of vegetable seed packets to them so that they would start gardening immediately.

Some trained CG members did not achieve the target due to lack of suitable space in or around their homesteads. Some could not grow vegetables big enough as chickens and goats ate them up. Heavy rain also destroyed some garden after sowing seed.

Project monitoring showed that 205 (96%) of trained CG members actually planted vegetables in their homesteads after the training. It was also found that grown vegetables provided not only a source of nutrition for the family but also supplemental income.

Achievements of the program included:

- 241 received the training on homestead gardening,
- 205 participants planted different types of vegetables,
- 107 participants were able to harvest vegetables
- 100 participants continued gardening purchasing new seeds.

Case Study: Asia Begum

Hope of a stroke patient family

Asiya Begum, born in 1964 in Jagannathpur village of Basundia union, was married off to Mojid Molla, when she was an immature. Her in-laws home was in Purba Basundia of the same union. She gave birth to two sons and three daughters and already all daughters have got married. Her husband Mojid had a stroke 10 years ago and since then has been lying in bed. Asiya was passing her days with unbearable hardship

Asiya came to know about the rehabilitation training program of this project and took training on "Goat Rearing using Modern Technique" arranged by Union Parishad. She has four goats of her own. Goats and poultry are growing well as she is applying learned skills and knowledge like timely vaccination, proper and balanced feed. Calves did not suffer from milk scarcity which was common before. New feeding practice has increased egg production considerably. She is also growing vegetables in her garden and sometimes can sell surplus vegetable.

She said: "Now we are living far better life. All my family knows well about risks of non-communicable diseases". Her family avoids table salt, increased vegetable consumption and everybody tries to go to bed at least 2 hours later of having dinner. She visits the nearest community clinic to check her blood pressure regularly. She believes everyone should know the NCD risk factors to avoid this curse before getting such a bad condition like her husband.

CHAPTER 5

Chapter 5 Coordination among Stakeholders

It was felt important to work together with relevant government and non-government organizations for this project titled "Risk Reduction of Non-Communicable Diseases in Jessore District". The project was carried out closely witpment Coordination Committee (UDCC). The Civil Surgeon Jessore and his office continuously helped the project with various guidance and advice. In addition, the project owes its smooth implementation and successful completion to the Directorate General of Health Services (DGHS), Upaizla Health Complex (UHC) and Upazila Family Planning department (UFP), inter alia.

1. Directorate General of Health Services (DGHS)

First of all, it was the Directorate General of Health Services (DGHS) who requested AAN to conduct a project on NCD issues utilizing its experience in arsenicosis patient management. DGHS supported AAN's application to the Japan Ministry of Foreign Affairs, to whom AAN is most grateful for the approval of our application.

The project met with the officials of the DGHS seven times during the project period to share the progress and updated information.

The Line Director of the Non-Communicable Diseases Control Unit visited the project sites in Jessore on three occasions of 6 December 2014, 13 October 2015 and 17 February 2016, accompanied by Deputy Program Manager.

During their visit on 6 December 2014 they sat for a meeting with Civil Surgeon at the Arsenic Centre in the morning and discussed the NCD situation of Jessore and AAN's work. In the field visit, they observed NCD's risk identification campaign, the role of Community Clinic in NCD control, courtyard

Line Director of DGHS observes NRI Campaign Diara Union, 6 December 2014 (Left) **and 13 October 2015** (Right)

awareness session using flash card, drama performance and Union-led arsenic test system. They had a similar program on the following visits, too.

Line Director said he could understand field level problems and the necessity of a doctor's support at CC. He provided the project with some guidance regarding referral, registration and follow-up of NCD patients.

2. Meeting with Upazila Health Complex (UHC)

The project organized formal meetings with the Upaizla Health Complex (UHC) twice a year to share the result of performed activities and design upcoming plans based on the suggestion of the UHC. It was also important to develop the field activity plan considering Health Workers' ongoing program. The ideas and comments of UHC helped the project to conduct the activities. Usually, Upazila Health & Family Planning Officer, Upazila Family Planning Officer, Medical Officer, Health Inspector, Family Planning Inspector participated in the meetings.

During the project period, the progress sharing meeting was held six times, and beside these, the project got the opportunity to share progress and plans on a regular basis at the monthly meeting of the Health & Family Planning department. The cordial guidance of the Health & Family Planning department helped the project carry out activities smoothly.

Here is the list of meeting with UHC.

Meeting with Upazila Health Complex (Sadar, 11 August 2015)

Sl. No.	Date	Name of meeting	No. of participants
1	5-May-13	UHC Monthly meeting	80
2	09-Nov-13	UHC Monthly Meeting for CHCP	80
3	19-Nov-13	UHC Monthly meeting	65
4	24-Dec-13	Progress sharing meeting	17
5	11-Jan-14	UHC Monthly Meeting for CHCP	80
6	18-Feb-14	UHC Monthly meeting	65
7	27-Feb-14	Progress sharing meeting	12
8	04-Mar-14	UHC Monthly Meeting for CHCP	80
9	01-Apr-14	UHC Monthly meeting	15
10	20-May-14	UHC Monthly meeting	55
11	24-Jun-14	UHC Monthly meeting	55
12	15-Jul-14	UHC Monthly meeting	60
13	18-Nov-14	Progress sharing meeting	12
14	14-Feb-15	Progress sharing meeting	12
15	04-Mar-15	Uric 2 V Give meeting	30
16	24-Mar-15	UHC Monthly meeting	60
17	21-Apr-15	UHC Monthly meeting	60
18	19-May-15	UHC Monthly meeting	65
19	16-Jun-15	UHC Monthly meeting	60
20	02-Jul-15	UHC Monthly Meeting for CHCP	55
21	11-Aug-15	Progress sharing meeting	25
22	15-Sep-15	UHC Monthly meeting	55
23	20-Oct-15	UHC Monthly meeting	50
24	22-Nov-15	UHC Monthly meeting	60
25	15-Dec-15	UHC Monthly meeting	55
26	19-Jan-16	UHC Monthly meeting	60
27	07-Feb-16	Progress sharing meeting	29

In addition to the meetings, the project invited Upazila Health & Family Welfare Officer (UH&FPO) of Sadar Upazila to an NCD's Risk Identification campaign held at Jagannathpur Community Clinic in Basundia union on 22 December 2014. The UH&FPO observed the campaign, and after discussing with the visitors and volunteers suggested to improve the invitation system so that many more villagers could have access to the service. He also added the effects of using iodized salt for cooking. He was very much satisfied with the comprehensive approach of the NRI campaign as he found the service most useful to find people at NCD risk. He thought it cost-effective, too.

UH&FPO, Sadar Upazila, observes NRI Campaign at Jagannathpur Community Clinic (Basundia Union, 22 December 2014)

3. Meeting with Upazila Family Planning department (UFP)

In the project the field staff of the Upazila Family Planning department (UFP) also motivated villagers to avoid risky behavior that may cause NCDs. The Upazila Family Planning Officer invited the project to share its plan with their staff. The table below records the number of times the project shared its plan with UFP.

