March 2019

Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division

Final Report

Asia Arsenic Network

In Association with the Ministry of Foreign Affairs of Japan
under the scheme of “Grant Assistant for Japanese NGO Project”

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Acronyms

AAN	Asia Arsenic Network
ADG	Additional Directorate General
AHI	Assistant Health Inspectors
BAMWSP	Bangladesh Arsenic Mitigation & Water Supply Project
BMI	Body Mass Index
BP	Blood pressure
CC	Community Clinic
CG	Community Group
CHCP	Community Healthcare Provider
COPD	Chronic Obstructive Pulmonary Disease
CSG	Community Support Group
DGHS	Directorate General of Health Services
DPHE	Department of Public Health Engineering
FBS	Fasting Blood Sugar
FGD	Focus Group Discussion
FPI	Family Planning Inspector
FWA	Family Welfare Assistant
FWC	Family Welfare Centre
FWV	Family Welfare Visitor
HA	Health Assistant
HI	Health Inspector
HW	Health Worker
ICS	Improved cooking stove
LLP	Local Level Plan
MDG	Millennium Development Goad
MHCP	Mobile Health Check-up Program
MO	Medical Officer
NCD	Non-Communicable Disease
NRI	NCD's Risk Identification
SACMO	Sub-Assistant Community Medical Officer
SSG	Social Support Group
SDG	Sustainable Development Goal
TW	Tube well
TCS	Traditional cooking stove
UFPO	Upazila Family Planning Officer
UH&FPO	Upazila Health & Family Planning Officer
UHC	Upazila Health Complex
UHC	Universal health Ccoverage
UP	Union Parishad
UNO	Upazila Nirbahi Officer
USC	Union Sub-Center
WHO	World Health Organization
WG	Woman Group
YC	Youth Club

Preface

Bangladesh has been identified globally as the world's worst climate victim since long. Natural disasters with loss of lives, assets and infrastructures remain a common phenomenon of the country. However, in spite the catastrophe along with high density of population still the country is making remarkable progress in case of live births, reduction in MMR, immunization coverage, life expectancy, poverty rate, education, infrastructure and so forth.

As a developing economy Bangladesh has been facing the problem of both Communicable and Non-Communicable Diseases (NCD) where the burden of the latter is increasing day by day due to socio-economic changes, unhealthy living practices, and urbanization while the underprivileged part of the society is being victimized owing to lack of support services. However, without penetrating in details, it can be summarized from the 'National NCD Risk Factor Survey 2010' that no one is out of the risk of NCD including the prevalence of hypertension, diabetes and cancer, foremost.At this perspective, DGHS, as the key catalyst of government health care services, has been catering NCD care and preventive measures through Community Clinics, Health & Family Welfare Centers, Primary Health Care Centers, Upazila Health Complexes, District Hospitals and from Specialized Hospitals at tertiary level.

In controlling NCD, the key challenges that have been faced since long includes, among others, lack of service providers' orientation towards NCD, ever changing pattern of preventive methods, absence of skilled human resources, less prioritized by development partners compared to other issues, lack of surveillance & database management systems and finally no concerted efforts combining public & private counterparts. At this backdrop, when Asia Arsenic Network proposed the project for 'Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division' it has been found that the project is aimed to address all of the above mentioned challenges prevailing in NCD controlling programs.

DGHS is highly appreciative of the project design and its implementation mechanisms and is also proud of being part of the project. Lessons learnt from the project and its effective replication to other areas of Bangladesh will certainly develop the capacity to address the NCD preventive activities through bringing behavioral changes in the communities that will take the country one step ahead towards achieving the SDGs by 2030. Finally, I would like to express sincere thanks to Asia Arsenic Network along with the Ministry of Foreign Affairs of Japan for their endeavor and congratulate all stakeholders on accomplishment of the project.

Prof. A. H. M. Enayet Hussain
Additional Director General
DGHS, Bangladesh

Preface

This is a great honor for me to present the preface for the Final Report of the Project for 'Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division'. Non-communicable diseases that consist of cardiovascular diseases, diabetes, chronic respiratory diseases and cancers, are now a global concern. NCD patients are to undergone a prolonged treatment procedure posing a burden on the family and society as well. NCDs in Bangladesh are becoming a severe health problem for the society. Though people of all classes are exposed to the risk of NCD, still the underprivileged and financially unwell population is to bear the worst consequences due to its impact on socio-economic condition, poverty and non-productivity of the patients. The burden of NCDs is to be reduced for the target of achievement of SDGs by 2030. Controlling the risk factors i.e., controlling tobacco consumption, increase physical activity& exercise, and having a healthy diet can lead towards decrease of NCDs. Alongside surveillance, prevention and management of patientsis also required for a sustainable outcome. The major risk factors of NCD can be controlled through modification of risky behavioral and prevention of metabolic disorders. People's awareness, early detection mechanism, proper treatment and referral system is highly required in this regard. It is also required to observe that how the health-care system is functioning for NCD prevention and management activities.

The project, though targeted for strengthening community capacity for NCD prevention, also spread its activities in broader areas of NCD prevention. As part of it the project undertook an NCD Screening and conducted study on COPD which deserves special appreciation. The project tried to explore the areas of risky behaviors and analyzed the ways to bring changes in attitude. Different components used for connecting the community in NCD prevention activities have made it unique. The local government capacities have been successfully utilized by the project to ensure sustainability of the activities.

DGHS has been with the project since its very inception with a view to working together towards prevention of NCDs. Capacities built and lessons learnt through the project will have a greater impact specially for the field level stakeholders for working on prevention of NCD in a sustainable way. On behalf of the NCD Control Programme, DGHS I would like to congratulate all concerned on accomplishment of the project along with Asia Arsenic Network for their sincere effort and contribution.

Dr. Nur Mohammad
Line Director
NCDC Programme, DGHS

Preface

People round the globe are exposed to the risks of Non-Communicable Diseases (NCDs). The diseases cause around 36 million deaths every year being 63% of the global aggregated number of deaths. Correlating with the economic conditions, low and middle income countries have been found having 80% of their total deaths owing to NCDs.

Evidencing strong correlation between socio-economic condition and NCD risk exposure, the underprivileged communities in Bangladesh are bearing the heaviest toll of this burden. According to the "National NCD Risk Factor Survey 2010", 99% of the survey population in Bangladesh was found having at least one NCD risk factor while 29% had more than three risk factors. However, after nine years the situation is yet to be developed as evident from a report entitled "The growing crisis of non-communicable diseases in the South-East Asia region" (New Delhi: WHO SEARO; 2017). The report depicts: 'The deaths and disabilities caused by these NCDs are avoidable; about 80% of heart diseases and strokes, 80% of Type 2 diabetes and over 30% of cancers can be prevented by eliminating common risk factors including smoking, unhealthy diet, and physical inactivity'.

The results of NCDs include, among others, loss of key earners of families having longer effect on the socio-economic condition of the distressed families such as poverty, unemployment, non-education. Considering the prevention of NCDs as an essential socio-economic development component, 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). Since arsenicosis has been managed by the NCD Control Section of DGHS and preventive care for arsenicosis and non-communicable diseases are similar, Asia Arsenic Network (AAN) utilizing its experiences in arsenic mitigation and arsenicosis patient management successfully implemented a three-year project named 'Risk Reduction of Non-Communicable Diseases in Jashore District' during 2013-2016.

Based on the experience of the previous project, AAN, in consultation with the DGHS, and in association with the Ministry of Foreign Affairs of Japan under the scheme of 'Grant Assistance for Japanese NGO Project', implemented the project titled 'Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division' during 11 March 2016 and 10 March 2019 having a broader coverage. Key objectives of the project were to protect target population from NCDs by increasing knowledge on NCD risks and sufferings, to establish collaboration system between the community and health service providers for early detection and follow-up services, to develop a support system for vulnerable NCD sufferers, to improve community's capacity to tackle NCDs with own initiatives and finally to replicate "good practices" to other areas.

Some of the remarkable achievements by the project are seen in the NCD Risk Identification campaign ("NRI campaign" in short) and behavioral changes by Community Group members to avoid or reduce NCD risks. The development in knowledge on NCD and change in behavior towards a healthy lifestyle is evident from the results of baseline and end-line surveys.

Finally, the project has been able to accomplish the aim to successfully replicate its experience and lessons learnt from previous project to another area and this Final Report accumulates all those findings and outcome to help all concerned walk a step ahead towards building tomorrow's Bangladesh free from the adverse effects of NCDs.

Prof. Dr. Sk. Akhtar Ahmad
Chairman, Asia Arsenic Network Bangladesh &
Professor, Bangladesh University of Health Sciences

Executive Summary

Based on the experience of the previous project, the Asia Arsenic Network (AAN), in consultation with the Directorate General of Health Services (DGHS), decided to conduct a new project titled "Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division" having a broader coverage. Since the previous project was implemented in four unions of Jessore Sadar Upazila, the other 11 unions were considered for this project keeping scope for follow-up activities in the initial four unions. From the 2nd year the outcome was replicated in one union of each of nine districts under the Khulna division (excluding Jashore District).

The World Health Organization (WHO) sets four NCD risk factors; namely, (1) unhealthy diet, (2) smoking, (3) lack of physical exercise and (4) alcohol. However, for the project alcohol was replaced with arsenic-contaminated drinking water since in Bangladesh alcohol is not an NCD-related problem and arsenic contamination in drinking water is likely to cause adverse health effects including cancer.

The broader objectives of the project were to protect target population from NCDs by increasing knowledge on NCD risks and sufferings; to establish collaboration system between the community and health service providers for early detection and follow-up services; to develop a support system for vulnerable NCD sufferers; to improve community's capacity to tackle NCDs with own initiatives and to replicate "good practices" to other areas. The project expected:

1. Community Groups (CG) will learn NCD prevention activities at the community level through workshops and by replicating good practices of Social Support Groups of the previous project and also by applying their own ideas;
2. NCD volunteers to be developed in different organizations to strengthen the capacity of the organization for conducting NCD prevention activities;
3. Trained CG members will be able to identify the environmental problems responsible for NCDs; and
4. NCD volunteers will work together to develop a community-wide healthy environment targeting the vulnerable groups (women, the poor and NCD patients in particular).

Some of the noteworthy achievements of the project are listed below:

1. All 24 unions (15 unions of Jashore Sadar and 9 replication unions in Khulna division) selected vulnerable areas through workshops.
2. All 87 Community Clinics (Jashore Sadar - 60 and replication area - 27) adopted NCD Prevention work for their Local Level Plan (LLP) which was then reflected in their yearly plan, too.
3. There are 14 members in the management committee of a Community Clinic (CC) excluding health workers and UP member. In 60 CCs in Jashore Sadar, 610 committee members (73%) out of 840 (60 CC x 14) got themselves involved in NCD control activity.
4. All 217 Health & Family Planning Workers received training on NCD control and conveyed important messages to villagers during their house-to-house visits.

5. All 15 unions of Jashore Sadar started promotion of arsenic test for tube well water, physical exercise and improved cooking stoves. In case of arsenic test, 913 tube well water samples were tested for arsenic during the project period and the union-led testing system is expected to continue with sustainable arrangements (such as "pay for test" system) introduced by the project. As for the physical exercise, 419 people in 29 groups are practicing regularly every day. Improved cooking stoves were replaced at 1,791 households from traditional smoky stoves with the effort of unions.
6. In the vulnerable areas in 11 new unions of Jashore Sadar, 2,195 people were recorded as NCD patients. Out of them 1,050 patients (49%) came under follow-up checking by the health workers. Since some of these patients were living far away from CCs or physically handicapped, health workers and volunteers visited them at home and reached the doorsteps in a "mobile health check-up campaign" a couple of times during the campaign period of three months. 44 Campaigns were organized altogether, and the patients who were initially checked at home gradually started to visit CCs & FWCs for follow-up health check.

A comparative analysis between the baseline and end-line surveys shows positive impact of the project on the communities. Both surveys were carried out on the same 100 persons in each of newly added 11 unions of Jashore Sadar Upazila (1,100 respondents in total). Some major developments were:

As long as treatment and medical support is concerned, respondents tended to use services more from hospitals and CC/FWC/USC than from village doctors, the ratio of which remarkably decreased to 22.6% from 41.0%.

Under the NCD Project there was a cross-sectional study carried out to assess the respiratory illnesses including COPD among the women who were cooking for more than three years. A total of 1,232 women participated in the study, of which 411 (33.4%) were users of improved cooking stoves (ICS) and remaining 821 (65.9%) were users of traditional cooking stoves (TCS). Regarding their cooking practice, it was found that 85.5% of the respondents used biomass fuel for cooking purposes and comparatively a higher proportion of the ICS users (86.6%) used the biomass fuel.

The main reasons for using ICS were:

1. do not produce soot and kitchen could be kept clean
2. do not produce smoke inside the house and
3. need less time to cook.

The occurrence of respiratory illnesses were found significantly high among the TCS users (48.1%) compared to ICS users (39.2%). COPD was also found more common among the biomass fuel users (23.5%) and who had habits of chewing tobacco (30.3%). The manifestations of the respiratory illnesses found among the respondents were cough with mucus (19.4%), dyspnoea (20.5%), chest tightness (21.2%), asthma (21.7%) and chronic cough (33.0%). All these manifestations were significantly high among the TCS users compared to the ICS users except the chest tightness.

The project had a unique opportunity to conduct NCD screening in Roygram Union of Kaliganj Upazila under Jhenaidah district at the request of the DGHS. Basically, it was to assess the prevalence of NCDs focusing on hypertension and diabetes. The screening was carried out by house-to-house visits targeting adults of $\geqslant$ 25 years of age to collect demographic and physical measurement data such as blood pressure and body mass index (BMI). Blood sugar test was also conducted by Community Health Care Providers (CHCPs) of Kaliganj Upazila. It is expected that the lessons learnt from this pilot NCD screening will form the basis for a nationwide screening by the DGHS.

The fundamental goal of the project was to develop a support system for vulnerable NCD sufferers towards improvement of the community's capacity to fight NCDs with own initiatives. At the end of the project, based on the project activities and achievements, this is our pleasure to disseminate this Final Report as a mark of the accomplishment of the targeted goals of the project.

Subject	Baseline Survey		End-line Survey	
	No.	%	No.	%
No. of people having knowledge on NCD	9	0.8	973	88.5
No. of people who remembered diabetes as one of NCDs	11	1.0	935	85.0
No. of people who named hypertension as one of NCDs	11	1.0	836	76.0
No. of people who named stroke as one of NCDs	0	0.0	539	49.0
No. of people who received treatment from government hospitals	297	27.0	370	33.6
No. of people who received treatment from private hospitals	187	17.0	308	28.0
No. of people who received treatment from village doctors	451	41.0	249	22.6
No. of people who received support from CC/FWC/USC	26	2.4	592	53.8

Finally, on behalf of the Asia Arsenic Network and the project management, I would like to express since thanks and gratitude to the Ministry of Foreign Affairs of Japan for supporting the project. Appreciation also goes to the people of the target area without whose cooperation and enthusiastic participation this project could have been but possible. We are also thankful to DGHS, UHC, Civil Surgeon Jashore and other staff of the office for their kind and appropriate guidance and suggestions. It is anticipated that the stakeholders will find this report useful for sharing information and future course of action.

March 2019

Tarun Kanti Hore
Team Leader

Chapter 1: Outline of the Project

1.1 Background

As described by WHO Non-communicable Diseases (NCDs), also known as chronic diseases, tend to be of long duration and are the result of a combination of genetic, physiological, environmental and behavioral factors. The main types of NCDs are cardiovascular diseases (like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease & asthma) and diabetes.

In recent years Non-communicable Diseases (NCDs) have become one of the major global public health problems having its adverse effects in low- and middle-income countries where human and technical resources in the public health services are extremely limited. NCD is a burning issue for the world as it causes 63% (36 million) of total 57 million deaths globally where nearly 80% of NCD caused deaths occur in low- and middle-income countries.

In Bangladesh, NCDs also account for 61% 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", about 99% of the surveyed 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. Unavailability of skilled human resources to address NCDs, poor surveillance system, lack of proper information and coordination between public and private services also have roles in increasing NCD burden.

The Directorate General of Health Services (DGHS) has included non-communicable diseases in the strategic plan for Health, Population & Nutrition Sector Development Program (HPNSDP, 2011 – 2016). Besides, Arsenicosis is also being managed by the NCD Section of the DGHS. Since the preventive care for arsenicosis and non-communicable diseases are similar, Asia Arsenic Network (AAN) has been entrusted by the DGHS to implement NCD control activities utilizing its arsenic mitigation and arsenicosis patient management expertise.

AAN carried out a project entitled "Risk-Reduction of Non-Communicable Diseases in Jashore District" during the period of April 2013 to March 2016 (Hereinafter referred as to 'previous project'). Through the project the organization advocated the know-how of avoiding unsafe behavior and promoted NCD risk identification campaigns among the residents in the project area to help them prevent NCD burden through early detection. It was observed through the study that, inappropriate dietary patterns, smoking habit and lack of physical exercise increase the burden for NCDs. Alongside the emission of carbon dioxide from factories and vehicles as well as traditional cooking stoves and high level of arsenic contamination were also found responsible for increasing the NCD burden. Through a brief survey it was learnt that appropriate knowledge on nutrition and motivation to get health condition examined to identify NCD risks was largely absent in the south-western part of the country.

Based on the experience of the previous project and in consultation with the DGHS, AAN decided to conduct a new project titled "Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division" having a broader coverage. The previous project was implemented in four unions of Jashore Sadar Upazila and the other 11 unions were considered for the new project keeping scope for follow-up activities in the initial four unions. From the 2nd year the outcome was replicated in one union of nine districts under Khulna division (excluding Jashore District).

1.2 Objectives

1. To protect target population from NCDs by increasing knowledge on NCD risks and sufferings
2. To establish collaboration system between the community and health service providers for early detection and follow-up services
3. To develop a support system for vulnerable NCD sufferers
4. To improve community's capacity to tackle NCDs with own initiatives
5. To replicate "good practices" to other areas

1.3 Project Area

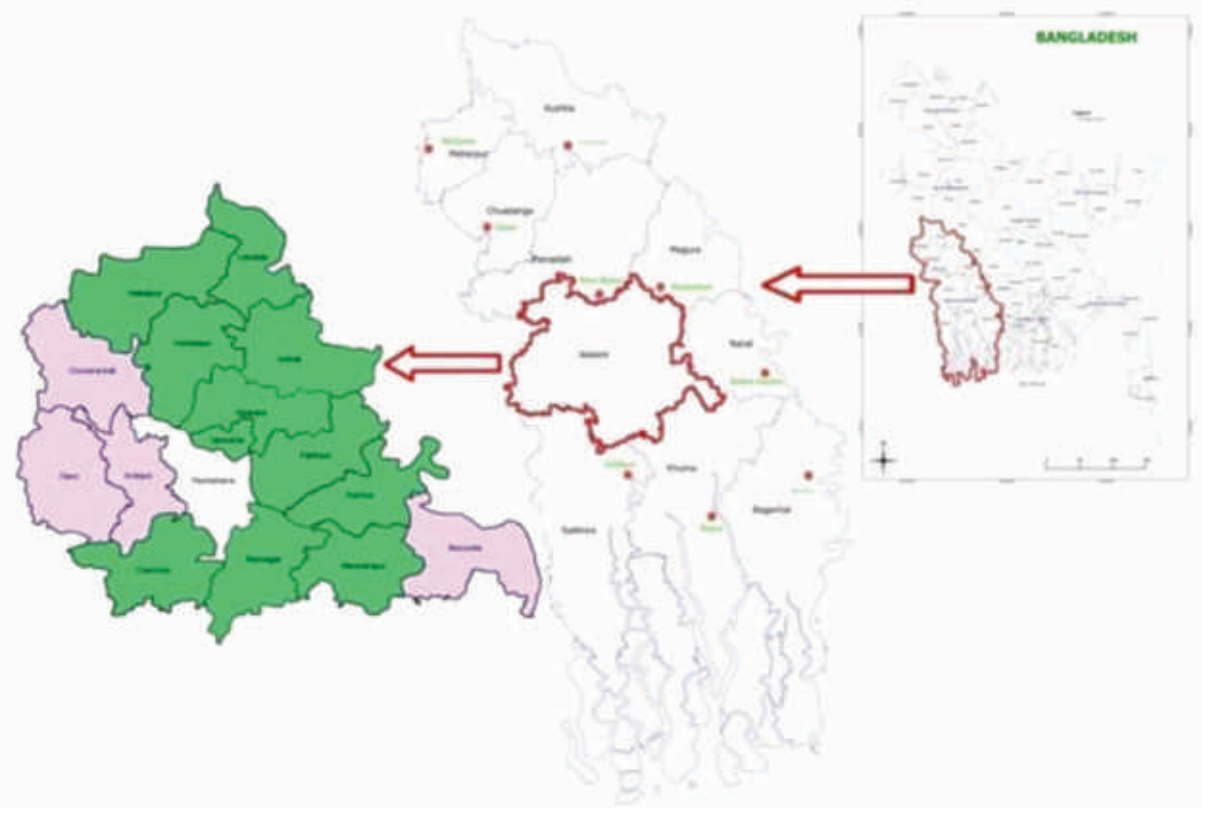
Eleven (11) new unions of Jashore Sadar Upazila as well as Four (04) unions from the previous project area were selected as the project area for the 1st phase. Another nine unions were selected from Nine districts of Khulna division in its 2nd phase.