Table: List of meeting with UFP

Sl. No.	Date	Name of meeting	Venue/Place	No. of Participants
1	18-Jun-13	UFP monthly meeting	Sadar UHC Hall Room	115
2	31-Dec-13	UFP monthly meeting	FWC, Arabpur	20
3	15-Jan-14	UFP monthly meeting	FWC, Basundia	15
4	21-Jan-14	UFP monthly meeting	Sadar UHC Hall Room	110
5	26-Feb-14	UFP monthly meeting	Arabpur FWC	15
6	18-Mar-14	UFP monthly meeting	Sadar UHC Hall Room	65
7	08-Apr-14	UFP monthly meeting	Sadar UHC Hall Room	70
8	06-May-14	UFP monthly meeting	Sadar UHC Hall Room	75
9	10-Jun-14	UFP monthly meeting	Sadar UHC Hall Room	75
10	23-Jun-14	UFP monthly meeting	FWC, Churamankati	15
11	15-Jul-14	UFP monthly meeting	FWC, Arabpur	15
12	10-Mar-15	UFP monthly meeting	Sadar UHC Hall Room	70
13	07-Apr-15	UFP monthly meeting	Sadar UHC Hall Room	65
14	12-May-15	UFP monthly meeting	Sadar UHC Hall Room	60
15	09-Jun-15	UFP monthly meeting	Sadar UHC Hall Room	66
16	11-Aug-15	UFP monthly meeting	Sadar UHC Hall Room	67
17	08-Sep-15	UFP monthly meeting	Sadar UHC Hall Room	50
18	10-Sep-15	UFP monthly meeting	Sadar UHC Hall Room	65
19	08-Oct-15	UFP monthly meeting	Sadar UHC Hall Room	56
20	13-Nov-15	UFP monthly meeting	Sadar UHC Hall Room	55
21	12-Jan-16	UFP monthly meeting	Sadar UHC Hall Room	58

4. Meetings of Social Support Group (SSG)

The Social Support Group (SSG) was an integral part of the project. Although most of its activities were explained elsewhere, it was thought beneficial to record its agenda for future reference.

It was planned that each SSG holds a meeting three times a year. At this meeting SSG members were to discuss their plans and activities. It was also expected that SSG would make a plan on their areas' health tasks and promote villagers to avoid NCD risk factors. The first meeting was held on 22nd August 2013 in Arabpur union.

The general agenda of these meetings were:

1st meeting	2nd meeting	3rd meeting
a) Review of the decision taken in the formation meeting b) Role & responsibilities c) Post-training activities d) Health task e) Selection of Community Group (CG) member	a) Review of decision taken in the previous meeting and discuss follow-up action b) Difficulties of maintaining health task c) Briefing of arsenic oisoning & remedy d) Sharing participants' health task monitoring information and record of their next selected task e) Show exercise tools	a) Review of decision taken in the previous meeting and discuss on follow-up action b) Diabetes, its complication and prevention. c) Sharing participants' health task monitoring information and record of their next selected task d) Show exercise tools

First meeting: SSG members explained how they utilized their knowledge gained from training. They also explained where they delivered messages of risk factors and how the reflection of message recipents was. They also took the initiative for selecting CG members.

Second meeting: SSG members discussed how they supported CGs, and what types of risk factors they were avoiding. The specific discussion was made on arsenic pollution and its health effects. At the end of the meeting "bench step" exercise was shown to the participants.

Third meeting: At the third meetings held in February 2014 SSG members explained their experiences in changing habit and reported the difficulties to maintain some efforts to change. At this meeting they also took another task.

Forth meeting: SSG discussed an arsenic test plan and collaborated with union parishad to implement the plan. They also informed villagers about the importance of arsenic test and why payment is necessary for the test.

Fifth meeting: The project shared its idea on how villagers could learn their NCD risks during this SSG meeting. Then SSG members showed the places where the NCD Risk Identification (NRI) campaign should take place in the social map which they developed at their first meeting.

Sixth meeting: SSG members evaluated their own performances on "self-to-family level habit change" as well as motivational activities.

Seventh meeting: SSG checked neglected areas where villagers did not receive any guidance. They plotted them in their maps.

Eighth meeting: SSG discussed its role for keeping these activities running even after the completion of the project towards sustainability.

Nineth meeting: SSG discussed how they could continue to work in collaborattion with Community Clinics. A focus group survey was conducted.

5. Final Seminar

The final seminar of the project was held at the District Colloctorate Conference Room, Jessore, on 17 February 2016. Dr. Md. Faruk Ahmad Bhuyan, the Line Director, NCD Control (NCDC) unit of DGHS joined as Chief Guest while the Deputy Commissioner of Jessore joined as Chairperson. Civil Surgeon Jessore, Deputy Director of Family Planning, Program Manager and Deputy Program Manager of NCDC of DGHS joined as special guests.

In his speech the Chief Guest said that DGHS is planning to tackle NCD problems countrywide and they would consider good practices by the project and seek the ways to replicate them to other areas. The Program Manager of NCDC presented their road map for comprehensive NCD control and management. The Chairperson said that it was a high time to conduct this type of project and he proposed AAN to consider a similar project in urban areas as well where many people are supposed to be at NCD's risk.

The project shared its outcome and good practices and collected suggestions on how good practices could be replicated using existing government structure and NGO facilities. Around 45 people participated in the seminar and they were UP Chairmen, UP Secretaries, Upazila level government officers, NGOs, and journalists.

Final Seminar of the Project (Jessore 17 February 2016)

CHAPTER 6

Chapter 6 Achievement, Analysis and Lessons Learnt

The time has come to look back the project activities and achievement as it is going to end soon in early March 2016. In this chapter the project tries to record achievements according to the planned three outputs and evaluate them.

1. Summary of Output and Achievement

	Output and Verifiable Indicator	Achievement
Output 1: Capacity development of residents through health education is conducted		
1-1	The health task will be selected each area.	Selected.
1-2	More than 50% of CG members will accept behavior for NCD prevention	100% of CG members accepted health tasks and all of them successfully completed.
1-3	Awareness materials will be developed	Twelve (12) items were developed.
1-4	60% of villagers will understand the health task of their area.	Yes. See "2. Results of Baseline Survey and Follow-up Survey" below.
Output 2: The quality and access to the health service is improved		
2-1	More than 30% of visitors of health institution (CC, FWC) will receive guidance.	Yes, 30% of visitors of health institutions received guidance.
2-2-1	The number of patients and residents at high risk, who are detected in NCD Risk Identification camps.	14,522 people visited the NRI camp and, (1) 590 diabetic patients were detected with 287 patients at the camp, (2) 3,812 people were found with hypertention with 1,979 new patients at the camp, and other NCD symptoms were also confirmed.
2-2-2	60% of participants of NCD Risk Identification camp understand proper height and weight.	Yes, 60% of participants understood proper height and weight as a result of sample spot survey at each NRI camp.
2-3	The number of registered NCDs patients under health management.	Forty-one (41) NCD patients were registered for follow-up health management.

	Output and Verifiable Indicator	Achievement
Output 3: NCD risk prevention methods by multi-sector partnership is arranged		
3-1	The number of discussion on NCD in UDCCM	Five (5) in Arabpur, one each in Basundia and Churamankati, and none in Diara.
3-2	The number of patient who receive rehabilitation services (to return to normal life)	Total 230 vulnerable NCD patients/ family members received training against the target of 180.
3-3	More than 50% of trainee will conduct what they learnt from training	89% beneficiaries applied what they had learned at the training.

It is concluded that the project performed activities as planned and successfully achieved its objectives all in all. The achievement behind this conclusion is explained below.

2. Results of Baseline and Follow-up Surveys

A baseline survey (BSL) was carried out in October 2013 on 481 samples consisting of 241 CG members and 240 villagers in the four target unions, with a follow-up survey in October 2015, two years later. Some evaluation below is made based on the results of those surveys.

2.-1) Knowledge of NCD

The term of "Non-Communicable Disease" (NCD) was new to the residents in the four target unions who had never heard of it before the project started. Many people knew some specific disease names such as diabetes, hypertension, asthma and stroke but they did not know that those are under the NCD category. They did not have any idea about the classification of those diseases because no measures were taken earlier to control the NCD diseases in Bangladesh.

The baseline survey by the project revealed that only 1% of interviewed persons heard the term of NCD, whereas 91% people of the same area responded that they were familiar with this term for the follow-up survey. Lots of awareness intervention undertaken by the project contributed to this improvement in people's knowledge.

Staff Training for Monitoring

Prof. Ishida of University of Tokyo provided training on effective evaluation to the project staff on 12 August 2014. The daylong training was designed based on the activities of NCDs. Various evaluation and analyses processes were introduced and discussed.

The field practice on the following days and his feedback helped the staff to develop their skills to do evaluation effectively.

Fig. 1 shows the comparison of people's knowledge of NCD between the baseline and follow-up surveys.

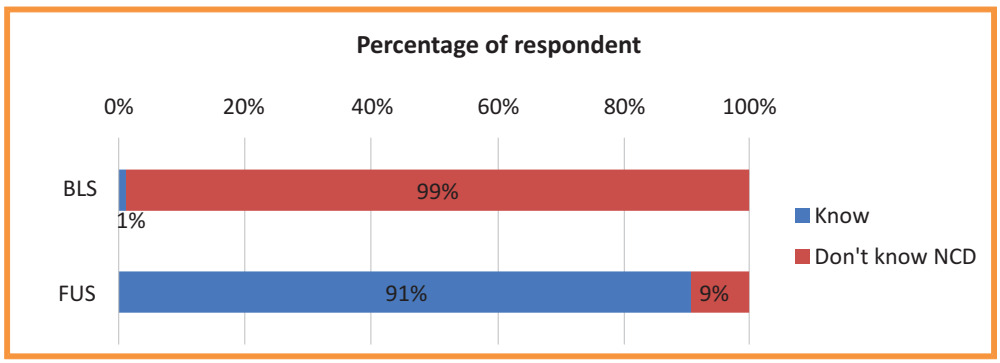


Fig. 1: Knowledge about Non-Communicable Disease

2.-1)-(1) Names of NCDs

During the follow-up survey many people remembered the name of NCDs. Fig. 2 shows that 85% respondents were able to remember the name of diabetes as one of NCDs which was only 1% in the baseline survey. In the follow-up survey 76% respondents named hypertension and 49% stroke as an NCD, but it was only 1% and 0% respectively in the baseline survey. As seen in Fig. 2, 39% people also mentioned of asthma. Thirty percent (30%) respondents named cancer and arsenicosis separately as one of NCDs. These are indeed major NCDs which are observed among many people in the project area.

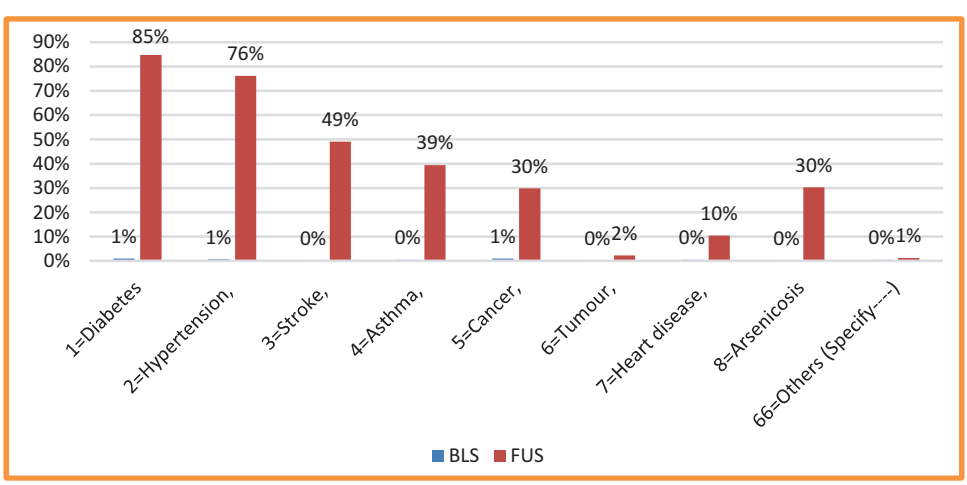


Fig. 2: Name of diseases respondents could recall

2.-1)-(2) NCD Risk Factors

Common and preventable risk factors underlie most of non communicable diseases. The World Health Organization (WHO) identified four modifiable risk factors for this silent killer; namely, smoking, physical inactivity, unhealthy diet and the harmful use of alcohol. They lead to four key metabolic/physiological changes of (1) raised blood pressure, (2) overweight/obesity, (3) raised blood sugar and (4) raised cholesterol. People who die prematurely from NCDs die from preventable heart disease, strokes, diabetes, cancers and asthma as a result of those four risk factors coupled with ineffective and inequitable health care services for people with NCDs.

For this project the Asia Arsenic Network (AAN) made a little change to the four NCD risk factors. The project replaced the "harmful use of alcohol" by WHO with arsenic-contaminated water because the number of alcohol users is very insignificant in Bangladesh. Rather arsenic-related cancer, heart diseases and asthma are very common in the target area.

It is of first and foremost importance to control these risk factors to prevent NCDs. The project put special emphasis on making the target people aware of these risk factors. Now significant changes are observed compared to the baseline survey after vigorous and various awareness-raising activities. During the baseline survey almost all people did not know anything about the risk factors of NCDs, but in the follow-up survey 94% respondents named "unhealthy diet" as a cause of NCDs and 71% knew that tobacco use also contributes to NCDs. Many people (45% and 51%) understood that insufficient physical exercise and water pollution (arsenic) are responsible for NCds. Alongside, 29% respondents thought that environment pollution, especially indoor air pollution, also causes NCDs.