Table 1.1: Distribution of population in project area

District	Upazila	Union	Union HH	Union Male	Union Female	Union Total
Jashore	Sadar	Arabpur	9453	20,798	20,563	41,361
		Basundia	8,139	17,840	17,452	35,292
		Chanchra	10,095	22,416	21,823	44,239
		Churamankati	9,292	20,224	19,915	40,139
		Diara	8,635	18,217	18,572	36,789
		Fathepur	11,302	23,929	23,621	47,550
		Haibatpur	7,451	16,172	16,289	32,461
		Ichhali	5,073	11,362	11,443	22,805
		Kashimpur	8,341	19,512	18,960	38,472
		Kachua	5,171	11,449	11,243	22,692
		Lebutala	4,854	10,644	10,630	21,274
		Narendrapur	7,574	16,232	16,021	32,253
		Noapara	12,467	27,952	26,926	54,878
		Ramnagar	9,059	19,507	19,303	38,810
		Upasahar	4,044	8,426	8,120	16,546
Sub-total: (In Sadar Upazila)			**120,950**	**264,680**	**260,881**	**525,561**
Bagerhat	Kachua	Rari Para	4,086	8,310	8,345	16,655
Chuadanga	Damurhuda	Howli	9,799	20,005	20,007	40,012
Jhinaidah	Kaliganj	Roygram	5,728	12,487	12,233	24,720
Khulna	Dakope	Bajua	3,577	7,909	7,844	15,753
Kushtia	Mirpur	Ambaria	4,246	8,443	8,791	17,234
Magura	Shalikha	Satkhali	6,542	13,899	14,281	28,180
Meherpur	Gangni	Shaharbati	6,082	11,442	11,697	23,139
Narail	Kalia	Babra Hachla	2,506	5,206	5,123	10,329
Satkhira	Tala	Jalalpur	5,413	10,778	10,921	21,699
Sub-total: (9 unions in Khulna division)			**47,979**	**98,479**	**99,242**	**197,721**
Total:			**168,929**	**363,159**	**360,123**	**723,282**

Note: Source: *Population Census 2011 (online)*

Fig. 1.1: Map of Project Area



1.4 Expected Outcome

Community Groups (CG)	Will learn NCD prevention activities at the community level through workshops and by replicating good practices of Social Support Groups of previous project and also by applying own ideas
NCD volunteers	Will be developed in different organizations to strengthen the capacity of the organization for conducting NCD prevention activities
Trained CG members	Will identify the environmental problems responsible for NCDs and will work to develop a community-wide healthy environment targeting the vulnerable groups (women, the poor and NCD patients in particular) together with NCD volunteers
Data and Results	Will be utilized for development of the project activities
Lessons learned	Will be disseminated to nine unions and one union of nine districts under the Khulna division in the second year onward for increasing the number of people to be provided with information and advice on NCDs to fellow citizens

1.5 SDG and Non-Communicable Diseases

The 2030 Agenda for Sustainable Development adopted at the United Nations Summit on Sustainable Development in September 2015, recognizes Non-Communicable diseases (NCDs) as a major challenge for sustainable development. NCDs were not addressed in the Millennium Development Goals (MDGs). As part of the Agenda, Heads of State and Government committed to develop national responses to the overall implementation of this Agenda, including to:

i. Reduce by one third premature mortality from NCDs
ii. Strengthen responses to reduce the harmful use of alcohol
iii. Achieve universal health coverage (UHC)
iv. Strengthen the implementation of the WHO Framework Convention on Tobacco Control (FCTC)
v. Support the research and development of vaccines and medicines for NCDs that primarily affect developing countries
vi. Provide access to affordable essential medicines and vaccines for NCDs

Note 2: Source
https://www.who.int/global-coordination-mechanism/ncd-themes/sustainable-development-goals/en/

1.6 Project Duration

The project was conducted during the three-year period from 11 March 2016 to 10 March 2019.

Chapter 2: Selection of Vulnerable Community

Since managing Community Clinics is the key responsibility of Community Groups (CG), during the project period the CGs were promoted for learning NCD prevention activities for community people. The idea and technique of CG was brought from the practices had been made by the Social Support Group (SSG) formed during the previous project conducted from March 2013 to March 2016. Then the CG workshop was designed based on the idea of spreading the good practices of SSGs among CG members. Through the workshop they were able to comprehend the importance of NCD control. Consequently, all 60 Community Clinics in Jashore Sadar Upazila adopted the NCD Prevention activities in their Local Level Plan (LLP). During the workshop CG members selected vulnerable communities and completed location mapping where NCDs Risk Identification Campaign ('NRI Campaign' in short) was required.

Output 1:

1-1.	All 11 unions will select vulnerable areas of their unions
1-2.	More than 80% of CG will adopt NCD prevention activity in their Local Level Plan (LLP)

2.1 Project Orientation

Project orientation program was arranged on 21 April 2016 at the Arsenic Centre for the project staff where project outline, activities and implementation strategies were discussed along with the job responsibility and expected outcome. Almost 20 staff took part in the orientation where output-based activities and its executing strategies were introduced through PowerPoint presentation. It was helpful for the new staff who were expected to be working with various stakeholders for preventing non-communicable diseases, especially, since the project was going to start CG workshops at Community Clinics.

2.2 Community Group (CG) Workshop

Among the 60 Community Clinics in Sadar Upazila 18 CGs were formed during the previous project to work together. In the new 11 unions 42 Community Clinics were found having no idea of NCD prevention. However, the Community Groups (CGs) of these 42 Community Clinics learned about NCDs, its risk factors and prevention measures as well. During the workshop the CG members illustrated a plan to manage NCDs burden by utilizing local resources and facilities. The workshop was also designed for

CG members of Taraf Noapara Community Clinic making a social map during the CG workshop (31 May 2016)

developing CG members to play a key role to reduce NCD burden among the target population. Many of the NCD risk factors are related to the daily lifestyle and realizing the importance of controlling NCDs, CG members, discussed the ways to motivate people towards changing lifestyle. Social maps of the respective areas were prepared by the participants marking vulnerable community and CG visit provisions.

A total of 60 CG workshops were organized during May 7, 2016 to September 27, 2016, attended by 686 participants (67%) out of targeted 1020. An NCD prevention program was included in the annual work plan which has later been incorporated in the Local Level Plan (LLP). In the workshops CGs selected a total of 175 vulnerable communities in 15 unions. Though it was targeted to select vulnerable communities from newly added 11 unions, similar selection was done in other four unions as well. Information of vulnerable communities, collected with the help of CG members, was as below:

Table 2.1: Information of vulnerable communities

No. of vulnerable community	Population			
	Household	Male	Female	Total
175	13,162	23,889	23,540	47,424

2.3 Project Introductory Meeting with Union Parishads:

After launching the project on 11 March 2016, countrywide union parishad elections was started and as a result, the scheduled introductory meetings with union parishads were delayed until August 11, 2016. Basically the targeted participants were UP Chairman, UP Members, UP Secretary, Village Police and some social elites who possess connection with community clinic.

The introductory meetings were arranged to make the participants understand about the activities to be performed in the respective unions. Unions' expected roles were also discussed in these

Mrs. Nasrin Sultana Khushi, UP Chairman of Noapara addressing in the welcome session during the Union Workshop (18 August 2016)

meetings including the promotion of easy exercise among residents, promotion of using an improved cooking stove, a union-led arsenic test program, and avoiding risky behavior relevant to four NCDs risk factors. The meanings of Universal Health Coverage (UHC) were also described briefly as the knowledge on UHC may help Bangladesh reach the targets of the Sustainable Development Goals (SDGs).

A Medical Officer was invited from the Upazila Health Complex and Civil Surgeon's Office in most of the introductory meetings who provided lecture on the preventive ways of NCDs. The series of meeting was initiated on 11 August 2016 at Norendrapur union and ended on 18 December 2016 at Chanchra union. The vulnerable areas discussed and selected at the CG workshop were shown during these meetings and most of the unions accepted the selection of vulnerable communities by CGs. However, the number of vulnerable families was reduced after discussion.

Plans made by Unions during introductory meetings:

- Creating awareness on NCDs risk factors through meetings
- Making a list of areas for awareness raising programs
- Taking initiatives for establishing "Union-led Arsenic Test System"
- Promoting residents for using an improved cooking stove
- Encouraging all, specially women, for physical work or regular exercise

Table 2.2: List of Project Introductory Meetings with Unions

Sl	Union	Workshop Date	Participants	
			UP personnel	Others
1	Arabpur	20-Oct-16	14	3
2	Basundia	22-Sep-16	12	2
3	Chanchra	18-Dec-16	14	7
4	Churamankti	27-Sep-16	12	5
5	Diara	06-Oct-16	14	9
6	Fathepur	29-Aug-16	13	9
7	Haibatpur	16-Aug-16	13	9
8	Ichhali	28-Sep-16	13	12
9	Kachua	23-Aug-16	13	10
10	Kashimpur	06-Oct-16	11	19
11	Labutala	17-Aug-16	11	11
12	Narendrapur	11-Aug-16	14	5
13	Noapara	18-Aug-16	11	14
14	Ramnagar	22-Aug-16	14	8
15	Upashare	04-Oct-16	11	13
Total:			**190**	**136**

2.4 Vulnerable Area Selection:

Based on the union meetings, project staff visited the 175 vulnerable communities and conducted a hearing survey to ensure the number of households and population. It was found that the number of people in 175 vulnerable communities was 38,856 which was 7% of the total population of 525,561 in 15 unions (according to the Census 2011). The union-wise details of the population are as below:

Table 2.3: Information of Vulnerable Community

Union	Population in working unions (Census 2011)				No. of Vul. Com-munity	Population in working unions (Census 2011)				
	HH	Male	Female	Total		House -hold	Male	Female	Total	% (Vul:)
Arabpur	9453	20,798	20,563	41,361	2	75	101	96	197	0.5%
Basundia	8,139	17,840	17,452	35,292	8	412	894	928	1,822	5%
Churamankati	9,292	20,224	19,915	40,139	8	296	408	376	784	2%
Diara	8,635	18,217	18,572	36,789	9	280	368	339	707	2%
Chanchra	10,095	22,416	21,823	44,239	15	1,341	2,340	2,265	4,605	10%
Fathepur	11,302	23,929	23,621	47,550	20	1,258	2,572	2,435	5,007	11%
Haibatpur	7,451	16,172	16,289	32,461	13	954	1,730	1,786	3,516	11%
Ichhali	5,073	11,362	11,443	22,805	9	470	625	590	1,215	5%
Kachua	5,171	11,449	11,243	22,692	10	910	2,009	1,685	3,694	16%
Kashimpur	8,341	19,512	18,960	38,472	15	1,761	2,403	2,107	4,510	12%
Labutal	4,854	10,644	10,630	21,274	10	507	1,500	1,424	2,924	14%
Narendrapur	7,574	16,232	16,021	32,253	11	530	1,125	1,152	2,277	7%
Noapara	12,467	27,952	26,926	54,878	21	820	1,445	1,367	2,812	5%
Ramnagar	9,059	19,507	19,303	38,810	17	859	1,096	1,505	2,601	7%
Upasahar	4,044	8,426	8,120	16,546	7	768	975	1,210	2,185	13%
Total	**120,950**	**264,680**	**260,881**	**525,561**	**175**	**11,241**	**19,591**	**19,265**	**38,856**	**7%**

2.5 Upazila Workshop:

The Upazila workshop was held at Upazila Parishad Hall Room of Jashore Sadar on March 01, 2017 where the Deputy Civil Surgeon, Jashore was the Chief Guest and Deputy Director of Family Planning and Upazila Health & Family Planning Officer joined as special guests. Participants were from the Department of Public Health Engineering (DPHE), Upazila Family Planning Officer, Upazila Rural Development Officer, Upazila Secondary Education Officer, Project Implementation Officer, Medical Officers from Upazila General Hospital. Senior Upazila Fisheries Officer, Upazila Agricultural Officer, Upazila Youth Development Officer, Upazila Cooperative Officer, Upazila Social Service Officer, Medical Officer for Disease Control, field Level Health Workers, Union Chairmen, Development Workers, and Journalists also joined the workshop.

A project outline was presented at the workshop including the things to be implemented in collaboration with upazila health complexes. The importance of improving healthcare service for vulnerable community was discussed and in this connection the matter of Universal Health Coverage was also taken up along with the SDGs target to reduce 25% mortality due to NCDs. The participants discussed the NCD burden and ways to reduce NCD risk factors. The plans of NCD education for keeping healthy lifestyle among the young people and NCDs risk identification campaigns for early detection were also discussed. The stakeholders present at the workshop offered cooperation to AAN for implementing the project.

The Deputy Civil Surgeon of Jashore, as Chief Guest, said that an issue like NCDs burden is not possible to control by the existing manpower within a short period. He sought attention from each sector to support. The Upazila Health & Family Planning Officer of Jashore Sadar appreciated the awareness materials developed by the project and agreed to reach all those 175 vulnerable communities recommended by Union Parishads. The Deputy Director of Family Planning assured to share NCDs risk factor with villagers through the Family Planning staff during their field activities. The Country Manager of AAN thanked all for their valuable suggestions and offering cooperation

towards the project and emphasized the importance of sincere implementation at the field level while introducing some project activities like home-based physical exercise, improved cooking stoves and union-led arsenic test programs.

The Deputy Civil Surgeon, Jashore delivering his speech on the NCD Project at the Upazila Workshop (01 March 2017)

Chapter 3: Capacity Development

Capacity development of NCD volunteers through training and health education was one of the major activities of the project. It was important in view of the sustainability of the program which aims at preventing the risks which may cause non-communicable diseases. Beside, skill development trainings were provided to the Health Workers, Community Groups under Community Clinics, Secondary-Level School Teachers and members of Youth Clubs and Woman Representatives all of whom were expected to play key roles in NCD prevention in their communities. A Health Education plan was executed through the participation of these individual 'NCD Control volunteers'. The project's Community Development Officers and Union Supervisors were also entrusted to develop communities to fight NCD burden utilizing their knowledge and skills gained through project activities. Following tasks were planned and targeted:

Output 2:

2-1	Project will provide training to various groups for creating local resources as "NCD Control Volunteers"
2-2	CG members will play active role on NCD prevention

3.1 Health Workers' Training:

Trainings were designed for developing knowledge and skills on non-communicable diseases among the Health Workers. To conduct the technical session the resource persons joined from the Upazila Health Complex, Civil Surgeon Office and 250 Bedded General Hospital of Jashore, whice

Health Workers training at Arsenic Centre

were often presented by UH&FPO and UFPO, the Civil Surgeon of Jashore, Superintendent of 250 Bedded General Hospital of Jashore, Upazila Health & Family Planning Officer (UH&FPO) and Upazila Family Planning Officer (UFPO) of Sadar Upazila. Resource persons focused on all the aspects of NCDs and the importance of prevention of NCD towards achieving the SDGS by 2030, as detailed below:

1) What is NCD
2) Which diseases are included in NCD
3) What are the symptoms and causes of Hypertension, Diabetes, Asthma, Heart Attack and Cancer
4) What are the risks of NCDs
5) How to reduce NCDs risks
6) Is there any relation between age and NCD sufferings
7) What is arsenic and arsenicosis
8) What are the symptoms and how to protect arsenic contamination
9) Whether arsenicosis a communicable or non-communicable disease
10) How to ensure arsenic safe water
11) What is cancer

The presentation covered the ways of cooperation between field-level Health Workers (HWs) and project staff. Reporting systems of the project were also outlined in the training along with the role of Health Workers in awareness raising program among the villagers. Although the training was initially planned for 189 HWs of 11 unions in seven batches, later it was re-scheduled according to the request of Upazila Health Complex and completed in eight batches for 217 persons covering all 15 unions. After the training 176 (81%) of the participants (such as HA, FWA, FWV and CHCP) were agreed to provide a monthly report to the project regularly. Other participants having direct communication with villagers were requested to share their monthly activities relevant to NCDs with Upazila Health Complex (UHC) on a monthly basis. However, irrespective of their reporting obligation, all the participants were made responsible to supervise and guide NCD prevention activities. The summary of training as below:

Table-3.1: Health Workers Training

Batch no	Date	Resource Persons	No. of Participant	Type of Participants
1	17-May-16	Dr. G.K.M Samsuzzaman, UH&FPO, Jessore Sadar UHC	30	Health Assistant, Assistant Health Inspector
2	18-May-16	Dr. Nawroz Afren, Assistant Surgeon, Jesore Sadar UHC	28	Community Health Care Provider (CHCP)
3	19-May-16	Dr. Atik Ahmed Akhond, Medical Officer, Jessore Sadar UHC	25	SACMO, CHCP, HI, MT of EPI, USI
4	25-May-16	Dr. Ali Ahsan, Deputy Civil Surgion, Jessore	28	FWA
5	26-May-16	Dr. Md. Abul Fazal, Civil Surgeon, Jessore Dr. Nawroz Afren, Assistant Surgeon, UHC, Jesore Sadar	28	FWA
6	29-May-16	Dr. Shamol Krishna Saha, Superintendent of Jessore 250 Bed Hospital Dr. Goutam Kumar Ghosh, Junior Consultant, 250 Bedded General Hospital, Jessore	24	FWA, SCHO
7	27-Oct-16	Dr. Gerendra Nath Acherjjo Dr. Goutam Kumar Ghosh	29	FWA, FPI, SACMO
8	01-Nov-16	Project staff	25	CHCP, HA
		Total:	**217**	

3.2 School Teachers' Orientation

The purpose of School Teacher orientation was to provide them with basic knowledge on NCDs and the importance of healthy lifestyle so that they can educate the students on risky behavior that may cause non-communicable diseases which start at the adolescent period. The expected role of teachers was not only to educate students but also to educate society at home, tea-stalls, social gathering and in meetings.

Since AAN had organized orientations for teachers of secondary level institutions of four unions during the previous project, this time all the 87 secondary level schools and madrassas in the remaining 11 unions were considered for the program. Among the secondary level institutions a madrassa named Monchop Sheikh Dakhil Madrassa was not in functional state. In case of Jashore Borderguard Public School, the authority could not find any time to allow the project to conduct the program during the scheduled period. As a result, the project was able to implement the orientation program at 85 secondary level educational institutions, among which schools were 54 (64%) and madrassas 31 (36%). A total of 1,253 teachers (94%) participated in the orientation program out of targeted 1,334.

School Teacher Orientation at Hashimpur High School (24 August, 2016)

The first Teachers' Orientation was held at the Bahadurpur High School on 17 August 2016 where all 15 teachers were present. The orientation program ended on 20 October 2016 at Motaharpur Mohila Dakhil Madrassa. The teachers welcomed the program and at the end many of them expressed gratitude for letting them know about the burning issue like.