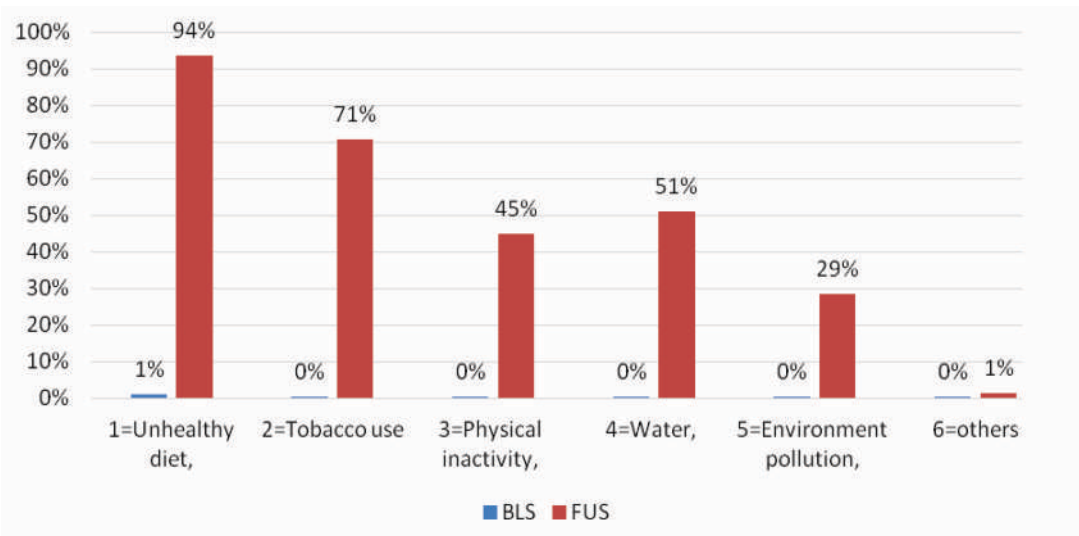


Fig. 3: Risk factors that the respondents remembered

2.-1)-(3) Progress in changing some risk factors/behavior

- **Table salt**

As per WHO guidelines 5g salt per day is sufficient for an adult. In the baseline survey only 14% respondents were not taking additional salt, which could mean that 86% of interviewed families used salt during meal. The project carried out much awareness-raising activity to discourage people to use extra salt at the table. At the end of the project it was found that 69% families did not take additional salt (Fig. 4). Excess salt intake is harmful for health and leads to the cardiovascular diseases. Generally, people use additional salt during meal to eat more rice with less vegetables or curry.

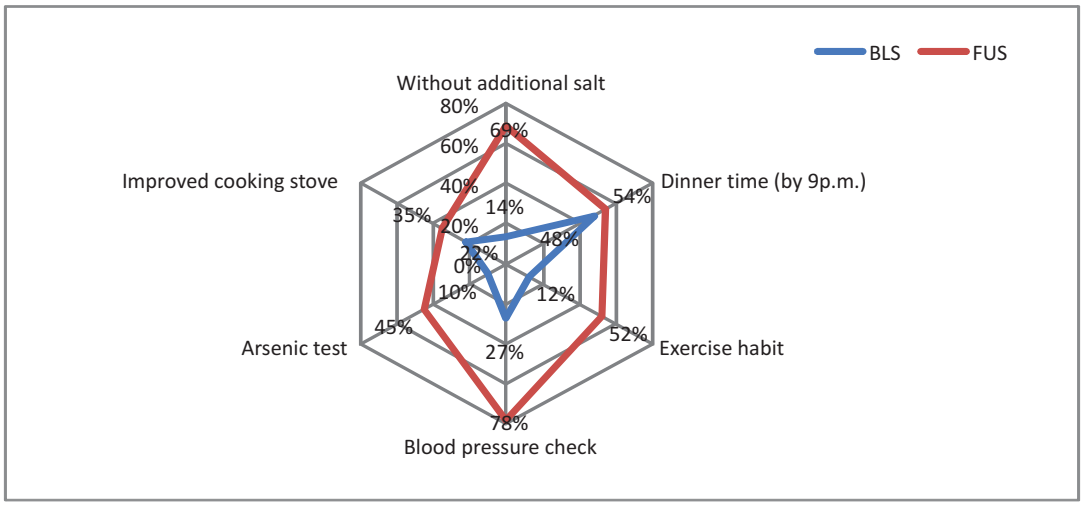


Fig. 4: Progress in changing NCD risk factors between the baseline survey and follow-up survey

- **Dinner time**

Ideal dinner time is 7-8 PM but in Bangladesh many people take dinner at midnight just because of their habit and sometimes unconsciousness. The project considered "by 9 PM" for ideal dinner time. The follow-up survey found that 54% respondents finished dinner within 9 PM, which was 48% by the baselines survey (Fig. 4).

The progress was not so remarkable in this regard because in Bangladesh men spend more time in the market or outside in the evening. It is sometimes for their business and sometimes for passing leisure time with friends and neighbours. Generally, women do not taking dinner before their husbands and have to wait until they come home. Some mothers do not serve food to their children earlier keeping them busy with studies, as mothers think early dinner would make their children fall asleep. Nowadays parents are very conscious of education of their children. The cause of low progress in changing dinner time deeply roots in the Bangladeshi community and culture.

- **Exercise**

It was found from the baseline survey that only 12% respondents were doing regular exercise. The project encouraged people to increase physical exercise through some indoor exercise techniques and different activities. After the almost three-year intervention, 52% respondents are now taking regular exercise (Fig. 4). Presently, many people are seen walking jointly in the morning and evening in the project area. The project introduced Japanese two famous exercises, Redio Taiso and Minna no Taiso in the target area. Exercise video and leaflet were distributed at the community level. People can take exercise in their house without going outside by these exercise techniques.

- **Blood Pressure Check**

A significant progress was recorded for blood pressure check-up during the project period. As seen Fig. 4, the follow-up survey found that 78% respondents check blood pressure regularly while it was only 27% in the baseline survey. Regular blood pressure measurement is very important to reduce the risk of hypertension and stroke.

In general, people do not check blood pressure regularly In Bangladesh. As a result, they could not detect their hypertension in the early stage because most of the cases hypertension does not show

any symptoms. So suddenly people become the victim of stroke and some patients lead a very measurable life with partial or full paralyses.

The project promoted regular blood pressure checking after the age of 25 and onward and organized many NCD Risk Identification camps with the support of Social Support Group (SSG) members. Main theme of this camp was to make people aware of the importance of regular health monitoring like blood pressure, blood sugar, body mass index (BMI) etc.

Community Clinics (CC), Union Sub-Centres (USC) and Family Welfare Centres (FWC) now have the facility where people can have blood pressure checked without any cost.

- **Arsenic Test**

Arsenic is a slow poisoning and very harmful for human health. It has no taste, no colour, and no smell. It is not possible to identify arsenic in drinking water sources without test. Water should be tested for arsenic twice a year ideally. But unfortunately, there is no facility for arsenic test in the rural areas of Bangladesh.

During the baseline survey only 10% respondents told that their drinking water sources had been tested for arsenic. The percentage of respondents who had their tube well water tested for arsenic reached to 45% (Fig. 4) at the end of the project period.

The project established an arsenic test system with the Union Parishads. Now people can have easily their drinking water checked at a reasonable price within Tk. 70-100 per test. Union Parishads revolves this fund to purchase a new arsenic test kit to continue this arsenic test program.

- **Improved Cooking Stove**

Traditional cooking stove is the main source of indoor air pollution in Bangladesh. In rural areas most of the households use this stove. During the baseline survey 22% families used improved cooking stove, but in the follow-up survey it increased to 35% (Fig. 4). Installation of improved cooking stove was set as a priority health task by some SSG members.

3.CG Members' Behaviour Change

Output 1-2 was set as "More than 50% of Community Group (CG) members will accept behavior change for NCD prevention". All 241 CG members imposed themselves with at least one task to change their risky behavior, and 235 members (98%) changed more than two risky habits in addition to six (2%) who was successful to change at least one habit.

3.1) Type of habit selected for change

The Community Group (CG) was formed comprising of people with different cultural, religious and socio-economic background. There were 241 CG members in total and they finalized a list of tasks for them to take on as below at workshops in consultation with SSG members:

1. Start physical exercise
2. Reduce using of dry tobacco
3. Avoid using additional salt

4. Reduce smoking
5. Stop smoking
6. Take more vegetable
7. Reduce use of excessive oil & oily food
8. Test own TW water for arsenic at union parishad
9. Create scope for doing physical work
10. Finish dinner by 8pm and go to bed two hours after dinner
11. Drink safe water
12. Set up improved Cooking Stove

All of the 241 CG members selected at least one task to change their risky behavior that is likely to cause NCDs.

3.2) Behavior Changes Achieved

Monitoring of lifestyles was a continuous work of the project. Field Facilitators visited 241 CG members' houses every two months to see if they had changed their lifestyle. During the visit, project staff collected information on their lifestyle, habit change and difficulties of changing habit. They also provided guidance if CG member's family did not support the member with habit change and/or if the way to change lifestyle did not match with suggested idea.

As seen in Table 24, six members (2%) changed at least one habit and the remaining 235 members (98%) changed more than two habits.

It can be proudly concluded here that different awareness materials and various comprehensive approaches by the project, considering the positive and negative sides of CG members with different backgrounds, achieved the target far beyond the original index.

Table 24: Habit change status of CG members

Union	CG No.	Total Member	Number of habit changed				
			At least 1 habit	2 Habits	3 Habits	4 Habits	5 Habits
Arabpur	1	20	5%	30%	30%	10%	25%
	2	20		20%	45%	35%	
	3	20		35%	55%	10%	
Basundia	4	20			95%	5%	
	5	20		5%	60%	25%	10%
	6	20			70%	15%	15%
Churamankati	7	20	15%	40%	45%		
	8	20	5%	45%	35%	15%	
	9	20		25%	50%	25%	
Diara	10	20		25%	40%	20%	15%
	11	21		43%	52%		5%
	12	20	5%	75%	15%	5%	
Total		**241**	**6 (2%)**	**69 (29%)**	**119 (49%)**	**33 (14%)**	**14 (6%)**

4. Awareness-raising tools developed

The success of CG members' change of risky habit is largely attributable to a variety of awareness materials developed in consideration of local context and local lifestyle. Simplicity and graphical presentation made those materials user-friendly. All types of people easily understood the concept of those materials. Table 25 records the awareness materials produced by the project with quantities. Details of those materials are explained one by one in Chapter 2.

Table 25: List of Awareness Materials with quantities

Sl. No.	Awareness Materials	Quantity
1	Guidance Flyer	24000
2	Flash Card	20
3	Festoon	50
4	Sticker	10000
5	Pana Poster	250
6	Bill Board	36
7	Exercise guidance	4000
8	Notebook with awareness message	350
9	Diabetes Chart	150
10	BMI Calculation Chart	10000
11	Awareness Drama	1
12	NCD awareness documentary	100

5. Villagers' Understanding of Health Tasks

Output 1-4 required to achieve "60% of villagers will understand the health task of their area".

As the follow-up survey results show (Fig. 2), 94% respondents knew the NCD risk factors, and those who knew the risk factors also know how to prevent those diseases. Various and vigorous awareness-raising activities by the project in collaboration with SSG and CG members helped the project to achieve this particular output.

6. Improvement of Health Service

Output 2 overall aimed to improve the quality and access to the health services. The project started with trainings on NCDs and tried achieve specific tasks under the Output 2, which is fully explained in Chapter 3: Improvement of Quality and Access of Health Service. In this section the project evaluates its achievement.

6.1) Visitors who received guidance

The Output 2-1 required to achieve: "More than 30% of visitors of health institutions (CC, FWC) will receive proper guidance.

The project developed the necessary skills of the personnel of Community Clinics (CC) and Family Welfare Centre (FWC) for NCD patients management and urged them to establish NCD facilities in their particular health centres. After receiving the training, they undertook NCD-related activities in their daily routine work. They included blood pressure measurement and diabetes test in their activities, gave proper guidance on NCDs, while distributing guidance flyers to the CC and FWC visitors.

All in all, 30% of visitors received guidance from the CC and FWC, as shown in Table 17 in Chapter 3 (also copied below).

Table 17: Union-wise NCD's guidance given (September 2014 to January 2016)

Union	No. of visitors (over 25 years of age)*1 *1	BP Test	Diabetes test	Guidance Flyer provided	Other NCD symptoms	Total	% of visitors who received guidance
Arabpur	19,858	4,615	410	4,195	703	9,923	50%
Basundia	36,139	5,260	783	4,362	452	10,857	30%
Churamankati	46,820	3,525	543	4,306	87	8,461	18%
Diara	32,249	4,236	816	5,701	127	10,880	34%
Total:	**135,066**	**17,636**	**2,552**	**18,564**	**1,369**	**40,121**	**30%**

Note *1: As per the monthly reports of Community Clinics and Family Welfare Centers under the four unions

6.2) Number of patients detected at NRI camps

The Output 2-2-1 was set to identify: "The number of patients and residents at high risk, who are detected in NCD Risk Identification camps".

The project carried out NCD Risk Identification Campaigns ("NRI Campaign") vigorously and extensively in collaboration with SSG members and Health Workers. The total number of such campaigns amounted to 161; 121 (75%) inside villages, 32 (20%) at CCs and 8 (5%) at FWCs. Altogether 14,522 persons (approx. 9% of the population) of the target unions visited the campaign sites to know their NCD risk status during the project period.

6.2)-(1) Patients with hypertension

Among the total 14,522 visitors, 14,023 had their blood pressure (BP) checked and the BP of 3,812 persons (27%) was at the hypertension level. The project tried to judge whether they had known their hypertension condition previously and found that 1,833 persons (48%) had known it but 1,979 (52%) came to know their hypertension for the first time at the campaign (Table 26).