A copy of the PowerPoint Presentation on DVD was distributed regarding how to educate students on NCDs in schools covering the following areas:

1. NCD Education
2. Promotion of Physical Exercise - a video clip of exercise
3. A documentary on NCD's severity and what to do
4. A video clip on Arsenicosis

Most of the institutions appreciated the idea of providing information on DVD. The NCD Education presentation included the risk factors and behavior and prevention methods. There was also a question session with various photos for smooth understanding of the students. The students were requested to disseminate the acquired knowledge of NCD to their families and to the community as well. School Teachers' Orientation program summary as below:

Table-3.2: Summary of School Teachers' Orientation

District	No of Educational Institution			No. of Participants			
				School Teacher		Managing committee members, Clark, peon	Board Member
	Total	School	Madrassa	Target	Attend		
Chanchra	16	11	5	174	154	16	2
Fathepur	6	5	1	78	74	11	1
Haibatpur	13	9	4	126	120	21	6
Ichhali	8	6	2	87	85	11	4
Kachua	5	4	1	58	55	10	8
Kashimpur	12	8	4	118	113	21	1
Labutala	7	6	1	97	94	11	2
Narendrapur	13	9	4	164	149	15	1
Noapara	14	11	3	159	155	21	12
Ramnagar	16	11	5	153	145	24	6
Upasahar	6	5	1	120	109	24	6
Total	**116**	**85**	**31**	**1334**	**1253**	**185**	**49**

3.3 Arsenic Test Training

Arsenic contamination affects human body slowly. After the nationwide tube well screening by the Bangladesh Arsenic Mitigation & Water Supply Project (BAMWSP) in early 2000s, many new tube wells were installed and almost all of them remained untested for arsenic. In case of Jashore Sadar Upazila, in Haibatpur and Basundia unions almost 50% of the then existing tube wells were found contaminated by arsenic according to the BAMWSP data.

A tube well mechanic of Sadar Upazila providing arsenic test training to village police of Fathepur Union (21 September, 2016)

Considering the difficulties of DPHE to visit these areas due to distance and unavailability of test kit, an arsenic testing system was introduced at the union level and the union parishads agreed to carry out the arsenic test program. Accordingly, DPHE officials provided technical training to Village Police and UP Secretary, first on theoretical issues in a classroom session starting with the explanation of every component of an arsenic test kit and how to use them. Then the participants tested tube well water in the field until they became comfortable with using the test kit. AAN introduced a "pay for arsenic test" system so that every union parishad can purchase a new test kit box with the collected money to keep the facility running. For smooth operation of the activity, process of documentation, book keeping & accounting system of bill collection, data management on kit box were also introduced during training.

At the end of the training, a new arsenic test kit box was given to each of the union parishads.

The first arsenic test training was held on 21 August 2016 at Haibatpur union attended by a total of 16 participants. The training ended on 20 December 2016 at Chanchra union, with a total of 98 participants (94%) out of targeted 104 Village Police. After this training, all union parishads made an official decision to promote arsenic test. The chairman of Chanchara Union paid great attention on this issue and appointed one extra person for testing arsenic for the union. Most unions, by open discussion, fixed Tk.100 as test fee per water sample. UP Members also started providing door-step service against requests over phone. Summary of the arsenic test training is as below:

Table-3.3: Arsenic Test Training at Unions

Sl	Union	Date	Participants						DPHE	Total
			UP Body			Village Police				
			UP Chairman	UP Member	UP Secretary	Male	Female	Total		
1	Chanchra	20-Dec-16	1	4	1	8	2	10	1	17
2	Fatherpur	21-Sep-16	1	2	1	8	0	8	2	14
3	Haibatpur	21-Aug-16	1	2	1	6	2	8	1	13
4	Ichhali	02-Oct-16	1	-	1	9	1	10	2	14
5	Kachua	31-Aug-16	1	2	1	8	1	9	2	15
6	Kashimpur	19-Oct-16	1	4	1	9	0	9	1	16
7	Labutala	28-Aug-16	1	3	1	7	1	8	2	15
8	Narendrapur	23-Aug-16	1	3	1	8	0	8	2	15
9	Noapara	22-Aug-16	1		1	9	1	10	1	13
10	Ramnagar	25-Sep-16	1	11	1	8	0	8	1	22
11	Upasahar	18-Oct-16	1	5	1	9	1	10	2	19
		Total:	**11**	**36**	**11**	**89**	**9**	**98**	**17**	**173**

3.4 Youth Club Training

Prevention of non-communicable diseases needs continuous effort with contribution from all stakeholders along with the Government Health Workers. For strengthening the community capacity for tackling NCDs it was necessary to involve local resources such as Youth Clubs (YCs). Information on existing Youth Clubs (YCs) was collected by the project staff and health workers in newly added 11 unions of Jashore Sadar Upazila in June 2016 and based on the information 27 Youth Clubs out of existing 58 were selected for the activity. Originally, it was planned to discuss this selection at union parishads which have not been possible due to the election schedule. Instead, the summary of the information was discussed with the UP members in some cases. Though there was a plan to select three YCs from each union, it was not possible in every union, and as a result 27 YCs were enlisted for involving themselves as NCD prevention activity players. Each YC then selected six persons for receiving the training. In case of any YC not having adequate number of members,

Community Support Group members were given priority to fill the gap after the discussion with HWs and UP Members.

The YC training included the importance of NCD prevention and the ways YC can follow to do this for their villagers. In the practical session YC members learned how to measure blood pressure, weight, height, waist circumference and how to calculate BMI (Body Mass Index). They also learned various types of advice on lifestyle, nutrition and so on, to be given to villagers depending on their condition. Youth club members also played role for bunch awareness through making plan for awareness raising and identifying NCDs risk at the initial stage.

Youth Club Training

In these trainings 199 persons participated; in detail, 160 YC members and 39 Community Support Group (CSG) members.

Initially it was planned to invite 18 YC members from each union i.e., total 198 members but due to unavailability of eligible YC in some unions training was imparted to 27 YC out of 33. Community Support Group Member (CSG) were involved to confirm 18 trainees from each union. Still there were some unions without having three YCs and then it was decided upon discussion with the respective YCs to include CSG members who agreed to work with YC for the community. CG members also attended the training as participants and as observers as well. There was some union where project failed to find 3 YCs. So project discussed the issue with those areas YC and requested to collect member from CSG who agreed to work with YC for the community.

Here CG members did not attend as a participant. Sometimes they attended as observer.

A work plan was also initiated for NCD activities. After training all the YCs adopted NCD prevention activities as their regular routine work. The information of the Youth Club training is as below:

Table-3.4: Youth Club Training

Union	Date	Name of Club	Participant		
			Club Member	CSG Member	Total
Fathepur	20-Oct-16	Jhumjhumpur Kishori Club	18	0	18
		Dosh Vai Somoby Somiti.			
		Shekh Rasel Jubo Songo club			
Kachua	18-Oct-16	Munsefpur Agamoni Jubo Unnayon Sangah	12	6	18
		Kuchua Natun Bazar Tiger Club			
Ramnagar	19-Oct-16	Kamalpur Jubo Unnayan Sabgha	12	7	19
		Asroyan Jubo Sangho			
Norendrapur	24-Oct-16	Norendrapur CIG Matshaw Unnayan Samity	12	8	20
		Shashoto Angon			
Chanchra	24-Oct-16	Juba Unnayan Sangstha	12	6	18
		Rupdia Vraman Club			
Noapara	18-Oct-16	S.B. Club	18	0	18
		Star Club			
		Meghdut Club			
Upasahar	17-Oct-16	Upasahar Kabar Khanan Sangah	18	0	18
		Anirban Club			
		Kamal Sriti Sangah			
Haibatpur	9-Oct-16	Rasulpur Suzan Sangha	18	0	18
		Lalitadaho Masranga Ciub			
		Natuapara Surjoday Club			
Kashimpur	23-Oct-16	Kashimpur Surjomukhi Club	12	6	18
		Santala Juboshongo Club			
Ichhali	20-Oct-16	Gawgora Juba Union Club	12	6	18
		Rajapur Jatio Tarun Club			
Labutala	24-Oct-16	Ansar V.D.P Club	16	0	16
		Agroni Club			
		Fulbari Club			
		Total:	**160**	**39**	**199**

3.5 Refreshment Workshop with Youth Club Members:

Workshop on "Role of Youth Club in NCD Prevention" was organized on 6 March 2016, in coordination with Upazila Health Complex at the Upazila Parishad Conference Room, Jashore. The UNO was the Chief Guest while UH&FPO of Sadar upazila joined as Special Guest. The total number of participants was 54 among which 38 representatives were from 19 YCs. Usually, President and Secretary of an YC participated this type of workshops and meetings, but this time the UP Secretary also joined as union representative along with Health

Jessore Sadar Upazila's UNO (C) and UH&FPO (L) are distributing NRI campaign materials to Youth Club members after the workshop (6 March 2016)

Inspectors and Assistant Health Inspectors from the Upazila Health Complex. In case of the absence of UP Secretary the Panel Chairman participated in the workshop.

The purpose of the refreshment workshop was to review YCs' activities and hand over materials required for NCDs Risk Identification Campaign ("NRI campaign in" short). The Youth Clubs were entrusted to keep the activities continued even after the project period.

The UH&FPO said that the number of HWs is small in Sadar Upazila and the effort to promote changing lifestyle is not sufficient by only HWs. After remarking that the Upazila Health Complex and Community Clinics are providing extra care for NCD prevention, he expressed his hope that the collaboration of Youth Clubs will help reduce the hazardous behavior among the residents. Offering full cooperation towards YCs' NCD Prevention activities, the UH&FPO also showed his expectation that the Clubs will increase the number of members and will keep relation with Upazila Health Complex to reduce NCDs risks.

Mentioning the NCDs risk reduction activities as an extensive process, the Upazila Nirbahi Officer (UNO) termed it as remarkable concept for local villagers to develop their health consciousness. He also hoped that many skillful persons will be working in Sadar Upazila to minimize NCD problems.

At the end of the program 19 YCs received one each of blood pressure monitor, weighting machine, height scale, waist measuring tape and register for their smooth activities in future. The participated YC representatives promised to extend their activities in the years to come.

3.6 Women Group Training

Based on the experience of the previous project, it was learned that most of service receivers of NRI campaign and Community Clinics are female. It was also found that many women could not get attention from their families to receive treatment in time. To encourage women in self-health consciousness and to develop skills to protect family members and neighbors from NCDs, the trainings were provided to Woman Groups selected in newly added 11 unions. Each group was consisted of three UP Female Members and 17 from different villages having experience of some social work or intended to do for the society voluntarily. Somehow it turned out that there was variety of role players at the community level. UP Female Members and HWs provided support to select these 17 women in each union.

Project staff providing training to Woman Group Member at Fathepur FWC (24 November 2016)

The training for Women Groups was designed to deliver messages focusing on NCD risk factors, NCDs sufferings of women and the scope of health services within three hours. The participants also learned the ways of reducing NCD risks by using an improved cooking stove and doing regular exercise. All 11 trainings were completed by the month of November 2016, participated by 218 women out of targeted 220.

As an action plan the Woman Groups proposed to make a list of existing users of improved cooking stoves and to encourage the traditional stove users to modify it. They also formed exercise groups and developed interest to continue it at community level. Building awareness was also another potential task for them.

Table-3.5: Women Group Training

Sl	Union	Date	Venue	Women	
				Target	Attended
1	Chanchra	24-Nov-16	AAN Office	20	19
2	Fatapur	24-Nov-16	Fatapur FWC	20	20
3	Haibatpur	24-Nov-16	Haibatpur FWC	20	20
4	Ichhali	28-Nov-16	Union Parishad	20	20
5	Kachua	18-Dec-16	FWC	20	20
6	Kashimpur	23-Nov-16	Kashimpur Surjamukhi Club	20	19
7	Labutala	29-Nov-16	Ansar VDP Club	20	20
8	Narendrapur	28-Nov-16	Union Parishad	20	20
9	Noapara	29-Nov-16	Union Parishad	20	20
10	Ramnagar	29-Nov-16	FWC	20	20
11	Upshare	28-Nov-16	Union Parishad	20	20
			Total:	**220**	**218**

3.7 Strategy Setting Workshop

Strategy setting workshop was held on 17 December 2016 at the Sadar Upazila Health Complex for the Health Inspectors (HI), Assistant Health Inspectors (AHI) and Family Planning Inspectors (FPI). A total 20 participants, involved in field supervision activities (from health & family planning point of view), took part to find out suitable ways for smooth implementation of the project activities. After brief of project outline, the participants shared their experience of NCD-I project and proposed the areas to be focused.

The UH&FPO, while addressing the workshop, described the importance of NCD Control and the role of DGHS in this regard and also requested the participants to work together with AAN making strategy in line with the government policy to NCD. Based on the outcome of the workshop Strategy was made and implemented.

3.8 Seminar on “Early NCDs Detection”

Together with NCD education, early diagnosis is important for tackling NCDs. However, while implementing the project it was observed that the existing system was not working properly as the service receivers complained of the lack of attention to the patients referred by Community Clinics at the Jashore 250-Bed General Hospital. Besides, the service receivers were found not following the advice of Community Health Care Providers (CHCP). Earlier the issues were brought into the attention of the Upazila Health Complex and the NCD wing of DGHS. After the discussion with the Superintendent of 250-Bed General Hospital, a seminar titled “Early Diagnosis of Non Communicable Diseases” was organized at the conference room of the hospital on 26 November 2016 which was participated by 63 persons including intern doctors.

First, the goal, objectives and activities of the project were displayed on a presentation. The treatment process of referral patients from CHCP was discussed elaborately. A presentation on basic signs and symptoms of NCDs was made by the Superintendent of the hospital. In his speech as Chief Guest, Dr. Kamrul Islam Benu, Superintendent of 250-Bed General Hospital, also said that he had observed that CC referral slips were not being handled properly in the Hospital and suggested to fix some date for the referred patients to receive better services. Finally it was decided that NCD patients referred by Community Clinics will get examined by the hospital exclusively on the first and third Thursdays of every month.

Seminer on Early NCDs Detection at 250-Bed Hospital Jashore (26 Nov 2016)

3.9 Exposure visit

While planning to replicate good practices of Jashore Sadar Upazila to targeted nine unions in Khulna division, a visual experience was felt required for the new stakeholders. According to the discussion with project-related persons a 'Learning through Exposure Visit Program' was designed for the Health & Family Planning Supervisors on 22 to 23 October 2017, at the Arsenic Centre in Jashore. Three participants were invited from each upazila; namely, HI and AHI from Upazila Health Complex and FPI from Upazila Family Planning Office.

On the first day, after the introductory session, participants visited an NRI campaign site at the Daitala Primary School of Fathepur union. There the CG members described the ways of making a plan for NRI campaign, organizing the campaign and providing health education. The participants also visited a Women Group doing regular exercise.

Introductory Session of Exposure Visit (22 October 2017)

On the second day (23 October) the participants visited Vekutia Community Clinic to observe how CHCP was doing NRI at the CC and how CG members were making a plan and organizing the program. Returning from filed each participant explained their plans to introduce NRI in their respective areas.

At the closing session Dr. Emdadul Haque Razu, UH&FPO of Jashore, described in his speech as Special Guest, how the NCD risk prevention activities were being implemented in Jashore Sadar upazila with the initiative of Upazila Health Complex utilizing existing manpower and facilities.

While appreciating the remarkable technique being utilized in the project for introducing self-health condition evaluation among the villagers, in his speech as Chief Guest, the Additional Deputy Commissioner, Education and ICT, Jashore also praised it for being cost effective and user friendly at the same time easy to avail the government facilities. The total 25 participants included the UP Member, HI, FPI, AHI, CHCP, HA, FWA. They mentioned the importance of GO-NGO-Public collaboration to fight NCDs.

NCD Risk Identification Campaign at Fathepur Union (22 August, 2017)

Chapter 4: Improvement of NCD Relevant Health & Environment

It is obvious that there is a need to improve the health and environmental conditions to reduce the risk of non-communicable diseases (NCDs). Having no alternative of making people aware of it, an awareness-raising program called "NCD Education program" was conducted in the project areas. Groups or communities remained little behind from the healthcare services were provided with extra focus to ensure 'equity' rather than 'equality'. Based on the nature of the communities various communication materials for behavioral change were developed and utilized for awareness-raising programs executed by various catalysts like Health Workers, School Teachers, members of Youth Clubs, Community Groups and Women Groups and the project staff. Tasks planned and targeted as under:

Output 3:

3-1	To Develop appropriate awareness-raising tools
3-2	To Conduct Health Education by HWs, Teachers and YC members
3-3	To Provide NCD service by CC and FWC through their service center
3-4	To record NCD patients' risks
3-5	To conduct Mobile Health Check-up campaign

4.1 Development of NCD Awareness Tools

The following awareness-raising tools were developed under the project during the first year:

a. Guidance Flyer

A 'Guidance Flyer' was made focusing on common non-communicable diseases and remedies as discussed at the CG workshops and Upazila Health Complex meetings. In the first year 42,000 copies were printed on A4-size paper incorporating the meaning of non-communicable disease, symptoms of hypertension, diabetes, asthma, stroke, arsenicosis and heart attack along with their remedies as well as some general messages. The back page contained the information on four NCD risk factors and how to get rid of them. The flyers were distributed as guidance among confirmed and suspected NCD patients through the Community Clinics and Family Welfare Centres of the target area. It was also distributed in villages during NRI campaigns.

b. Exercise Guide book

Since physical inactiveness is one of the major factors for NCDs sufferings, many teachers and Health Workers

proposed for supplying an Exercise Guidance replicating the previous project. Having the experience of introducing Radio Taiso and Minnano Taiso of NHK, a Japanese broadcaster, during previous project, it was felt that a manual-type brochure would help the communities.

In this project 'Bench Steps' was added to Radio Taiso and Minnano Taiso so that women can do it at home. A total of 22,500 copies of the brochure was printed two times (15,500 copies in the first year and 5,000 copies in the second year) for distributing specially targeting overweight and obese population.

c. PVC Posters

Various posters were developed based on the requirement upon discussion with Upazila Health Complex (UHC), Union Parishads and school teachers. The contents of the posters included NCD and its risk factors; unhealthy diet and the ways to avoid NCD risks; the importance of regular health check-up; encouraging regular exercise; promoting an improved cooking stove and what to do for avoiding NCD risks.

Considering the suitability of hanging on walls and in view of its longevity PVC posters were distributed at CCs, FWCs, Union Parishads, secondary-level schools & madrassas and Upazila level government offices including UHC.