Table 26: Union-wise information on hypertension patients

Union	Pre-hypertension (120-139 / 80-89)			Hypertension (140-159 / 90-99)				
	Male	Female	Total	Male	Female	Total	Knew	Didn't know
Arabpur	137	246	383	411	606	1017	481 (47%)	536 (53%)
Basundia	184	233	417	435	657	1092	530 (49%)	562 (51%)
Churamankati	113	197	310	325	385	710	358 (50%)	352 (50%)
Diara	289	321	610	458	535	993	464 (47%)	529 (53%)
Total	**723**	**997**	**1720**	**1,629**	**2,183**	**3,812**	**1,833 (48%)**	**1,979 (52%)**

6.2)-(2) Patients with Diabetes

Diabetes is also one of the major NCDs which is suffered by many people in Bangladesh. With the support of the project Community Clinics (CCs) establish a diabetes test system on payment. Now each Community Clinic in the target area is capable to purchase new diabetes test kit by the money collected from the diabetes tests.

Total 2,391 diabetes tests were conducted at NRI camps during the project period and 287 suspected diabetic cases were identified as already shown in Table 15 in Chapter 3 (also copied below). People of suspected cases were sent to a health centre for confirmation by a medical doctor.

Table 15: Summary of diabetic test

Union	Came for checking sugar			Already patient		Newly identified	
	Total	Male	Female	Number	%	Number	%
Arabpur	426	158	268	66	15%	49	12%
Basundia	621	207	414	77	12%	79	13%
Churamankati	466	146	320	68	15%	64	14%
Diara	878	326	552	92	10%	95	11%
Total	**2,391**	**837**	**1,554**	**303**	**13%**	**287**	**12%**

Note: Diabetes test facilities were made available 123 campaigns out of 161.

6.2)-(3) Other NCD patients

Other NCD symptoms were also recorded in the NRI camps based on their symptoms and sometimes with their own report (Table 27).

- Arsenicosis patients (15) were detected through the visible skin spot and history of drinking water.
- Athma patients (183; male – 38, female 145) were found among the visitors. In rural area women were the main victims of asthma due to indoor air pollution from the smoke traditional cooking stove.

- Stroke patients (27) were also found in the NRI camps. They were provided with necessary guidance for better treatment.
- Cases of heart disease (46) were recorded as reported by patients. The disease could not be diagnosed at the camp because it needed some sophisticated equipment which is not possible to operate in the field level.

Table 27: Number of other NCD patients

Union	Asthma		Heart Disease		Stroke		Arsenicosis		Cancer		Total
	M	F	M	F	M	F	M	F	M	F	
Arabpur	8	39	5	14	4	16	0	8	0	0	94
Basundia	3	18	0	5	0	3	10	6	0	0	45
Churamankati	9	43	10	24	4	6	4	0	1	0	101
Diara	18	45	6	3	6	2	0	1	0	0	81
Total	**38**	**145**	**21**	**46**	**14**	**27**	**14**	**15**	**1**	**0**	321

7. Understanding of Proper Height and Weight

The Output 2-2-2 required to achieve: "60% of participants of "NCD Risk Identification" camps will understand proper ratio of height and weight".

To measure this target the project conducted a spot survey using a standard survey method among the service receivers at each NRI camp. From the survey result, it was found that 60% of participants were able to tell the right height and weight but 40% visitors told the proper blood pressure.

8. NCD Patients under Health Management

The Output 2-3 was set to identify: "The number of registered NCD patients under health management".

Those who were identified as NCD patients at the NRI camps were guided to go to the hospital for confirmation of their suspected cases. Generally, they were suggested to go to the Community Clinic and Family Welfare Center for regular monitoring of their health conditions and necessary guidance.

Moreover, 41 severe NCD patients were selected for follow-up by the Health Worker and SSG members. They were selected based on their disease severity and socio-economic condition. These patients are kept under close follow-up and provided necessary guidance.

9. Multi-sector partnership for NCD risk prevention

Output 3 aimed to seek the ways for economically vulnerable NCD patients to rehabilitate their living by establishing a multi-sector partnership. Details of the project activities to achieve this

specific objective were fully explained in Chapter 4: Multi-sector partnership for NCD risk prevention. In this section the project evaluates its achievement.

9.-1) The number of discussion on NCD in UDCCM

The Output 3-1 required to clarify: "The number of discussion on NCD in UDCCM".

The project accordingly tried to discuss NCD issues in the Union Development Coordination Meeting (UDCCM) and solve the rehabilitation and other NCD-related problems through this platform. All GOs and NGOs who work in a particular union's jurisdiction were to take part in this meeting. But it was not possible for many Union Parishads to organize this meeting due to political turmoil and other commitments.

Arabpur Union conducted 5 UDCC meetings. Project actively participated in those UDCC meetings and disused the NCD situation and constraints of NCD risk reduction. In other unions where UDCCM was not organized, the project participated in their monthly meetings and covered the gap of UDCC meeting to discuss NCD issues.

As a result, the rehabilitation facilities were brought out jointly for the vulnerable NCD patients. All trainings and social safety-net programs were organized for the beneficiaries through these meetings. Progress sharing meeting was also organized to coordinate the project activities more transparently with the Union Parishads whenever possible.

Table 19 in Chapter 4 details the type of UP meetings and number of participation by the project and is copied below.

Table 19: Type of meetings where NCD activities were discussed

Union	Info-sharing	Monthly	Budget	UDCC	Total
Arabpur	6	4	3	5	18
Churanmankati	6	6	1	1	14
Basundia	6	6	2	1	15
Diara	6	9	2	2	19
Total	**24**	**25**	**8**	**9**	**66**

9.-2) Number of patients who received rehabilitation services

The Output 3-2 required to clarify: "The number of patients who receive rehabilitation services (to return to normal life)".

Rehabilitation training was organized for 230 poor and severe NCD patients/family members on livestock rearing based on the participants' demand. The training was conducted with the support of Upazila Livestock Office. Table 20 in Chapter 4 records the type of training and number of beneficiaries union-wise and is copied below.

Table 20: Number of beneficiaries union-wise and course-wise

Union	Cow Rearing	Goat Rearing	Poultry Farming	Total
Arabpur	14	13	28	55
Churanmankati	26	16	15	57
Basundia	28	18	14	60
Diara	25	18	15	58
Total	**93**	**65**	**72**	**230**

9.-3) Application of Knowledge Gained at Training

The Output 3-3 required to achieve: "More than 50% of trainees conduct what they learnt from training".

Most of the trainees applied what they had learnt from the training. An IGA evaluation survey by the project found that 89% beneficiaries used their learnings and 55% told that they were able to reduce production cost by applying modern techniques of livestock rearing.

Details of the utilization of what was learned at the training are summarized in Table 28.