Table 4.1: Type of PVC posters

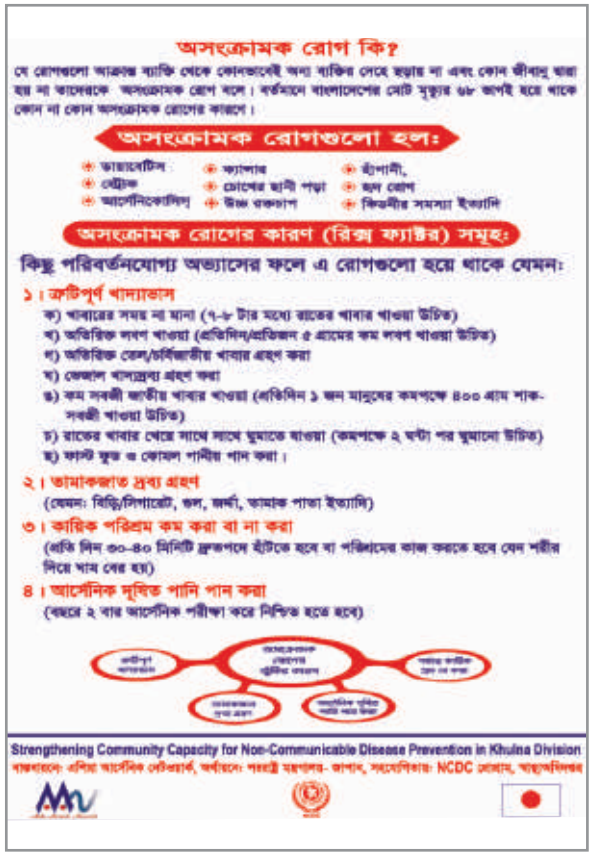
Sl	Content of poster	Distribution place	Qty
1	Guidance for above 25 years old people (What should they do for avoiding NCDs risk)	UHC, CC, FWC	105
2	Cause of using traditional cooking stove	Union, School, NRI Campaign	62
3	What to do for reducing NCDs risk (for all)	CC, FWC	70
4	Let's start exercise!	Union, UHC, NRI Campaign	54
5	NCD and its risk factors	Union, UHC, School	55
6	4 Risk factors – the ways to overcome them	Union, UHC, CC, FWC, School, NRI Camp, UNO office	110
7	How to maintain better health	NRI Camp	18
8	Ideal weight according to height	NRI Camp	37
9	Local Level Plan	Community Clinic	87

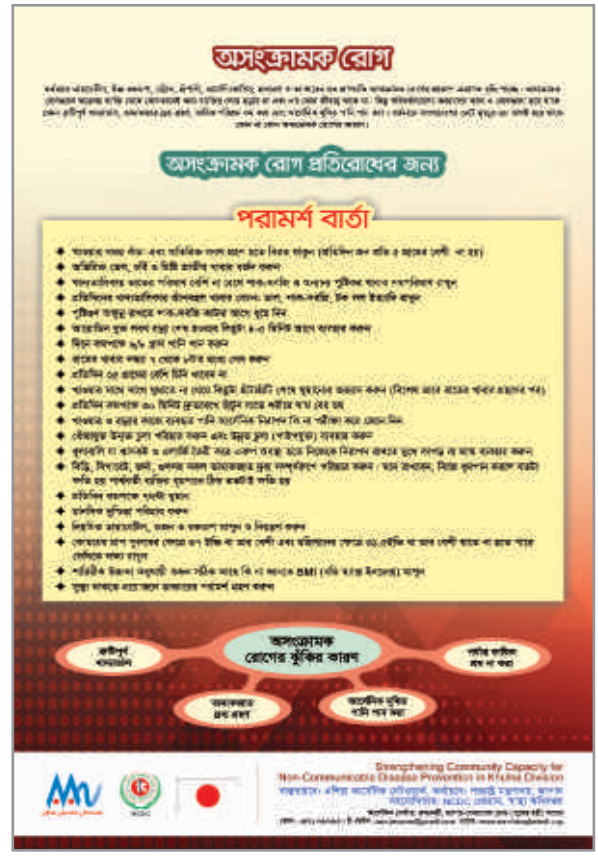

অসংক্রামক রোগ কি?
অসংক্রামক রোগগুলো হল:
অসংক্রামক রোগের কারণ (রিস্ক ফ্যাক্টর) সমূহ:
কিছু পরিবর্তনযোগ্য অভ্যাসের ফলে এ রোগগুলো হয়ে থাকে যেমন:
Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division


অসংক্রামক রোগের
ঝুঁকি কমাতে
বর্জন করুন
অভ্যাস করুন
খাদ্যাভাস
তামাকজাত দ্রব্য
কায়িক পরিশ্রম
বিশুদ্ধ পানি
(আর্সেনিক নিরাপদ)
অসংক্রামক রোগের ঝুঁকির কারণ


অসংক্রামক রোগ (এনসিডি)
অসংক্রামক রোগ জীবাণু হতে সৃষ্টি হয় না এবং একজন হতে অন্যজনের দেহে ছড়িয়েও পড়ে না ডায়াবেটিস, উচ্চ রক্তচাপ, স্ট্রোক, হৃদরোগ, এ্যাজমা, ক্যান্সার ও আর্সেনিকোসিস এ জাতীয় রোগগুলি হল অসংক্রামক রোগ। এ্যাজমা সহ অন্যান্য অসংক্রামক রোগ প্রতিরোধের জন্য উন্নত (পাইপযুক্ত) চুলা ব্যবহার করুন।
ধোঁয়াযুক্ত চুলা এ্যাজমাসহ শ্বাসতন্ত্রের রোগ বাড়ায়
উন্নত (পাইপযুক্ত) চুলা ব্যবহার করুন


অসংক্রামক রোগ প্রাথমিক অবস্থায় নির্ণয়ের জন্য
বয়স ২৫ পার হলেই নিয়মিত এই কাজগুলি অবশ্যই করুন
বছরে ২ বার ডায়াবেটিস পরীক্ষা করুন
নিয়মিত রক্তচাপ পরিমাপ করুন
প্রতিদিন ৩০-৪০ মিনিট দ্রুতগতিতে হাঁটুন
কোমরের মাপ পুরুষের ক্ষেত্রে ৩৭ ইঞ্চির নিচে এবং নারীদের ক্ষেত্রে ৩৬.৫ ইঞ্চির নিচে রাখুন।
Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division


অসংক্রামক রোগ কি?
যে রোগগুলো আক্রান্ত ব্যক্তি থেকে কোনভাবেই অন্য ব্যক্তির দেহে ছড়ায় না এবং কোন জীবাণু দ্বারা হয় না তাদেরকে অসংক্রামক রোগ বলে। বর্তমানে বাংলাদেশের মোট মৃত্যুর ৬৮ ভাগই হয়ে থাকে কোন না কোন অসংক্রামক রোগের কারণে।
অসংক্রামক রোগগুলো হলঃ
ডায়াবেটিস
স্ট্রোক
আর্সেনিকোসিস
ক্যান্সার
চোখের ছানী পড়া
উচ্চ রক্তচাপ
হাঁপানী,
হৃদ রোগ
কিডনীর সমস্যা ইত্যাদি
অসংক্রামক রোগের কারণ (রিস্ক ফ্যাক্টর) সমূহঃ
কিছু পরিবর্তনযোগ্য অভ্যাসের ফলে এ রোগগুলো হয়ে থাকে যেমনঃ
১। ত্রুটিপূর্ণ খাদ্যাভাস
ক) খাবারের সময় না মানা (৭-৮ টার মধ্যে রাতের খাবার খাওয়া উচিত)
খ) অতিরিক্ত লবণ খাওয়া (প্রতিদিন/প্রতিজন ৫ গ্রামের কম লবণ খাওয়া উচিত)
গ) অতিরিক্ত তেল/চর্বিজাতীয় খাবার গ্রহণ করা
ঘ) ভেজাল খাদ্যদ্রব্য গ্রহণ করা
ঙ) কম সবজী জাতীয় খাবার খাওয়া (প্রতিদিন ১ জন মানুষের কমপক্ষে ৪০০ গ্রাম শাক-সবজী খাওয়া উচিত)
চ) রাতের খাবার খেয়ে সাথে সাথে ঘুমাতে যাওয়া (কমপক্ষে ২ ঘন্টা পর ঘুমানো উচিত)
ছ) ফাস্ট ফুড ও কোমল পানীয় পান করা।
২। তামাকজাত দ্রব্য গ্রহণ
(যেমনঃ বিড়ি/সিগারেট, গুল, জর্দা, তামাক পাতা ইত্যাদি)
৩। কায়িক পরিশ্রম কম করা বা না করা
(প্রতি দিন ৩০-৪০ মিনিট দ্রুতপদে হাঁটতে হবে বা পরিশ্রমের কাজ করতে হবে যেন শরীর দিয়ে ঘাম বের হয়)
৪। আর্সেনিক দূষিত পানি পান করা
(বছরে ২ বার আর্সেনিক পরীক্ষা করে নিশ্চিত হতে হবে)
Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division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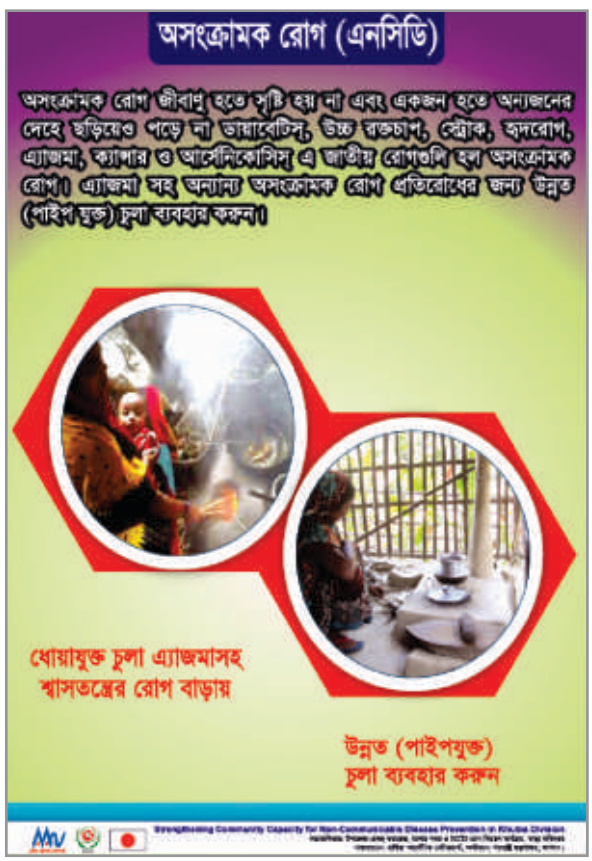
অসংক্রামক রোগ প্রতিরোধের জন্য
পরামর্শ বার্তা
অসংক্রামক রোগের ঝুঁকির কারণ
Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division


অসংক্রামক রোগ (এনসিডি)
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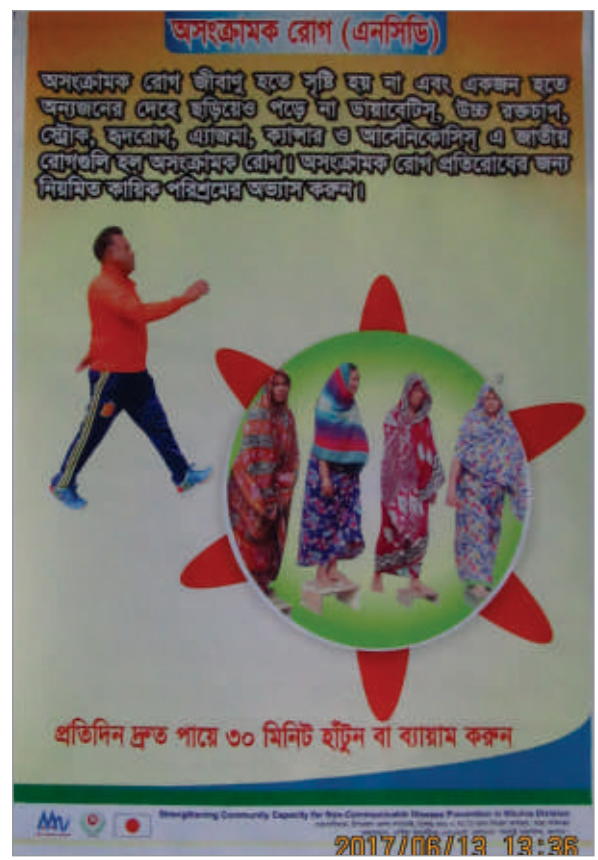
ধোঁয়াযুক্ত চুলা এ্যাজমাসহ শ্বাসতন্ত্রের রোগ বাড়ায়
উন্নত (পাইপযুক্ত) চুলা ব্যবহার করুন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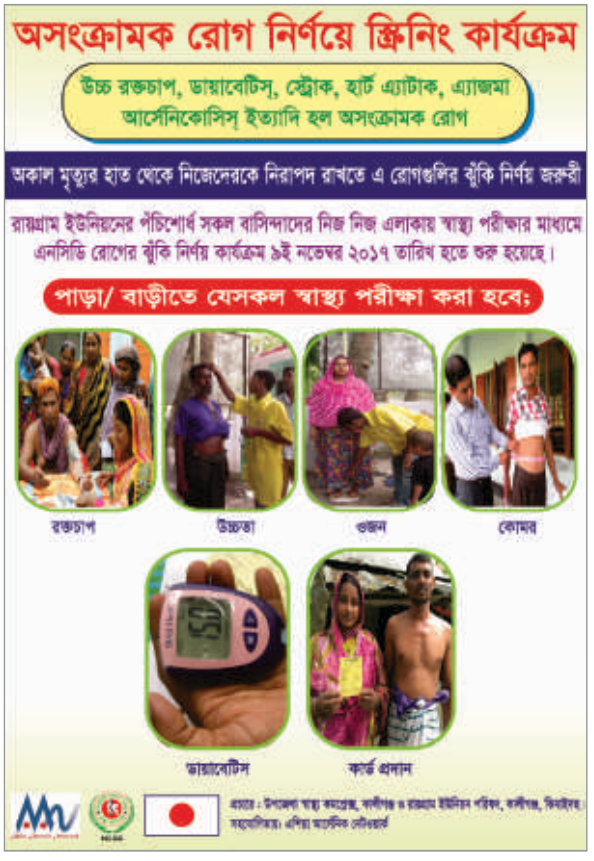
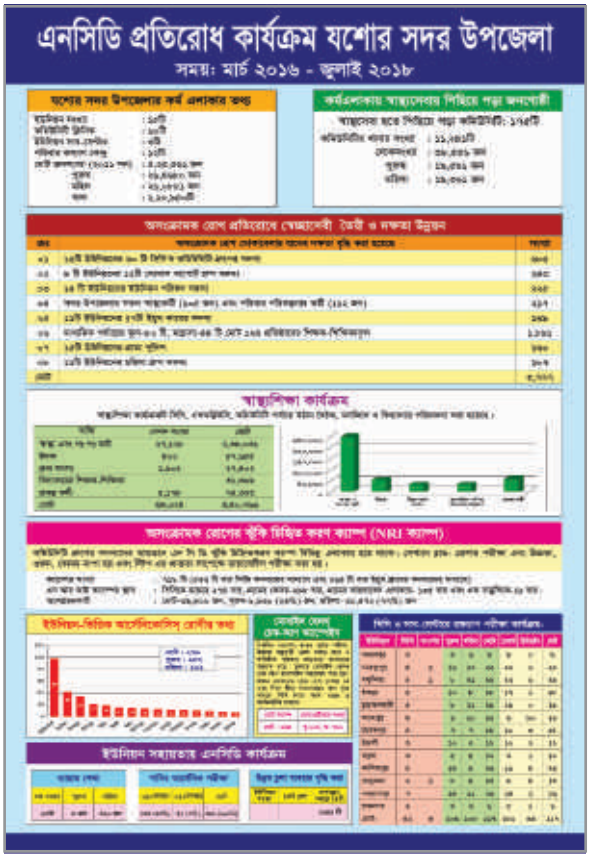
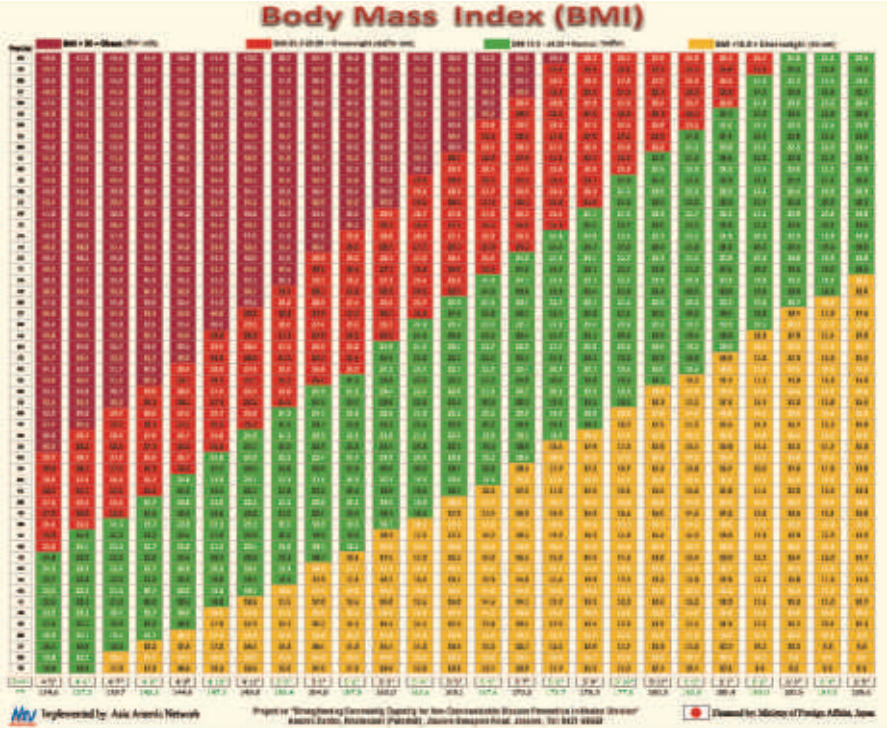
প্রতিদিন দ্রুত পায়ে ৩০ মিনিট হাঁটুন বা ব্যায়াম করুন
2017/06/13 13:36





d. BMI Chart

Body Mass Index (BMI) calculation is essential for any adult to assess NCD risks. To ease the job of HWs a BMI calculation chart was developed containing weight as kilogram and height in inch and centimeter. This chart covered 35 to 90 Kg and height 4.5” to 6.5”. A total of 1,000 copies of the chart was printed and distributed among CCs, FWCs, YCs, WGs and HWs.



e. NRI Guidebook

An NCDs Risk Identification guidebook named 'NRI Guidebook' was developed for those who wanted to conduct NRI campaign, which was edited by Deputy Program Manager of NCDC Program of the DGHS. The guidebook explained how to prepare and organize manpower and necessary materials introducing different ways of NRI campaign so that any individual or group can conduct it after studying the guidebook. The project produced 1,500 copies of the guidebook

f. Poster

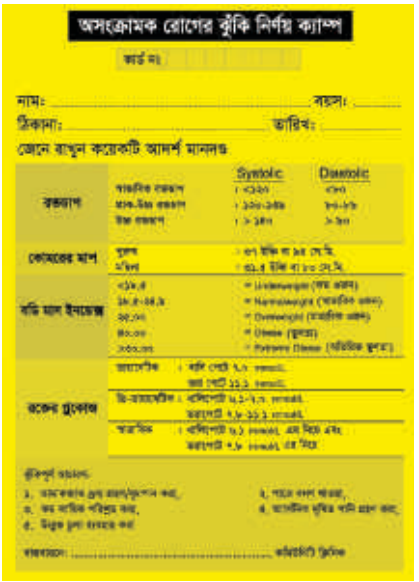
To cover all types of people of each corner of the society, general posters were prepared during the awareness-raising programs to stimulate thinking about NCDs and risky behavior. Altogether 20,000 copies of hand-hold posters were printed and distributed at different crowded places.

g. NRI Register

A register card was developed to record the information of the NRI campaign visitor. The cards were handed over to CCs and Youth Clubs.

h. NRI Token

An NRI Token was prepared to record various measurement data of the campaign visitors containing the standard level of blood pressure, BMI, waist, height, weight, and glucose along with general information such as name, address, sex and date.



i. Billboard

A billboard was designed to convey the four NCD risk factors that people need to consider at the age of 25-year and above. It encouraged people to measure blood pressure, blood sugar, height, weight and BMI and also to practice physical exercise on a regular basis. A total of 38 billboards were erected at 11 unions of Jashore Sadar upazila and nine unions of replication area.

4.2 Health Education

Most of the villagers were found to know the names of individual diseases of NCDs that include diabetes, hypertension, stroke, asthma, heart attack but still 'NCD' was a new term to them. To let the villagers know about NCDs suffering and its causes the project provided health education through various stakeholders like field level Health and Family Planning Workers, secondary-level school teachers, Imams (religious leaders), Youth Club members, Women Group members and project

staff. They conducted educational sessions at the community level such as healthcare centers, schools and various places. The number of participants amounted to 538,044 in three years. Individual efforts for NCD education are introduced as below:

CHCP of Vekutia Community Clinic during health education

4.2.1 By Health Workers

The first training on providing health education for Health Workers was conducted in the four unions of Jashore Sadar Upazila during the previous NCD project implemented in 2013-2016. Under this NCD project all HWs of all 15 unions in Sadar Upazila received the training. Upon the trainings HWs started providing NCD education through their regular activities in order to make an NCD-risk free community.

The Health Workers accumulated intensive and up-to-date knowledge about NCD during the project and became capable to spread the messages in their respective working areas. HWs provided awareness individually and in groups as well at the health centers. Special care was also taken by the HWs to NCD patients or suspected NCD patients.

The Health Workers also carried out awareness-raising programs using PVC posters on a large scale in a friendly and informative manner. Health Workers, being well acquainted with community, found it very meaningful and fruitful. During the project in 15 unions 120 HWs conducted 33,044 awareness raising sessions in three years where 294,767 people (male-74,201, female-220,566) received the messages.

In addition, health education was provided by Community Healthcare Providers (CHCP) at CCs, Family Welfare Visitors (FWV) at the Family Welfare Centre (FWC) and Health Assistants (HA) and Family Welfare Assistants (FWA) through their regular activities.

4.2.2 By School Teachers

After the orientation program, teachers conducted health education program on NCD in their classrooms, from where messages were conveyed to 31,361 students during the three-year project period. Most of the students (26,541) received messages from their teachers in the 1st year. In case of the 2nd and 3rd years of the project new students were admitted in class VI in each school. Therefore, in the last two years new students were also added under the program. As a result, 31,361 students from 85 schools received health education on NCD.

Health education by a teacher

Students were expected to understand NCD risk factors and recognize the risks at early stages and finally be able to keep healthy life styles. They were also expected to convey messages on NCD to their parents. Though project staff joined the health education sessions, in most cases teachers provided lessons. When it was not possible to use a PVC poster or multimedia presentations, printed copies were used for lessons. The students were found very interested and curious about the causes and risk factors of NCDs.

4.2.3 By Youth Club Members

Youth Club (YC) members, who generally remain involved in various community functions, conducted NCD awareness sessions at various places of villages like tea-stalls and other social gatherings. They contributed enormously to make people aware of NCDs sufferings and risks. All

YCs (or Most of YCs) also took up awareness-raising activities as a formal program at different levels of efforts. YCs conducted various activities including NRI campaigns covering 33,088 participants during the project period.

4.2.4 By Mosque Imams

Awareness program was also conducted in mosques with the help of CG members as well as Union Parishad members in the second year. CG members discussed with the mosque management committee and explained NCD education to the Imam (religious leader). Project's Union Supervisors also distributed leaflets to Imams for them to understand NCD education.

On every Friday, a large number of adults and children gathered at mosques where Imams delivered messages on NCDs, NCD risk factors and healthy lifestyles. UP members also played a role in delivering similar messages at major places. This mosque-based awareness program targeted 11 new unions of Jashore Sadar Upazila.

In the second year alone 219 sessions were conducted at mosques through which 30,899 participants received basic messages on NCD. Here, all of participants were male and among them 82% were adult. By the end of the three-year project there were 57,655 people (46,438 males and 11,217 children) who received educational messages relevant to NCDs.

4.2.5 By Women Group Members

From Women Groups 20 people each in the newly added 11 unions of Jashore Sadar Upazila volunteered to be facilitators to carry out awareness activities on NCD. Through trainings by the project they developed skills and performed awareness activities in their neighbor communities as well as inside their villages. During the project these women group members conducted awareness programs among 36,315 participants (male - 11,859, female - 20,977, children - 3,359).

4.2.6 By Project Staff

A total of 12 project staff, ten Union Supervisors and two Community Counselors, was engaged in delivering messages on NCDs risk factors to villagers. They conducted NCD education using a PVC poster targeting vulnerable communities selected by CGs and Union Parishads (UP). Usually the project staff selected the places of the sessions discussing with the concerned UP members and

Case Study

Motivation changed my life

"I'm quitting smoking from now and onward" -- this was a historical statement by Mr. Md. Abdus Sattar in a crowded workshop at Basundia Union made during the previous NCD project. He was invited to the workshop as Chief Guest. Mr. Sattar, a very popular and joyful person, was elected as UP Member in the 2011 elections.

While motivating the audience to avoid NCD risks (i.e., smoking, oil, fat, salt etc.), Mr. Sattar in his speech discouraged smoking and any unhealthy behaviors. All of a sudden, a question was raised from the audience regarding the practices of the speaker himself. In an awkward moment, the 57 years old former UP member, who remained a chain smoker for decades having 75 to 95 stick cigarettes a day along with battle dried tobacco (Jarda), proclaimed to quit smoking straightaway and made his promise to the mass.

Mr. Sattar is now a healthier person than ever before, free from high blood pressure and waist pain complains. He is carrying healthy lifestyle on food intake avoiding too much oil, table-salt and heavy dinner late at night. Mr. Sattar is also proud of keeping regular sleeping time.

Health Education in a vulnerable community by using PVC posters

performed the NCD education session inviting surrounding family members. Though the target was set for 10-15 participants per session, they also visited individual households found scattered

4.2.7. By Microphone announcements

During the mid-term evaluation of awareness coverage carried out during February 2017 and February 2018 it was found that some areas were left behind. Then it was decided to convey awareness messages through microphone announcements to the areas out of coverage. A van equipped with a public address system moved around different areas playing record on risky behaviors that may cause NCDs and the ways to avoid them.

4.3 Activities Supported by Individuals

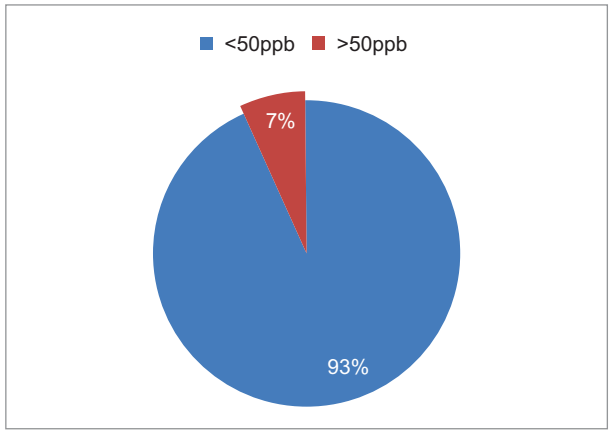
4.3.1 Union-led Arsenic Test

Considering the troubles of villagers to visit upazila level DPHE office, a union-led arsenic test program was introduced based on the experiences of AAN's previous projects. Village police of Union Parishad were trained on how to use a field arsenic test kit. UP members were trained on how to manage the program, with a view to establishing water test facility closer to the villagers. A minimum charge for the arsenic test was fixed to ensure buying a new field kit box and keep the system running.

Village Police is checking tube well water for arsenic by visiting houses

After launching the program in October 2016, villagers were able to get 885 tube well water checked for arsenic from their nearest Union Parishads. The result of union-led arsenic tests up to December 2018 showed that 823 tube well water samples (93%) were arsenic-safe, i.e. within the permissible level of 50ppb/L and only 62 tube well water samples (7%) exceeded the permissible level.

Fig. 4.1: Result of Union-led Arsenic Test



In Jashore Sadar the arsenic test program ran smoothly at early stages, but it gradually lost momentum, probably due to the following reasons:

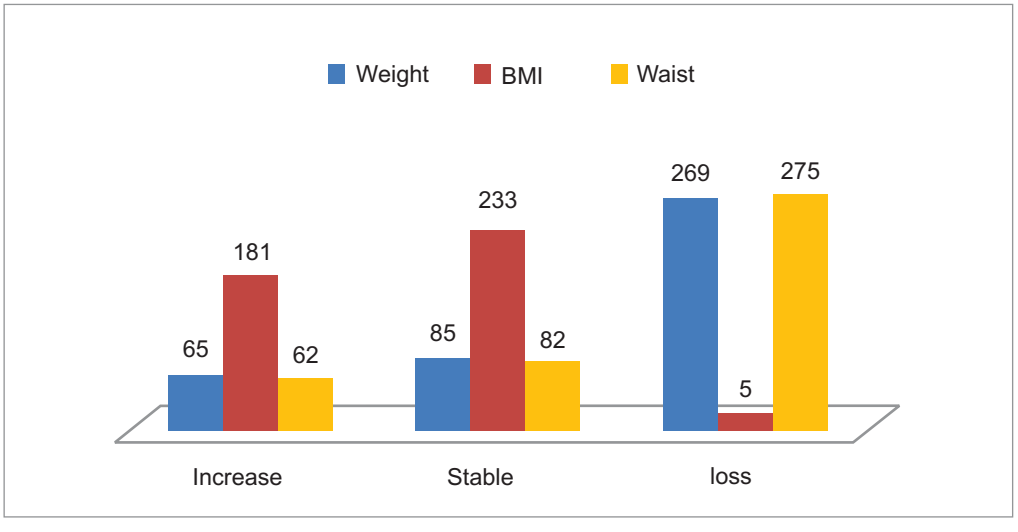
- Testing cost of Tk. 100/test was high for many people;
- People preferred to take government service at free of cost;
- People were not ready to accept the result of contamination;
- Since the government tested tube wells in 2003, villagers did not find it necessary to re-check;
- People did not know the necessity of checking tube well water for arsenic twice a year.

4.3.2 Exercise Group:

With the support of CG members in 15 unions of Jashore Sadar Upazila 29 exercise groups were formed consisting of 462 members. Almost every union formed at least one exercise group where some unions formed two to three groups.

Project staff visited these exercise groups quarterly to observe their exercise techniques. Beside this, each member's Weight, BMI and Waist were measured regularly. Measurement record of 419 members out of 462 was kept and is shown in the graph below. It can be said from simple comparison that many people lost weight and lowered waist circumference, 269 persons (64%) for the former and 275 (67%) for the latter.

Fig. 4.2 Development of physical condition of exercise group members



4.3.3 Improved Cooking Stove

Using a traditional cooking stove is one of the main reasons for suffering from chronic obstructive pulmonary disease (COPD) and asthma. To reduce the NCD risks related to COPD and Asthma, local villagers were motivated for using an improved cooking stove. NCD Volunteers and Women Group members collected information regarding use of traditional and improved cooking stoves. The project trained women on how to make improved cooking stoves and after that the tendency of using an improved cooking stove increased. Skilled women also helped others to make improved cooking stoves. During the project period, a total of 1791 improved cooking stoves (1st year 572, 2nd year 398, 3rd year 821) were made.

Fig. 4.3: No. of Improved Cooking Stoves made in Jashore Sadar

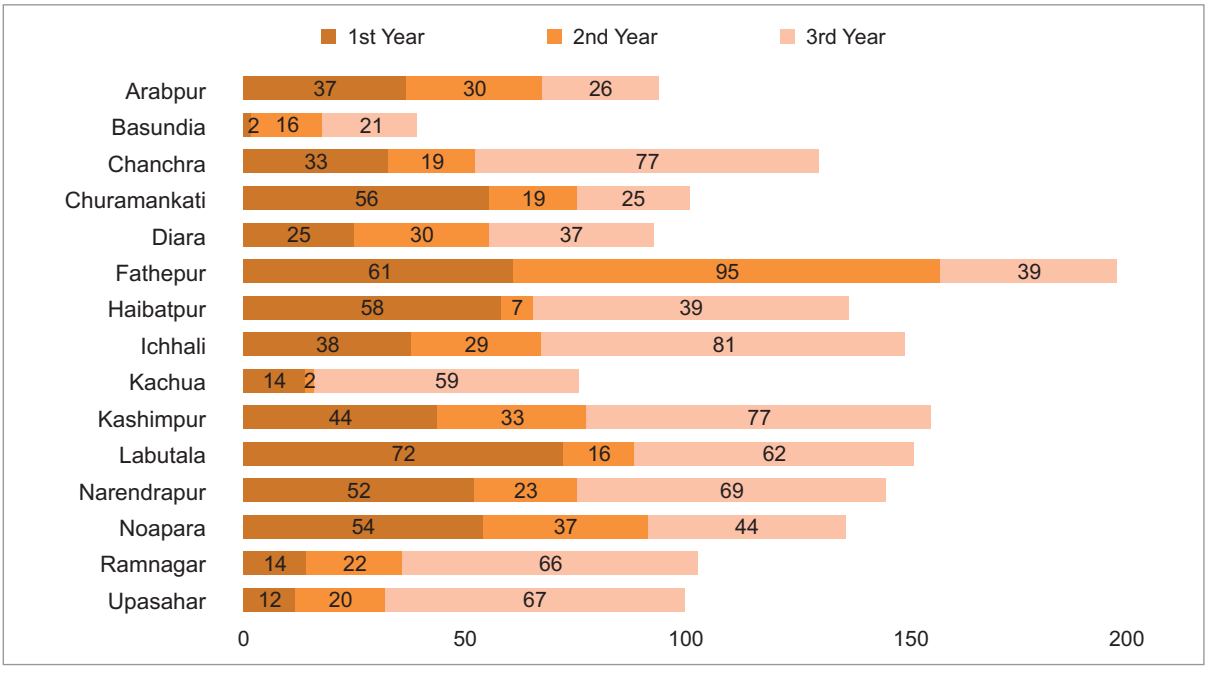
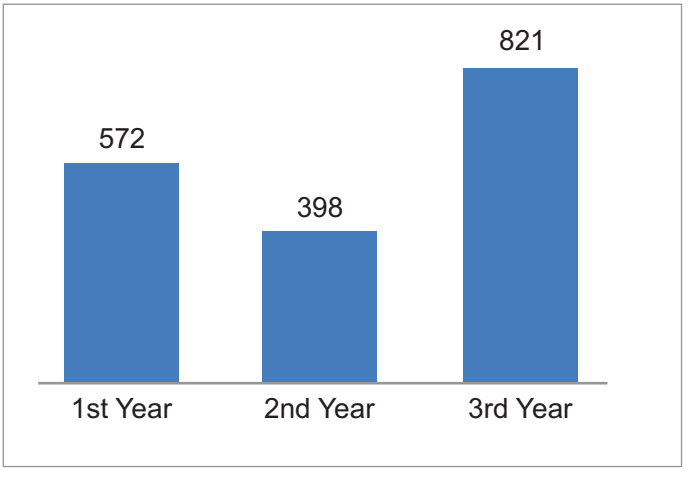


Fig. 4.4: Year-wise no. of Improved Cooking Stoves made by the village women



4.4 NCD Service in CCs & FWCs

Usually, NCD patients are not aware enough of the importance of regular health check-up and having treatment. They are not keen to visit CC either. In line with the Bangladesh Government's emphasis towards NCD control, nowadays CCs and FWCs provide health education on NCD risks and also refer suspected patients to the NCD Corner of government hospitals regularly. Through these services, community people became interested to visit CC and NCD Corners to get health education and follow-up services.

4.5 CG Members' practical training

The new Community Group Committee was formed in January 2017. Some new members were adopted in the committee and during conducting NRI many people joined from outside. Therefore, project continued practical training before starting NRI. During the second year organizers provided training to the new volunteers also.

CG Members and volunteers receiving practical training on NRI

Table 4.2: No. CG Members and volunteers received practical training before NRI

Sl #	Union	CC Name	Year: 1	Year: 2	Total
1	Chanchra	Korichia CC	4	2	6
2	Chanchra	Vaturia CC	4	0	4
3	Chanchra	Bara Meghla CC	2	1	3
4	Chanchra	Chanchra CC	2	2	4
5	Chanchra	Sarapole CC	3	0	3
6	Fatepur	Hamidpur CC	4	0	4
7	Fatepur	Jhumjhumpur CC	7	2	9
8	Fatepur	Boladanga CC	6	1	7
9	Fatepur	Daitala CC	6	2	8
10	Fatepur	Bhayana CC	6	0	6
11	Haibatpur	Tirerhat CC	0	6	6
12	Haibatpur	Muradghar CC	0	4	4
13	Haibatpur	Haibatpur CC	0	5	5
14	Haibatpur	Laukhali CC	0	4	4
15	Ichhali	Kismat Rajapur CC	0	4	4
16	Ichhali	Kutubpur CC	0	6	6
17	Ichhali	Hasimpur CC	0	4	4
18	Kachua	Kachua CC	5	1	6
19	Kachua	Deyapara CC	5	2	7
20	Kachua	Munsefpur CC	6	0	6
21	Kashimpur	Khojarhat CC	0	2	2
22	Kashimpur	Dakatia CC	0	4	4
23	Kashimpur	Shyamnagar CC	0	6	6
24	Kashimpur	Daulat Dihi CC	0	4	4
25	Kashimpur	Dahar Para CC	0	6	6
26	Labutala	Fulbari CC	0	6	6
27	Labutala	Katamara CC	0	4	4
28	Narendrapur	Sreepoddi CC	7	2	9
29	Narendrapur	Narendrapur CC	6	4	10
30	Narendrapur	Chaulia CC	5	0	5
31	Narendrapur	Balarampur CC	6	1	7
32	Noapara	Bahadurpur CC	6	4	10
33	Noapara	Arpara CC	4	0	4
34	Noapara	Balidanga CC	4	1	5
35	Noapara	Naodagram CC	6	2	8
36	Noapara	Birampur CC	3	3	6
37	Noapara	Talbaria CC	4	0	4
38	Noapara	Taraf Noapara CC	3	1	4
39	Ramnagar	Kazipur CC	6	0	6
40	Ramnagar	Ramnagar CC	7	1	8
41	Ramnagar	Shirajshingha CC	7	2	9
42	Ramnagar	Khanka E-Owasia CC	7	0	7
		Total:	**137**	**97**	**234**

4.6 NRI Campaign

NCD's Risk Identification (NRI) Campaign was started in 15 unions of Jashore Sadar Upazila. During the workshop CG members provided a plan for organizing NRI Campaign. Based on the plans, the project provided practical training to the CG members and volunteers for implementing NRI campaigns.

Health Workers and NCD Volunteer are conducting NRI Campaign at Community level

Decorations of NRI camps were managed locally by the CG members. NRI campaigns were organized at Community Clinics, at FWCs, in vulnerable communities, to ensure early detection of NCD patients and advise them accordingly. Concerned Health Workers also played a role during the NRI campaign.

Up to December 2018 a total of 999 NRI campaigns were organized with the help of CGs, YCs and Women Groups (see Table 4.3 for details). There were 49,989 participants (male - 12,490, female - 37,499) altogether and their height, weight, waist circumference and blood pressure were measured. Since the project put emphasis on vulnerable communities and women, the ratio of female participants was 75%. Blood Sugar test, though ideal, was not possible to conduct due to lack of test strips. However, Blood Sugar test was carried out by the initiative of Community Clinics on a payment basis. Yet 2,668 people (male - 598, female – 2,070) came forward to have their sugar level checked.