Table 28: Status of training learning utilization

Utilized training learning	Arabpur	Basundia	Churamonkati	Diara	Total
Vaccination	3	26	15	20	64
Housing	6	7	22	12	47
Food	9	25	21	15	70
Treatment	1	1	0	8	10
High Yielding Varity	0	1	2	1	4
Modern technique used	14	0	5	0	19
Regular bathing	0	1	0	0	1
Hygiene practice	0	0	1	0	1
Total	**33**	**61**	**66**	**56**	**216**

Case Study: Chanbanu

My story: The rays of new hope (2)

"I am Chanbanu. I am an asthma patient. I am a housewife and live in Islampur village of Churamankati Union with my family.

"I took a daylong training on "Cow Rearing" arranged by this project and facilitated by Upazila Livestock office. I had two cows at my home and after taking training I started to apply the learned knowledge, say, giving balanced feed, cleaning cowshed properly and regularly, timely vaccination to avoid diseases etc. Now they are growing faster and healthier.

"Lately I have sold one of them and used this money for farming IRRI crop. After harvesting, I hope to buy a calf of high breed variety and will apply what I learned at the training to make better profit. I have started growing vegetable in homestead to meet up the family demand as we can't afford to buy vegetable regularly. Now, most of the day, we have enough vegetable for our meals. I communicate regularly with union parishad and the agriculture officer for necessary assistance.

"Rearing cow and gardening are main sources of my family income. Now I spend considerably less money to buy medicine for my family after changing some of the risk behaviours. I feel I started to see the rays of new hope. I try to share my experience with my neighbours and make them aware of NCD risks whatever I know and whenever I can. I think these activities should spread around to prevent the outbreak of NCD as an epidemic."

10. Efforts to reduce risk factors as observed by the project

Some efforts and good practices were observed in union-led arsenic test, obtaining safe water supply and the installation of improved cooking stove. Although those practices were not directly of the project, it was felt noteworthy and recorded as part of achievement.

10.1 Arsenic Test Campaign

The four union parishads started testing of tube well water for arsenic in November 2013 after receiving the training on how to use a field test kit and how to manage the system by the project. Normally, village police visited locations selected by UP Member and invited tube well owners nearby for arsenic test. From the middle of the second year the project withdrew its full support and started to just monitor their activities. Almost all union parishads purchased a new arsenic test kit box and continued testing followed by painting of the tube well spout green or red according to the result. It is understood that some villagers requested to reduce the testing charge but it might not be effective from the point of sustainability if we look at the progress of Basundia and Churamankati unions where Tk. 100tk is collected per test.

The summary of arsenic test result during the project period is in Table 29:

Table 29: Summary of Union-led Arsenic Test

Union	<50ppb		>50ppb		Total	Fee per test charged by Union
	Number	%	Number	%		
Arabpur	277	94%	18	6%	295	85
Basundia	417	91%	42	9%	459	100
Churamankati	213	63%	124	37%	337	100
Diara	214	91%	21	9%	235	80
Total	**1,121**	**85%**	**205**	**15%**	**1326**	

Union-led arsenic test activities; village police checks arsenic (L), measure of concentration (C) and painting (R)

10.2 Safe Water Supply

DTW installation: By conducting union-led arsenic test, union parishads could see the arsenic contamination situation. Project staff also promoted checking of water for arsenic to tube well owners vigorously. Usually, UP Chairman took up the safe water supply issue to the Upazila Development Coordination Committee meeting and placed requests to DPHE. It was often found that the budget allocation for safe water devices was not enough. Since the arsenic test results by the union parishad confirmed the necessity, AAN installed a deep tube well in the Gaidgachhi village under Basundia union in March 2015 with its Friendship Water Fund. The depth of the tube well was 620ft and it is supplying safe water to 35 families who used to drink arsenic-contaminated water earlier.

AAN installed a deep tube well in Gaidgachhi village of Basundia Union (March 2015)

Reactivation of Piped Water Supply System: The project gave an extra effort to reactivate the Jaghati Piped Water Supply System (PWSS) in Churamankati union. The PWSS was stopped last two years due to failure of electricity bill settlement. The project supported the re-activation of user committee first and encouraged users to pay monthly tariff. Now the user committee started the operation of PWSS after opening a new bank account. At present the project is supporting users for monthly tariff collection. One hundred ninety (190) families are getting water from 47 tap points.

A woman of Jaghati vllage under Churamankati union collecting water from a community tap

10.3 Improvement of Cooking Stove

A survey by Asia Arsenic Network in 2 villages in 2012 found 86% of residents used traditional cooking stove, which could be a major problem as we knew smoky environment is a key reason of lung diseases. In the second year, the project found through a survey that 2,653 improved cooking stoves were installed in the project area. In percentage Churamankati increased the number of improved cooking stoves at 43% against the total number, but in the first place the number was small (264) compared to other unions. The total number of households with improved cooking stoves in Churamankati still remains at 5% against the total number of households (Table 30). In any event, the rise in the number of households with improved cooking stoves was observed in every union after the motivation by SSG members and HWs, although further efforts are required.

Smoke goes out through a chimney of an improved stove keeping the inside of a house smoke-free.

Table 30: Improved cooking stove in project area

Union	Target area		Before project	During Project		Total	
	No of Villages	Household*1	Number	Number	% (against total)	Number	% (against total HH)
Arabpur	23	9.453	638	127	17%	765	8%
Basundia	20	8.139	416	130	24%	546	7%
Churamankati	19	9.292	264	196	43%	460	5%
Diara	19	8.635	689	193	22%	882	10%
Total	**81**	**35.519**	**2007**	**646**	**24%**	**2.653**	**7%**

*1 Source: Census 2011 by Bangladesh Bureau of Statistics (online)

11. Lessons learnt

- Villagers, especially women and the young, were not much conscious of their own health, but the introduction of NCD risk free lifestyle had an impact upon them to do something for their sound health.
- The capacity of Health Workers and Community Health Care Provider was enhanced with their involvement in the project and it could be replicated for nurturing other communities on NCD's health burden.
- Not only medicine but also appropriate guidance can satisfy NCD patients after they were identified.
- A referral system is very important for NCD patient confirmation and registration. The existing referral system needs to be developed, however.
- The arsenic test system by union parishad is appreciated by social elites and some villagers. On the other hand, however, the current cost is too high for many villagers to pay.
- The budget allocation of alternative safe water devices by union parishad is very little and the situation of arsenic contamination and arsenicosis patient is not considered.
- Strengthened linkages with Department of Livestock, Department of Agriculture Extension and other NGOs could increase the opportunities for training and guidance on cattle rearing and homestead gardening.
- Homestead gardening can ensure vegetables availability for most of the days around the year, but it is difficult to increase income of a household through the gardening.
- Without financial support it is very difficult for the vulnerable people to increase their income level because those poor NCD patients who were the target for income generating activity are unable to manage initial cost for starting a business.
- Coordination and harmonization among relevant organizations are important and necessary for awareness-raising on NCD risks and effective NCD control overall.