Table 4.3: No. of Participants in NRI Campaigns in Jashore Sadar

Organizers	No. of NRI	Male	Female	Total
Community Groups	659	7,217	28,957	36,174
Youth Clubs	226	4,609	6,218	10,827
Woman Groups	114	664	2,324	2,988
Total	**999**	**12,490**	**37,499**	**49,989**
		(25%)	**(75%)**	

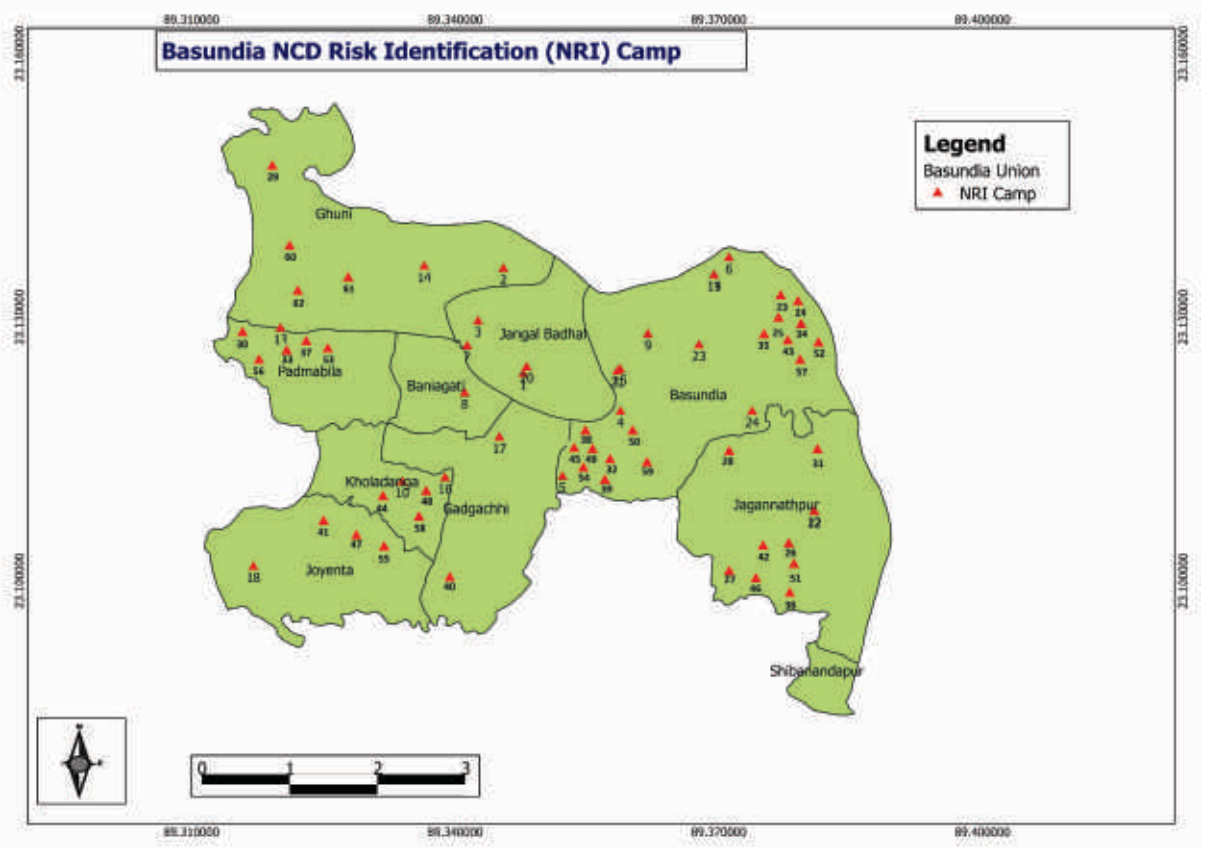


Table 4.4: Venue-wise Participants of CG-organized NRI Campaign

Venue	Number of NRI	Male	Female	Total
CC	220 (33%)	1,939	9,281	11,220
Vulnerable Area	278 (42%)	3,367	12,570	15,937
General Area	139 (21%)	1,748	6,115	7,863
FWC	22 (3%)	163	991	1,154
Total	**659**	**7,217**	**28,957**	**36,174**
		(19%)	**(81%)**	

Among the CG led campaigns 220 held at CC, 278 at Vulnerable areas, 139 at General areas and 22 at FWC where a total 36,174 people took part including 7,217 (19%) male and 28,957 (81%) female).

There were a total of 36,167 people who participated in 659 NRI campaigns organized by Community Groups in Jashore Sadar Upazila. Table 4.5 records the distribution of population by blood pressure condition. It is observed that the number of people with normal BP remains at 62.3% (male and female combined) and that the number of people with pre-hypertension and hypertension exceeds a quarter percentage at 27.5% with male having a higher percentage (29.1%) than female (27.1%).

Table 4.5: Blood Pressure Condition of participants in CG-organized NRI Campaigns

BP Condition	Male		Female		Total	
	No.	%	No.	%	No.	%
Hypertension	960	13.3%	3,777	13.0%	4,737	13.1%
Pre-Hypertension	1142	15.8%	4,069	14.1%	5,211	14.4%
Normal	4519	62.7%	17,995	62.1%	22,514	62.3%
Low Blood Pressure	591	8.2%	3,114	10.8%	3,705	10.2%
Total	**7212**	**100%**	**28,955**	**100%**	**36,167**	**100%**

As seen in Table 4.5, NRI campaigns organized by CGs identified a total of 4,737 people with hypertension. Table 4.6 tries to clarify how many people had knowledge on high blood pressure.

Table 4.6: Knowledge on their own High Blood Pressure among the Hypertension patients identified

Did you know you had high blood pressure?	Male		Female		Total	
	No.	%	No.	%	No.	%
Yes	619	64.5	2,231	59.1	2,850	60.2
No	341	35.5	1,546	40.9	1,887	39.8
Total	**960**	**100.0**	**3,777**	**100.0**	**4,737**	**100.0**

Among the 4,737 hypertension patients, 2,850 people (60.2%) found known that they had high blood pressure, with male at 64.5%, a little higher than female of 59.1%.

Table 4.7: Distribution of respondents by Waist Circumference

Waist Circumference	Respondent by Gender		
	Male	Female	Total
>94 cm	909 (13%)		909
<94 cm	6,310 (87%)		6,310
>80 cm		13,913 (48%)	13,913
<80 cm		14,962 (52%)	14,962
Total	**7,219 (100%)**	**28,875 (100%)**	**36,094**

For male, having waist circumference <94 cm indicates low risk for diabetes and blood pressure whereas >94 cm indicates high risk of those. For female, low risk range is <80 cm and high risk range is >80 cm. Out of the 36,094 participants, waist circumference was measured for 7,219 male and 28,875 female. 13% male found having waist circumference >94 cm and 87% <94cm. Among the women, 48% had >80 cm and 52% <80 cm waist circumference.

4.7 Youth Club-organized NRI Campaign

After receiving training 27 Youth Clubs started NRI campaign as a part of NCD prevention activities. In the second year 19 out of 27 Youth Clubs were found functional and the project provided them with NRI materials required to conduct activities smoothly.

YCs conducted 226 NRI campaigns where 10,827 villagers got their height, weight, waist circumference and blood pressure checked. What was significant in YC-organized NRI campaigns

was that male participants' presence was 57%, much higher than those of other volunteer groups YCs conducted the program in the afternoon and on Fridays which were probably suitable for some male villagers.

It should be recorded here that other volunteers like Women Group also conducted NRI campaigns borrowing materials from YCs.

4.8 Mobile Health Check-up Program (MHCP)

Under this program healthcare service providers visited a common place at a particular time and encouraged the community to come for regular health check-up. After couple of months this voluntary program disappeared when villagers became accustomed to visit CC to get their health condition checked. During the project period MHCP was conducted at 44 places targeting 1,050 suspected & confirmed patients (male-220, female-830). But according to the information of concerned CC only 267 (25%) patients visited CC.

Table 4.8: No. of patient visited CC after MHCP camp

Year	No. of Union	Camp	No. of Targeted Patient			No. of Patients visited of CC	Percentage
			Male	Female	Total		
1st Year	11	11	119	344	463	112	24%
2nd Year	11	22	85	416	501	129	26%
3rd Year	11	11	16	70	86	26	30%
Total-	**33**	**44**	**220**	**830**	**1,050**	**267**	**25%**

4.9 Arsenic-safe Water Supply for Village-level Health Centers

Drinking arsenic-contaminated water is one of the major risk factors which AAN introduced considering Bangladesh aspect in place of alcohol by WHO based on global issue. Community Clinics, Family Welfare Centers and Union Sub-Centers named Union Health & Family Welfare Centre are the main healthcare service receiving centers at the doorstep for most of villagers. Therefore, the project tried to ensure arsenic-safe water at village-level from these health centers. A brief survey found that 18 out of 75 water supply devices remained inactive in spite of the effort of Community Health Care Providers (CHCP) to reactivate those by hiring mechanics. The project took assistance from AAN's Water Supply Engineer to reactivate five out of repairable seven tube wells in the second year. A feasibility study found that tube wells at 11 CCs were not repairable. So, the project installed new tube wells keeping provision to make water available even during the dry season when the water level goes down by 10 meter.

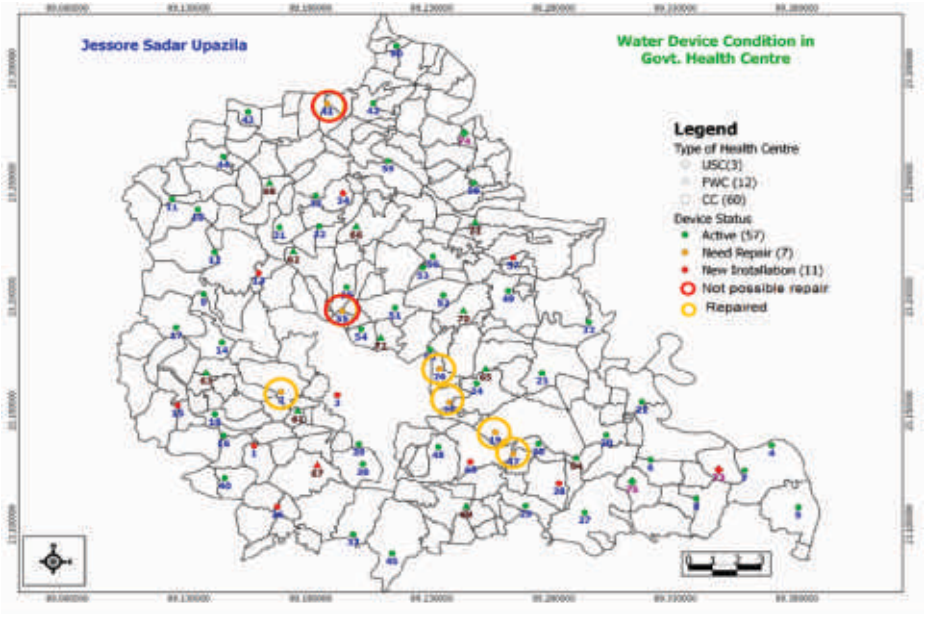


Table 4.9: List of repaired and newly installed tube wells at Health Care Service Centers

TW ID	Union	Name of Health Centre	Repaired/New	Date	Depth (m)
1	Arabpur	Dhopakhola CC	New Installation	10-Aug-18	73 m
2	Arabpur	Vekutia CC	Repaired		
3	Arabpur	Kholadanga CC	New Installation	11-Aug-18	51 m
73	Basundia	Jangalbadhal Sub Center	New Installation	13-Sep-18	88 m
13	Churamankati	Chhatiantala CC	New Installation	12-Aug-18	70 m
25	Fatepur	Baliadanga CC	Repaired		
41	Haibatpur	Laukhali CC	New Installation	18-Sep-18	30 m
57	Ichhali	Kutubpur CC	New Installation	16-Aug-18	55 m
71	Ichhali	Ichhali FWC	New Installation	16-Sep-18	59 m
19	Kachua	Kachua CC	Repaired		
19	Kachua	Kachua CC	New Installation	27-Nov-18	52 m
34	Kashimpur	Shyamnagar CC	New Installation	13-Aug-18	51 m
26	Narendrapur	Jhumjhumpur CC	Repaired		
28	Narendrapur	Chaulia CC	New Installation	12-Sep-18	88 m
47	Ramnagar	Khankaye Yoisia CC	Repaired		
46	Ramnagar	Ramnagar Dokkhin para CC	New Installation	15-Sep-18	63 m

The water quality for Arsenic, Iron, Manganese and E-Coliform bacteria was checked for the repaired and installed Tube wells at the AAN Environmental laboratory. In three cases Iron level exceed the Bangladeshi permissible level 0.30-1.00mg/l. Though it was not planned earlier but project attached an Iron removal filter of those cases.

4.10 Meetings

To provide update on ongoing activities and to review each stakeholder's support and contribution, project representatives regularly participated in monthly meetings. The outcomes of performed activities and the plan of upcoming activities were shared during the meeting. The participants also gave feedback and suggestions.

4.10.1 Meeting with Union Parishads

There were regular meetings between union parishads and the project. During these meetings, the project made a brief presentation of its activities and shared the progress of union-supported activities like arsenic test, promotion of improved cooking stoves and physical exercise awareness. At one of such meetings, the issue of charging for arsenic test was discussed and all unions agreed to keep the program alive by receiving payment of Tk. 100 per test. On another occasion the project proposed union parishads to keep provision in their yearly budget for the supply of improved cooking stoves.

4.10.2 Monthly Meeting with UHC

The project always made a plan and shared the program with Upazila Health Complex (UHC) and Family Planning office during their monthly meetings. In addition, the project shared its progress with UHC two times per year making PowerPoint presentation where Upazila Family Planning department was also invited. In the second year the project also participated in HW's monthly meetings and CHCP's meetings and discussed ongoing activities, difficulties, next plan, campaign, referral, making Local Level Plan (LLP) and so on. The UH&FPO and other medical officers also made various queries and provided suggestions in the second year as well.

The project made a progress-sharing meeting on 8 August 2017 at the Upazila Parishad Hall Room and collected suggestions from participants before starting activities in the replication area.

4.10.3 Monthly Meeting with UFPO

The project kept continued collaboration with both health & family planning offices considering their concern for health education at village level. The project staff joined their monthly meetings at the Upazila Family Planning Office. The project shared major events of the month passed and field schedule for the upcoming month.

4.10.4 NGO Coordination Meetings

The project regularly participated in the monthly NGO coordination meeting in Jashore district. During the implementation in the replication area the project staff also started participating in the monthly NGO coordination meetings in respective upazilas. The project made a presentation at the Jashore District NGO coordination meeting on 16 April 2018 and another presentation at the Upazila coordination meeting in Kaliganj of Jhenaidah on 5 March 2018.

4.10.5 CG Follow-up Meeting

Follow-up meetings were held with Community Groups in a regular interval. NCD education area, coverage of vulnerable communities and NRI campaign progress were major topics of discussion among others.

4.10.6 Youth Club Follow-up Meeting

Usually Youth Clubs hold meetings in the afternoon and at weekend. During field activities, however, the project staff met YC members and collected information. The project also participated in formal meetings of YCs where they discussed their overall activities. It was found that some members who got training on how to conduct an NRI campaign moved to their own business quitting the club. In such case YC involved other volunteers to support the NCD prevention program.

4.10.7 Other meetings

1. With DGHS Officials: AAN kept close collaboration with DGHS officials. During the second year DGHS officials visited the project sites two times and project staff had meeting with DGHS in Dhaka five times. Additional Line Director visited the NCD screening area and provided valuable suggestions. Other DGHS officials also gave invaluable advice on technical issues. Deputy Program Manager of NCD Control Program provided the project with his generous efforts towards the 'NRI Guidebook' publication and designing and performing of the NCD screening survey.
2. With CS, UH&FPO and UFPO: This project always kept communication with the Civil Surgeon, Upazila Health & Family Planning Officer and Upazila Family Planning Officer. They joined and/or appointed someone from their offices as lecturers/trainers for various workshops and trainings.
3. With CG members: Project staff joined the monthly meetings of Community Group members which were held at Community Clinics on a particular day.
4. With Union level FWC Staff: Project staff joined the monthly meeting of Family Welfare Centre where SACMO, FWV, FPI and FWA gathered to discuss ongoing activities and progress.

Chapter 5: Activities in 9 Unions of Khulna Division for Replication

This project titled "Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division" was designed to extend the outcome of the previous NCD project ("Risk-Reduction of Non-Communicable Diseases in Jashore District", March 2013 to March 2016) to other areas. In consultation with the DGHS, one union each of nine districts under the Khulna division (excluding Jashore district) was selected as a "Replication Area". The second year of the project was the year to start spreading good practices of NCD prevention activities performed during the previous project and further developed in Jashore Sadar Upazila in the first year of this project. This chapter records the activities in the replication areas.

5.1 Divisional Workshop

In collaboration with DGHS a Divisional Workshop was held on 20 August 2017 at Hotel City Plaza International in Jashore. The Civil Surgeons of the 10 districts under Khulna division and UH&FPOs of targeted upazilas participated in the workshop along with three consultants from DGHS. The Additional Directorate General (ADG) joined the program as Chief Guest while the Divisional Director (Health) was the Special Guest. The Chairman and the Country Manager of AAN Bangladesh also joined as Special Guests. The workshop was moderated by the Deputy Program Manager of Non-Communicable Disease Control Program, DGHS.

Dr. Nahid Ferdousi, Assistant Professor and DGHS Consultant, presented the situation of NCDs in Bangladesh and steps being taken by DGHS. From the project side the outline, activities and achievements were shown. A household-based NCD screening strategy was also presented as a special activity. Mentioning the difficulties found during the project implementation, the ADG urged to start executing NCD activities immediately with existing resources and asked the participants to share ideas to resolve the issues as proposed by AAN:

1. If CC wants fee (2 taka)
2. If CC asks to pay for diabetes test
3. If CC-referred patients fail to meet a doctor
4. If they need to pay 3 taka to get an appointment with a doctor of the NCD Corner
5. If they don't get attention from the NCD corner
6. If they don't get medicine, guidance
7. If the supply of medicine, health card, diabetes strips is delayed
8. If such a situation as natural disaster occurs

The Divisional Director showed the ways how UH&FPO can start the NCD program. The Civil Surgeon of Jashore said that the program had been started in Jashore and so it is also possible to do in other areas. The workshop provided an opportunity for stakeholders from all targeted areas to get together and learn and discuss how to carry out NCD prevention activities.

Divisional workshop on Community Initiative for NCD Prevention held on 20 August 2017 at Jashore

5.2 Introductory Workshops in Replication Area

In consultation with the DGHS, one union each was selected from each of nine districts under the Khulna division for replication of good practices, as listed in Table 5.1. Workshops to introduce the project to these "Replication Areas" and discuss how to implement were organized at Upazila Health Complexes, Union Parishads and Community Groups of Community Clinics, followed by various trainings later.

Table 5.1: Selected replication areas of Khulna DIvision

District	Upazila	Union	Union	Union	Union	Union
			HH	Male	Female	Total
Bagerhat	Kachua	Rari Para	4,086	8,310	8,345	16,655
Chuadanga	Damurhuda	Howli	9,799	20,005	20,007	40,012
Jhinaidah	Kaliganj	Roygram	5,728	12,487	12,233	24,720
Khulna	Dakope	Bajua	3,577	7,909	7,844	15,753
Kushtia	Mirpur	Ambaria	4,246	8,443	8,791	17,234
Magura	Shalikha	Satkhali	6,542	13,899	14,281	28,180
Meherpur	Gangni	Shaharbati	6,082	11,442	11,697	23,139
Narail	Kalia	Babra Hachla	2,506	5,206	5,123	10,329
Satkhira	Tala	Jalalpur	5,413	10,778	10,921	21,699
Sub-total: (9 unions in Khulna division)			**47,979**	**98,479**	**99,242**	**197,721**

Note: *1 Source: *Population Census 2011 (online)*

5.2.1 At Upazila Health Complexes

Introductory workshops of the project were held in collaboration with the Upazila Health Complex (UHC) at each targeted upazilas in Khulna division between 26 September and 15 October 2017. UH&FPO, UFPO, MO, SACMO, HI, AHI, FPI and senior nurses were present. The program was organized to introduce the strategy of the project implementation. Every UH&FPO explained the purpose of the activities based on the outcome of the divisional workshop held in Jashore on 20 August 2017. The project presented the ways of NCD education and its promotion for early risk detection.

Project Introductory Meeting held on 10 October 2017
at Upazila Health Complex, Shalikha, Magura

5.2.2 At Union Parishads

As part of local government institutions union parishad (UP) is responsible to play an important role in changing villagers' lifestyle to reduce NCDs risks. The role of union parishad for tackling NCDs risks was discussed in the workshop titled 'Role of Union Parishad on NCD Prevention'. The project made a PowerPoint presentation on the following roles of union parishad:

- Promoting improved cooking stoves
- Organizing an union-led arsenic test program
- Encouraging villagers for regular physical exercise
- Providing support for homestead gardening
- Promoting regular check-up of weight, waist, BP and blood sugar

At Haoli UP, Damurhuda, Chuadanga on 27 November 2017

At the question-answer session UP members made various questions regarding arsenic contamination, the ways to introduce an improved cooking stove, and so on. After the workshops all of the participating unions undertook various activities to make people aware of risky behaviors to prevent NCDs.

In this workshop UP Chairman, UP Secretary, UP Members, Village Police and a few NGO representatives participated. The female members were found very interested to introduce "exercise" techniques to villagers. Out of targeted 126 participants (14 persons per UP), 115 persons (12.8 per UP) joined the introductory workshops at union parishads, as detailed below.

Table 5.2 : Information of Project Introductory Workshop at Union Parishad

District	Upazila	Union	Date	Participant
Bagerhat	Kachua	Raripara	14-Nov-17	12
Chuadanga	Damurhuda	Howli	22-Nov-17	9
Jhinaidah	Kaliganj	Roygram	29-Oct-17	13
Khulna	Dakope	Bajua	26-Oct-17	13
Kushtia	Mirpur	Ambaria	24-Oct-17	14
Magura	Shalikha	Satkhali	22-Nov-17	14
Meherpur	Gangni	Shaharbati	5-Nov-17	14
Narail	Kalia	Babra Hachla	5-Nov-17	13
Satkhira	Tala	Jalalpur	8-Nov-17	13

5.2.3 Community Group Workshops & Vulnerable Area Selection

Activities of Community Groups (CG) at Community Clinics were found satisfactory in the 15 unions of Jashore Sadar Upazila in the first year. It was decided to utilize CG members' initiative at the replication area also for NCD prevention through identifying health problems.

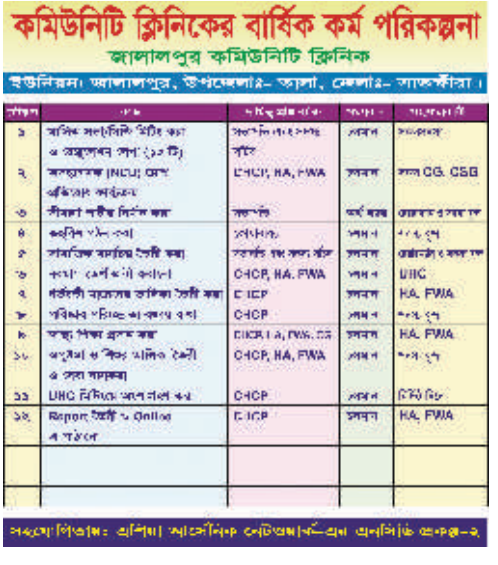
Introductory workshops for CGs were organized at 27 Community Clinics during 15 November 2017 and 12 February 2018 (cf. Table 5.3). The project made a PowerPoint presentation focusing on the risk factors that may cause NCDs, ways to prevent them and most importantly, how to organize an NCDs Risk Identification campaign (NRI campaign).

Table 5.3: Record of Community Group Workshop

Sl	Union	Name of CCs	Workshop Date	No. of CG	No. of CSG	Others	Total	Vulnerable community
1	Raripara	Narendrapur CC	28-Nov-17	14	2	0	16	5
2		Charkathi CC	8-Jan-18	15	4	0	19	6
3	Bajua	Chunkuti CC	16-Nov-17	13	4	4	21	4
4		Bajua Berer Khal CC	20-Nov-17	14	4	3	21	3
5		Subod Sreeti CC	6-Dec-17	13	5	4	22	4
6	Babra Hashla	Uroshi CC	26-Nov-17	15	10	3	28	2
7		Babra CC	15-Nov-17	14	10	4	28	5
8	Jalalpur	Krishnokati CC	29-Nov-17	15	0	0	15	8
9		Jalalpur CC	21-Nov-17	15	2	0	17	6
10		Dohar CC	22-Nov-17	14	1	0	15	8
11	Roygram	Dulalmundia	8-Nov-17	13	0	0	13	4
12		Agmundia	16-Nov-17	14	0	0	14	0
13		Eaktarpur	27-Nov-17	8	0	0	8	1
14	Howli	Dudpatila	13-Dec-17	12	0	0	12	4
15		Roghunathpur	14-Dec-17	13	3	1	17	3
16		Jyrampur	19-Dec-17	14	0	0	14	3
17		Bastopur	10-Jan-18	13	0	0	13	2
18		Gobindapur	12-Feb-18	11	0	0	11	2
19	Shaharbati	Shaharbati	19-Nov-17	15	2	0	17	2
20		Hejolbaria	22-Nov-17	13	0	0	13	2
21		Jorpukuria	26-Nov-17	14	0	0	14	2
22		Dharmochaki	31-Dec-17	14	0	0	14	2
23	Ambaria	Nagarbaka	14-Nov-17	14	0	0	14	5
24		Sutail	19-Nov-17	13	0	0	13	3
25	Shatakhali	Harispur	19-Dec-17	12	0	0	12	3
26		Katoli	07-Dec-17	12	2	0	14	5
27		Gobra	05-Dec-17	17	0	0	17	3
			Total:	**364**	**49**	**19**	**432**	**97**

During the workshop CG members chose the idea of NRI campaign to promote the checking of blood pressure and blood sugar in a routine way among villagers, coupled with health education on how to avoid NCD risky behaviors. They selected areas for NRI campaign by drawing a social map and marked the places where NCD education was required.

CG members selected 97 vulnerable communities in the replication area, where 26,475 people (or 10% of the total population) live and would require extra focuses. The summary of vulnerable community is shown in Table 5.4. CG members came to a conclusion that they would include NCD relevant activities to their "Local Level Plan (LLP)". The LLP made by Jalalpur Community Clinic under Tala Upazila of Satkhira district is shown here as a sample.


কমিউনিটি ক্লিনিকের বার্ষিক কর্ম পরিকল্পনা

জালালপুর কমিউনিটি ক্লিনিক

ইউনিয়ন: আলাদাপুর, উপজেলা: তালা, জেলা: সাতক্ষীরা।

Table 5.4: Information of Vulnerable Areas

Subject	Population			Vulnerable			%
	Male	Female	Total	Male	Female	Total	
Raripara	8,310	8,345	16,655	2,556	2,441	4,997	30%
Bajua	7,909	7,844	15,753	1,478	1,329	2,807	18%
Babra Hashla	5,206	5,123	10,329	1,923	1,723	3,646	35%
Jalalpur	10,778	10,921	21,699	2,645	2,476	5,121	24%
Raygram	17,513	17,147	34,660	350	290	640	2%
Howli	39,213	39,247	78,460	838	943	1,781	2%
Ambaria	15,719	16,423	32,142	1,362	1,871	3,233	10%
Sharbati	19,879	20,325	40,204	1,160	1,310	2,470	6%
Satokhali	10,640	10,668	21,308	960	820	1,780	8%
Total	**135,167**	**136,043**	**271,210**	**13,272**	**13,203**	**26,475**	**10%**

Though this workshop was planned mainly for CG members, many Community Support Group (CSG) members also participated. There were a total of 432 participants (16 per workshop on average).

5.3. Arsenic Test Training

During the project introductory workshops union parishads understood the importance of regular arsenic test of tube well water. Based on the experience of Jashore district, the idea to appoint Village Police for arsenic test was discussed and agreed by every Union Parishad. The issue was taken to the local DPHE office and a training schedule was fixed. According to the BAMWSP data, Babra Hashla, Jalalpur and Howli unions were highly arsenic-contaminated. Most of the tube wells in these areas remained untested since 2003 and a huge number of tube wells were installed after that.

Arsenic test training was provided to Village Police by DPHE officials under the project where some UP members and UP Secretary also participated. After classroom training a new arsenic test kit box was provided by the project to the UP for field tests. The kit box contains tools and chemicals which is able to test 100 water samples.

At the training AAN introduced a system of "pay for test" by which UP would be able to buy a new test kit box with the collected money in future and thus will be able to keep the testing facilities running. The concept is to ensure the safety of drinking water by union Parishad, and to make the system sustainable each UP will charge test fees to the service receivers to cover the cost of testing materials. Most of unions fixed Tk. 100 as test fee per tube well by open discussion. Some UP Members also started providing door-step service in response of calls over phone.

The first training was held on 13 November 2017 at Ambaria union. It was found that people of Bajua and Raripara unions were not using tube well water due to high level of saline concentration. Therefore, union-led arsenic test program was not introduced in these two unions. The summary of the Arsenic Test training is given below:

Table 5.5: Date-wise Arsenic Test Training

Sl	Upazila	Union	Date	UP member	Village Police	Total
1	Bagerhat	Roygram	23-Nov-17	12	10	22
2	Damurhuda	Howli	28-Nov-17	12	9	21
3	Gangni	Shaharbati	16-Nov-17	12	9	21
4	Mirpur	Ambaria	13-Nov-17	12	10	22
5	Kachua	Raripara	Not held	0	0	0
6	Dacope	Bajua	Not held	0	0	0
7	Kalia	Babra Hashla	14-Dec-17	10	9	19
8	Tala	Jalalpur	17-Dec-17	10	9	19
9	Shalikha	Shatakhali	28-Nov-17	10	10	20
			Total	**78**	**66**	**144**

5.4. Health Workers Training

Before the replication of good practices of the previous project at the field level it was required to develop the knowledge of the Health Workers on NCD and its preventions. Upon discussion with each UHC it was decided to invite all of (or as many as available among) Statistician, Sanitary Inspector (SI), Medical Technologist (MT), Health Inspector (HI), Assistant Health Inspector (AHI), Community Healthcare Provider (CHCP), Health Assistant (HA), Sub-Assistant Community Medical Officer (SACMO), Family Welfare Visitor (FWV), Family Planning Inspector (FPI) and Family Welfare Assistant (FWA) of the UHC to the training.

The technical sessions were conducted by the Upazila Health & Family Planning Officer (U&FPO) to define the different types of NCD including symptoms, treatment and management. The Upazila Family Planning Officer (UFPO) also joined and instructed how the Family Planning worker can work together and share reports. The key areas to focus in the training program were (1) utilization of local resources, (2) awareness-raising by using IEC materials, (3) practical training and (4) social mobilization for behavioral changes. The ways of cooperation between Health Workers and project staff, reporting system of the project were also outlined.

The trainings were organized in the targeted nine unions between 12 December 2017 and 24 January 2018 participated by a total of 158 people. The participants were happy to learn the ideal weight, importance of BMI, effect of excessive waist circumference. They also showed interest to hold NRI campaigns following the earlier identification methods of NCDs risk factors by volunteers. Participants were found eager to learn the effect of unhealthy diet. The summary of the training is given in Table 5.6.

Seventy-four (74) Health Workers executed NCD related activities and provided their monthly reports to the relevant UHCs and to the project.

Table 5.6: Record of Health Workers Training

Sl	District	Upazila	Union	Date	Participant
1	Jhenaidah	Kaliganj	Roygram	18-Dec-17	16
2	Chuadanga	Damurhuda	Howli	26-Dec-17	23
3	Meherur	Gangni	Shaharbati	27-Dec-17	21
4	Kustia	Mirpur	Ambaria	20-Dec-17	14
5	Bagerhat	Kachua	Raripara	17-Jan-18	20
6	Khulna	Dacope	Bajua	11-Jan-18	18
7	Narail	Kalia	Babrahasla	24-Jan-18	13
8	Satkhira	Tala	Jalalpur	12-Dec-17	20
9	Magura	Shalikha	Shatakhali	23-Jan-18	13
				Total:	**158**

5.5. Other Activities in Replication Area

5.5.1 NCD Volunteer Recruitment

Nine NCD volunteers were appointed and developed in the nine targeted unions for the purpose of coordinating NCD prevention activities locally. It was expected that these volunteers would keep close relations with CC, FWC, union parishad, Upazila Health Complex and upazila administration as well as CG members, Youth Clubs and secondary level school teachers.

5.5.2 Health Education

There is no way to minimize NCDs risks without changing lifestyle, and health education is the key in changing behavior. Based on the gathered experience from Jashore, health education sessions were performed for targeted vulnerable communities in the replication area, and after that health education programs were also conducted in general areas as per the suggestion of CG members.

Usually the spots for providing health education were selected by CG members and UP members. With the help of local volunteers, project staff invited community people at a common place of the locality. Basically the target for arranging a session was 5 to 10 families in a place which differed depending on the density of households and socio-cultural situation of the community.

At the beginning, after welcoming the participants, project staff explained the purpose of the session and then provided health education focusing on NCDs risks. The event ended with a question-answer session from which the following aspects were brought out:

1. Sleeping soon after late dinner is bad for health
2. It requires high volume of medicine everyday to control acidity
3. How to give up taking table-salt with meal
4. Adding salt at the beginning of cooking meal
5. Using fried salts
6. Quality of unpackaged soybean oil available in the market
7. How to avoid passive smoking
8. How to do exercise at home
9. Where can we get our tube well water tested for arsenic
10. Relation of saline water and cardiac problems

5.5.2 (a) Health Education by Project Staff: A team of project staff and volunteers conducted awareness raising sessions targeting the vulnerable community. By the end of February 2019, 17,171 (65%) people of vulnerable community out of targeted 26,475 received messages on NCD prevention.

Although there was little scope to conduct awareness raising programs in general area, project staff were able to deliver messages on NCD to 10,154 people. As a result at the end of the project's third year 27,325 people received awareness messages on NCD prevention, which was 10% of the total population in the replication area. Due to the household NCD screening program in Roygram union, awareness program was not carried out there as much as planned, while activities of Howli union were slow.

Awareness on NCD by project staff, Village- Kisnobati, Union- Arabpur, 22 March 2018

Table 5.7: Awareness-raising by project staff in replication area

Union	Population			NCD Education			% of people received health education
	Total	Vulnerable Area		Vulnerable area		General area	
				Participant	%	Participant	
Raripara	16,655	4,997	30%	2,640	53%	1,077	3,717 (22%)
Bajua	15,753	2,807	18%	2,165	77%	1,850	4,015 (25%)
Babra Hashla	10,329	3,646	35%	2,001	55%	1,640	3,641 (35%)
Jalalpur	21,699	5,121	24%	2,808	55%	553	3,361 (15%)
Roygram	34,660	640	2%	381	60%	249	630 (2%)
Howli	78,460	1,781	2%	1,504	84%	46	1,550 (2%)
Ambaria	32,142	3,233	10%	946	29%	1,639	2,585 (8%)
Sharbati	40,204	2,470	6%	2,293	93%	950	3,243 (8%)
Satokhali	21,308	1,780	8%	2,433	137%	2,150	4,583 (22%)
Total:	**271,210**	**26,475**	**10%**	**17,171**	**65%**	**10,154**	**27,325 (10%)**

5.5.2 (b) Health Education by Health Workers: Community Health Care Provider (CHCP) conducted NCD education at each CC and Family Welfare Visitor (FWV) at FWC. Health Assistant (HA) and Family Welfare Assistant (FWA) also conducted health education during their daily activities in the field. In the second year 17,958 people received NCD education by these health workers.

NCD Health Education provided by CHCP at CC

At the end of the educational session most of the people were able to learn that their behavior may cause NCD sufferings to them. They came to know that medicine is not the only way of treatment rather changing lifestyle is the main solution.

The monthly progress of health workers' activities was discussed at the meeting of Upazila Health Complex of each target area where the problems and limitations faced by the health workers was also focused. Based on the problems and findings of the previous year, the third year's activities were planned strategically to overcome the previous year's problems.

Table 5.8: Data on providing NCD Education

Particular	No. of Sessions	No. of Participants			
		Male	Female	Child	Total
Health Workers	1,897	3,912	14,046	-	17,958
Project Staff	2,361	6,640	17,089	3,596	27,325
Volunteers	93	216	552	101	869
Total:	**4,351**	**10,768**	**31,687**	**3,697**	**46,152**

5.6 NRI Campaign

The Health Worker trainings were conducted in December 2017 and January 2018, after which the health workers started supporting CG members for conducting NCDs Risk Identification Campaign (NRI Campaign). It was targeted that each union parishad in the replication area would hold at least two campaigns in the union. The actual numbers of campaigns and participants are recorded in Table 5.9.

NRI Campaign at Jalalpur union, Tala, Shatkhira.

Table 5.9: NRI Campaign in Replication area

Particular	Number of NRI	Male	Female	Total
CG Lead	156	1,830	6,988	8,818
Youth Club Lead	81	1,875	1,906	3,781
Woman Lead	106	694	2,726	3,420
Total:	**343**	**4,399**	**11,620**	**16,019**

Table 5.10: NRI Campaign in Jashore Sadar Upazila

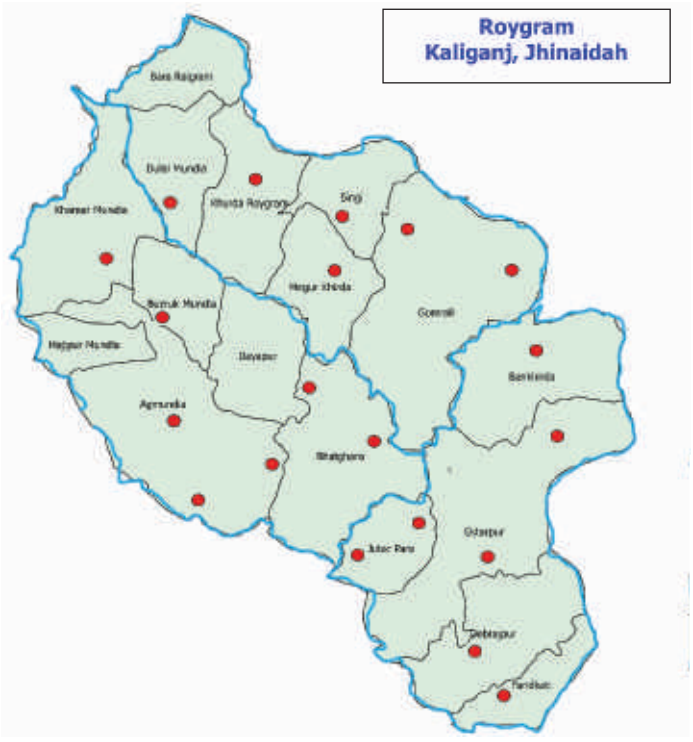
Particular	Number of NRI	Male	Female	Total
CG Lead	659	7,217	28,957	36,174
Youth Club Lead	226	4,609	6,218	10,827
Woman Lead	114	664	2,324	2,988
Total:	**999**	**12,490**	**37,499**	**49,989**

In summary, in Jashore Sadar a total of 999 NRI campaigns was organized by CG, YC and Women Groups where the number of participants was 49,989 (male - 12,490 and female - 37,499) during the total project period. In Replication area, a total of 343 NRI campaigns were organized having 16,109 participants in total (male 4,399 and female -11,620) during the second and third years of the project.

Knowing about risky behavior that may cause NCDs through the project's introductory workshop and Health Workers training, the UFPO of Magura proposed to carry out awareness programs on NCD risks for neighborhood villagers of Faridpur. Accordingly, on 23 February 2018 the project sent two staff to support local volunteers to hold NRI campaigns at Boyalmari Bazar, Faridpur. Through the program a total of 522 villagers had their BP, weight, height and BMI checked, for the first time for most of them. They were of course very happy to know their health condition.

Chapter 6: NCD Screening

In course of the project implementation it was felt necessary to establish a specific database on the prevalence of NCDs focusing on hypertension and diabetes. It was also required to identify NCD risk factors and develop an effective NCD referral system. At this backdrop, the NCD Control Wing of DGHS (Directorate General of Health Services) requested AAN to conduct a door-to-door NCD screening under the project. Accordingly a pilot survey was carried out in consultation with DGHS in Roygram union of Kaliganj Upazila under Jhenaidah district. Roygram union has a population of 23,966 in 5,576 households in 20 villages (according to the Population Census 2011), and adults of more than 25 years of age were targeted.



6.1 Objectives

- To assess the prevalence of NCDs focusing on hypertension and diabetes
- To identify NCD risk factors
- To develop an effective NCD referral system
- To find out community resources for screening

6.2 Target population

The population of the Roygram union was 23,966 in 5,576 households in 20 villages according to the Population Census 2011. The survey targeted adults of >25 years of age which was estimated to be around 18,000.

6.3 Duration of screening:

The screening started in November 2017 and ended in March 2018 for household survey and physical measurement. Blood sugar test was carried out from November 2018 to February 2019.