Annex 1

Asia Arsenic Network

Risk Reduction of Non-Communicable Diseases in Jessore District

Health Task of SSG

Following Health Tasks were decided based on the group work of SSG's NCD control training held on 7-28 July 2013 at the Arsenic Centre;

1. Union: Arabpur

Union & ward	Name of program	Place	Time	How to do
Arabpur W # 1, 2, 3	1. Awareness	School, Para, Hat & Bazar	Local Hat day (Afternoon)	Video, Drama, Yard-meeting
	2. Healthcare guidance	Ward, Union Parishad	Winter season	Medical Camp
	3. Tobacco & additional salt using habit change	Home		Discourage for using & purchasing tobacco
Arabpur W # 4, 5, 6	1. Awareness	Crowded places	Afternoon or Evening	Video, Drama, Poster, Group Meeting
	2. Water test	Ward/Para	Morning/ Afternoon	Visit door to door using field test kit
	3. Improve cooking stove	Home	Morning/ Afternoon	By motivation
Arabpur W # 7, 8, 9	1. Awareness	Crowded places	Afternoon, Evening	Video, Drama, Poster, Group Meeting
	2. Water Test	Ward or para	Afternoon, Evening	Visiting door to door using Field kit box
	3. Improve cooking stove	Door steps	Afternoon, Evening	Encouragement & Motivation

2. Union: Basundia

Union & ward	Name of program	Place	Time	How to do
Basundia W # 1, 2, 3	1. Awareness	Tea-stall, School, Mosque, Bazar, Yard, Day laborer houses	Morning, Afternoon & School time	1. Mother gathering at school, Satellite channel
	2. Water test	House, Ward level, Union	Whole year	2-1.Through spending money 2-2. Involving Volunteer
	3. Drama	Bazar, Union, School	Morning, Evening	3. Video show
Basundia W # 4, 5, 6	1. Awareness	Bazar, yard , School, Institution, Health centre	Afternoon, Evening, School time	1. Meeting, video-show, drama show
	2. Action against smocking	Gaidgachi school	During school period	2. Awareness poster and signboard pasting
	3. Smoking	Ward level, Houses, Union	Year round	3-1. Spending money to engage someone to protect 3-2. Involving volunteer
Basundia W # 7, 8, 9	1. Awareness	Tea-stall, school, mosque, Bazar (Ghuni)	Morning, Afternoon	1. Video-show, Street-drama, leaftet distribute, miking, meeting
	2. Take action against smoking	Ghuni Bazar, Jangal badal model high school, Ghuni High School, Padmabila School	During school period	2. Awareness poster, leaflet, meeting

3. Union: Churamankati

Union & ward	Name of program	Place	Time	How to do
Churamankati W # 1, 2 & 3	1. Awareness	1. Home, Para & School	1. Morning & Afternoon	1. Yard meeting at para level
	2. Improve Cooking Stove	2. House	2. Year round	
Churamankati W # 4, 5 & 6	1. Awareness	1. Para, Mosque, Tea-stall, Community Clinic & School	1. Morning & Afternoon 2. Friday-Morning & Evening	1. Video Show 2. Yard Meeting 3. Interpersonal communication
	2. Improve Cooking Stove	2. House	2. Year round	2. Motivation of using visiting door to door
	3. Water test	3. Ward & Union level	3. Year round	3. Visiting door to door
	Smoke due to burning tyre causes problem so necessary action for stopping			

Union & ward	Name of program	Place	Time	How to do
Churamankati W # 1, 2 & 3	1. Awareness	1. Home, Para & School	1. Morning & Afternoon	1. Yard meeting at para level
	2. Improve Cooking Stove	2. House	2. Year round	
Churamankati W # 4, 5 & 6	1. Awareness	1. Para, Mosque, Tea-stall, Community Clinic & School	1. Morning & Afternoon 2. Friday-Morning & Evening	1. Video Show 2. Yard Meeting 3. Interpersonal communication
	2. Improve Cooking Stove	2. House	2. Year round	2. Motivation of using visiting door to door
	3. Water test	3. Ward & Union level	3. Year round	3. Visiting door to door
	Smoke due to burning tyre causes problem so necessary action for stopping			
Churamankati W # 7, 8 & 9	1. Awareness	1, School, Bazar, Para, Mosque, Community Clinic, Gonokendro	1. Morning, Evening, Video show,	1. Yard meeting, Video-show, training, ward meeting, drama, display, poster
	2. Improve Cooking Stove	2. ward level	2. After training	2. With the support of UP Member

4. Union: Diara

Union & ward	Name of program	Place	Time	How to do
Diara W # 1, 2 & 3	1. Awareness	1. Tea-stall, Bazar, School	1. Afternoon	1. Video show, Yard meeting, Mosque discussion, Leaflet through HWs, Poster & Interpersonal Communication
	2. Give up excess salt using habit	2. School, House, SSG families	2. All time 3. All time	2. Explanation of demerits
	3. Give up smoking habit	3. CGM High school		3. Using notice board
Diara W # 4, 5 & 6	1. Awareness	1. Village level, Health centre, Union, School	1. Afternoon	1. Drama, yard meeting, video
	2. Improve Cooking Stove			2. Through meeting
Diara W # 7, 8 & 9	1. Awareness	1. School, Bazar, Para meeting, Community Clinic	1. 11:00am, 4:00pm	1. Inviting for watching Video-show and bioscope
	2. Medical camp	2. Ward level	2. After noon	2. Through miking invitation
	3. Improve Cooking Stove	3. Door to door	3. Year round	3. Inviting through house visit

Annex 2

Asia Arsenic Network

Risk Reduction of Non-Communicable Diseases in Jessore District

Expected activities of SSG members

SI	Type of SSG Member	What they can "do"	Where to "do"	How to "do"
1	UP members	To make aware on NCDs risk	• Tea-stall • Union Parishad • Village law-court	• During gossiping with tea • Meeting of Union Standing Committee • Monthly meeting • During meeting on social conflict & issues
2	Teacher	To make conscious on NCD's risk and prevention	• Classroom • School meeting room • Coaching Centre • Home	• Teaching time • Teacher's gathering • Teacher-Parent gathering • During coaching at Coaching center • Speech during social program
3	Elite Person	To make aware on NCDs and its prevention	• Meeting place • Tea- stall • Village law-court	• Through speech with example • Providing economical Support
4	Imam/ Priest	To aware on causes of NCDs	• Mosque • Madrassa • Praying places	• Through speech with example before & after prayer • Khodba time (Before Friday's prayer) • Before / after puja • Islamic festival • Imam meeting
5	Student	To make aware on risk reduction of diseases caused by NCDs	• Own family • Neighbor • Classroom • Friend circle • Club • Playground	• During meal • During cooking • Gossiping • During exercise of play • During club's social activity
6	Village Doctor	To explain the causes and risk of NCDs and sufferings	• Own chamber • Patient house	• During treatment • Time of treatment at patient house
7	Health Worker	To advise on risk reduction and prevention	• Community Clinic • Family Welfare Centre • EPI Centre • House • Medical camp • Survey	• During treatment • During guidance • During Immunization program • Advice during survey time