6.4 Methodology

Three teams were formed, each team consisting of male and female, keeping a gender balance. They visited each house to collect two types of data; namely, (1) on household and (2) individuals of 25 years of age and above. At first, one of them collected general information of the household

including members who were 25 years old or more. Then other member measured blood pressure, height, weight, waist circumference of each person of above 25 years of age. Then collected information was inserted in cell phone-based application with relevant information like national ID, relation with the head of household, regular medicine intake history for blood pressure or diabetes and so on.

The following points were considered in the methodology:

- Population Census Report 2011 (Age >25 was the target population)
- House-to-house visit
- Semi-structured questionnaire
- Data collection and input through Android phone-based application
- Use of digital BP and weight machines
- Use of local made scale for measuring height
- Use of waist measuring tape
- DGHS supplied glucometer & strip

There were three types of data collection for the NCD screening; namely:

1. Demographic Information
2. Physical Measurement (Height, weight, BP, waist)
3. Biochemical Information (Blood Sugar)

For demographic information collection and physical measurement, three groups were formed consisting of two local persons in each group (one male and one female).

6.5 Training

After recruitment of seven NCD Facilitators a three-day training was provided to them along with the Health Workers of Kaliganj upazila. The first day was class room training held on 31 October 2017. The facilitators learned the basic concept of the NCD screening and measurement techniques. On the 2nd day they first practiced measurement of height and weight among others and input data using an Android phone-based application. Then they gathered at the Arsenic Centre to share the difficulties and findings of their field experience with the project staff. On the 3rd day they worked in the field in three groups where three project supervisors provided guidance on the spot.

6.6 Major Findings of the NCD Screening

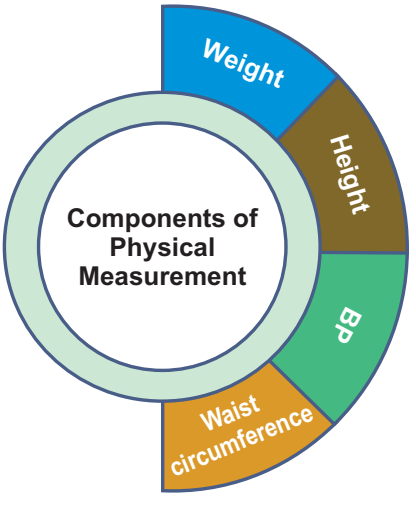
6.6.1 Distribution of respondents of household survey by age group

There were 5,576 households in Roygram Union and the screening covered 5,400 (97%) for household survey. In these households 3,144 females (58%) responded during the survey with 2,256 males (42%). It is observed that the Roygram union is inhabited by people in their prime with the age groups of 25-34 and 35-44 being 57% of the target population.

Table 6.1: Respondents of household survey by age group

Year	Male		Female		Total	%
25-34	489	22%	1,077	34%	1,566	29%
35-44	584	26%	946	30%	1,530	28%
45-54	546	24%	630	20%	1,176	22%
55-64	375	17%	306	10%	681	13%
>65	262	12%	185	6%	447	8%
Total:	**2,256**	**42%**	**3,144**	**58%**	**5,400**	**100%**

Component of Physical Measurement



6.6.2 Physical measurement

The actual door-to-door survey confirmed a target population of ⩾ 25 was 13,902. Physical measurement was carried out on 11,604 persons (83%), in which males were 4,505 (69% of the target) and 7,099 females (97% of the target). As shown in the table below, many males were missing during the physical measurement.

Table 6.2: No. & percentage of people covered for physical measurement

Particular	Male	Female	Total
Total population	11,722	11,852	23,574
Target population (⩾25yrs)	6,552 (56%)	7,350 (62%)	13,902 (59%)
Measurement done	4,505 (69%)	7,099 (97%)	11,604 (83%)
Missing	2,047 (31%)	251 (3%)	2,298 (17%)

Fig. 6.1: Target population by door-to-door survey

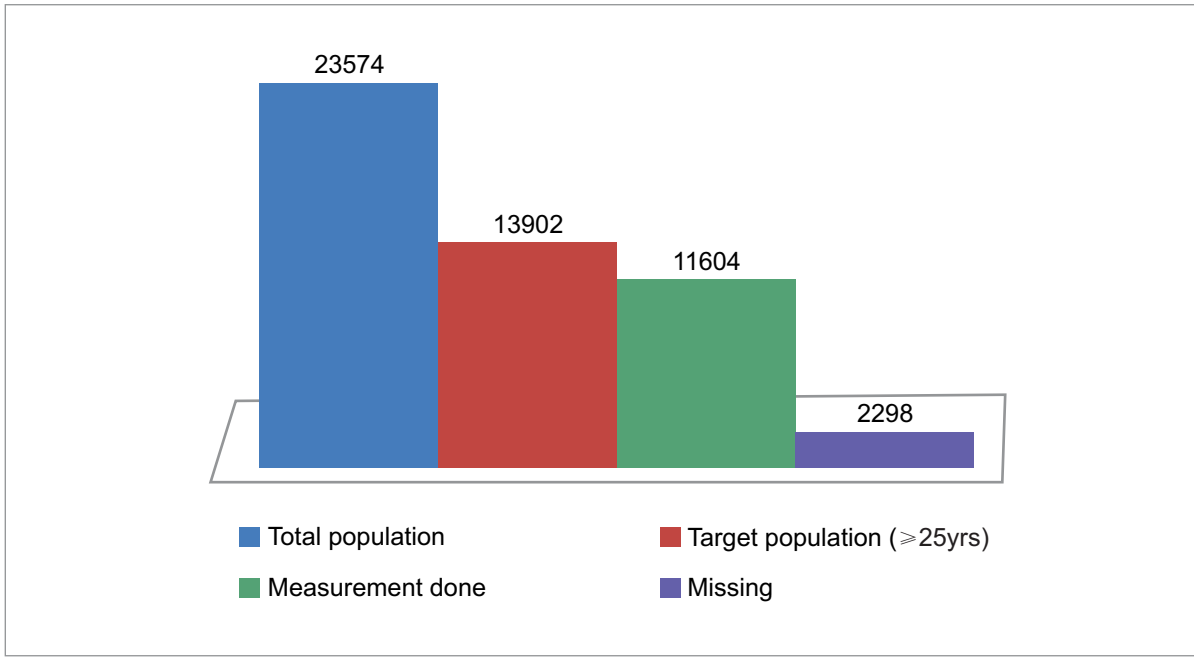


Table 6.3: Target population (measurement done) by age group

Age Group	Male		Female		Total	
	No.	%	No.	%	No.	%
25-34	1,249	28%	2,779	39%	4,028	35%
35-44	999	22%	1,726	24%	2,725	23%
45-54	1,018	23%	1,303	18%	2,321	20%
55-64	689	15%	717	10%	1,406	12%
>65	550	12%	574	8%	1,124	10%
Total	**4,505**	**100%**	**7,099**	**100%**	**11,604**	**100%**

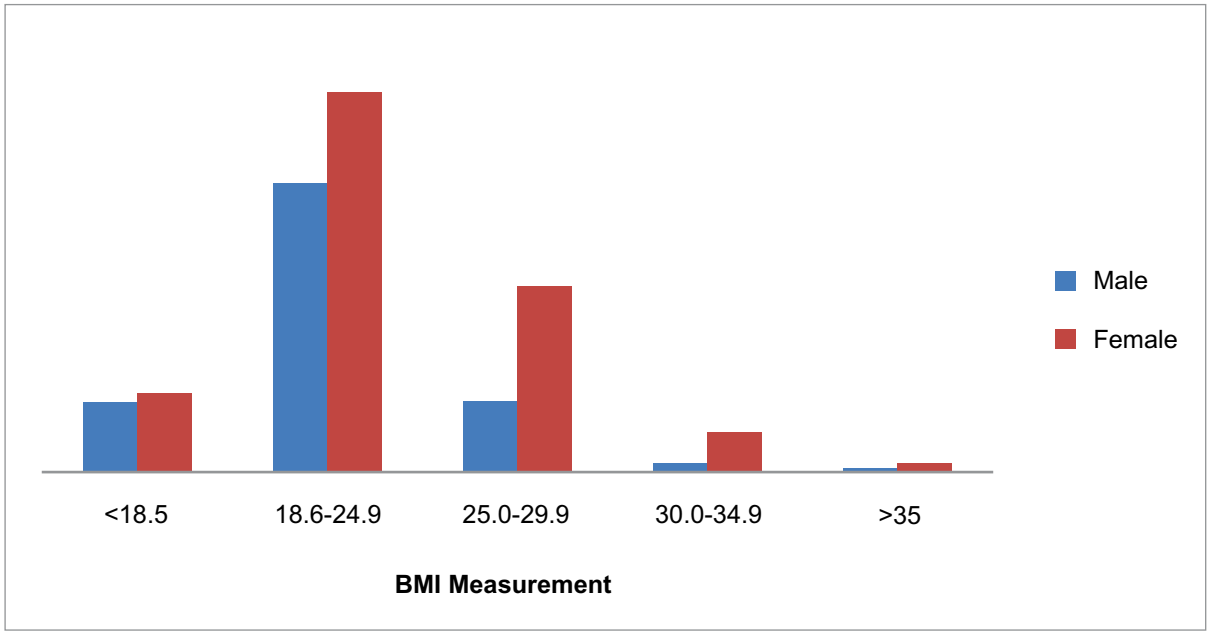
6.6.3 Findings on BMI

Normal Body Mass Index (BMI) is between 18.5 to 24.9, and the screening in Roygram Union found 59% of the surveyed population were within this range, whereas 13% were considered underweight and the remaining people (27%) were above the standard BMI, namely "obese".

Table 6.4: BMI Data of measured population

Age Group	Male		Female		Total	
<18.5	692	(15%)	800	(11%)	1,492	(13%)
18.6-24.9	2,932	(65%)	3,857	(54%)	6,789	(59%)
25.0-29.9	708	(16%)	1,881	(26%)	2,589	(22%)
30.0-34.9	71	(2%)	388	(5%)	459	(4%)
>35	25	(1%)	79	(1%)	104	(1%)
Missing	77	(2%)	94	(1%)	171	(1%)
Total	**4,505**		**7,099**		**11,604**	

Fig. 6.2: Gender wise BMI Data of measured population



6.6.4 Findings on BP

The normal range for BP (Systolic) is <120 and BP (Diastolic) is < 80. During the screening it has been found that 64% of the surveyed population having BP (Systolic) more than the normal range and 61% of them having BP (Diastolic) more than the normal range.

Table 6.5: BP (Systolic) data of measured population

BP (Systolic)	Male		Female		Total	
<120	1,542	34%	2,646	37%	4,188	36%
120-139	1,843	41%	2,623	37%	4,466	38%
⩾140	1,120	25%	1,830	26%	2,950	25%
Total	**4,505**	**100%**	**7,099**	**100%**	**11,604**	**100%**

Table 6.6: BP (Diastolic) data of measured population

BP (Diastolic)	Male		Female		Total	
< 80	1,823	40%	2,755	39%	4,578	39%
80-89	1,635	36%	2,611	37%	4,246	37%
⩾ 90	1,047	23%	1,733	24%	2,780	24%
Total	**4,505**	**100%**	**7,099**	**100%**	**11,604**	**100%**

6.7 Problems Faced

There were some problems during the demographic information collection and physical measurement. Some of them are listed below:

1. Due to paddy harvesting period the number of villagers present at home were less than the expected number;
2. House-to house visits had to be carried out in the evening and at weekends to cover as many as people who were absent at home during the day time;
3. To cover the majority population, NCD Facilitators also visited after the harvesting period;
4. NID number entry took time;
5. In many cases women's NID card was not found easily since it was kept in a locked place by a male member who stayed outside;
6. In such cases local people (volunteers, students, village police, UP member) tried to make the card available;
7. The number of females who missed physical measurement was 251 or 3% of the target population. The number includes those female who were working outside;
8. Among the absent males, the majority were transport workers or salesmen who stayed outside long time.

6.8 Blood Sugar Test Campaign

Blood sugar was tested among the target adults of Roygram union as part of the NCD screening to ascertain the prevalence of diabetics during the period of 3 November 2018 to 2 February 2019. The project helped Kaliganj Upazila Health Complex to organize the blood sugar test campaign.

The following process was agreed at a series of meetings among stakeholders:

1. Campaign information was to be given to villagers through (1) school students of the selected school, (2) village police and (3) Imams, before the test dates.
2. Campaign date and place to be informed widely by miking and posters.
3. EPI centers and community level spots to be selected for those who missed the test date.
4. The blood sugar test to be on a fasting blood sugar (FBS) basis; people to take the test without having breakfast.
5. The test to be conducted by CHCP only. (All CHCPs of Kaliganj Upazila were to join)

A Poster containing date and time for free blood sugar check-up camp

6.8.1 Record of Blood Sugar Test Campaign

Although it was expected to cover all the target population, only 43% was covered during the 1st phase, followed by the campaign at EPI Centers and visits to the community by health workers. Altogether 55% of the target population received the blood sugar test.

Table 6.7: Blood Sugar Test Campaign

Phase	Place	Activity	Progress
1st phase 8 – 12 Nov. 2018	One school in each village (20 schools)	Announcement & convey message through school students, mosque and village police	43% of target people attended.
2nd phase 4 – 22 Dec. 2018	28 EPI Centers	Announcement through school students, mosque, prior to EPI program	Additional 5% of target people attended.
3rd phase 12 Jan. – 2 Feb. 2019	64 community spots	Health workers moved to communities from EPI Centers to cover target group	Additional 7% of target people attended.
		Total	**55% of target people**

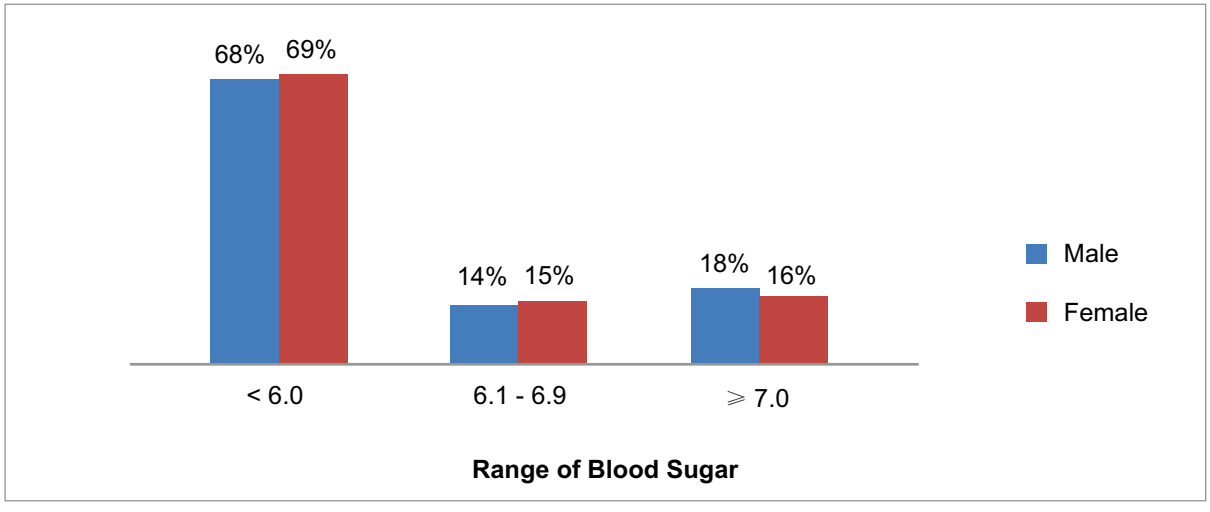
6.8.2 Result of Blood Sugar Test

In case of FBS test, <6.0 mmol/L is normal (= no diabetes), but 6.1-6.9 is pre-diabetes and from ⩾7.0 diabetes. From the data shown in Table 6.8 it can be said that in Roygram union nearly 70%, or seven persons out of 10 adults, are having a normal blood sugar level. However, 16%, or one and a half out of 10 adults, is considered to be diabetic with 15%, or another one and a half out of 10 adults, being likely to get diabetic.

Table 6.8: Result of Blood Sugar Test Campaign

Range	Male		Female		Total	
	No.	%	No.	%	No.	%
< 6.0	991	68%	2,984	69%	3,975	69%
6.1 - 6.9	205	14%	635	15%	840	15%
>7.0	255	18%	677	16%	932	16%
Total	**1,451**	**100%**	**4,296**	**100%**	**5,747**	**100%**

Fig. 6.3: Result of Fasting Blood Sugar Test



6.8.3 Reasons of Absence at blood sugar test

Nearly half of the target population did not turn up to take the blood sugar test. The project collected information from various sources to find the reasons why some people were absent from the test.

1. The campaign spot was far from their houses
2. Awareness was not adequate
3. Information was not delivered to family members
4. Neighbors did not inform surrounding families
5. Negligence
6. Ignorance
7. Young people didn't feel it necessary to have their blood sugar checked
8. Lack of logistic supports
9. Selected time (7:00am – 10:00am) was not suitable for some people
10. No EPI Center in some villages

6.8.4 Problems Faced during blood sugar test

1. In all cases CHCP checked the blood sugar of villagers. One out of 2 glucometers showed different results in a place where 77 cases (30.8%) were found ⩾7.0mmol/L out of the total 250 tests. After the campaign the glucometer's result was cross-checked and was found that it wrongly showed the result 2mmol/L higher than actual. The data on wrong results were sent to the respective CC to inform the patients. Later on, the wrong result were detected and excluded from calculation. The defective glucometers were also replaced.
2. Although it was an FBS test, some of the villagers hid the fact that they had breakfast. Therefore, we had to ask each person if they had breakfast before the test or not.

6.9 NCD Screening Cross-checking

Project conducted a cross- checking program in Roygram union between the period of 9 May to 21 May 2018 by selecting 100 households from each of the six out of 20 villages on random basis.

Three Data Checkers visited the households to check the followings;

1. Whether NCD screening ID was inserted in the door
2. Number of family members who were ⩾18years old
3. Number of population ⩾ 18 years old who remained out of physical measurement
4. To collect GPS data of visited households

Above information was collected in a android phone based application.

Findings of the cross checked information collected from 600 households are as below:

1. Only three households found which were remaining to visit by

the NCD facilities out of total visited households. Here households' owners were not present at the home for a period of time.

Later on, these three households were included with the total visited 5400 households.

2. Total number of family members found same as recorded. Here, family members over 18 years old also found same since earlier their information was recorded based on their national ID card.

3. Visited households reported 17 male remained out of physical measurement since they stayed outside of home for a long time.

The purpose of the cross check was to make sure the accuracy of screening.

6.10 Dissemination of Outcome at 11th National Rover Moot

The NGOAB invited AAN to participate Global Development Village (GDV) which was organized under the program of 11th National Rover Moot 2017 in Gopalganj district. Secondary school and college level student participated the program that took place durng 25 January to 31 January 2017. Project introduced impact tree to make participant understand about NCDs risk factors and also described the necessity of regular health check up (i.e measure Blood Pressure, Weight, Waist Circumference and height). 1,647 students and 1,405 general peoples visited AAN stall and learnt about NCDs risk factors. Guidance Flyer, Exercise Guidance, NCDs Risk Factor, etc were distributed. Among the participants there were govt. officials from various central level offices, teachers and students of all districts in Bangladesh. There were some foreign participants and government officials who highly appreciated the idea of NCD prevention.

Chapter 7: Achievement and Analysis

As described hereinbefore, AAN conducted a project titled "Risk-Reduction of Non-Communicable Diseases in Jashore District" during March 2013 to March 2016. Later on, in consultation with DGHS, the project titled "Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division" was designed. The key objective of the project was to extend the outcome of the previous NCD project to other areas called 'Replication Areas'. The project area was consisted of one union from each of nine districts under the Khulna division and 11 unions in Jashore Sadar Upazila. These 11 unions were added to the project in addition to the four unions which were the target area of the previous NCD project.

At the beginning of the project a Baseline Survey was conducted to assess the prevailing condition of the project area. At the end of the intervention, an End-line Survey was also conducted to evaluate the impact and achievements of the project. This chapter tries to compare and analyze the data collected during the two surveys along with a summary of output and achievement in a matrix form.

A cross-sectional study was also carried out during the project to assess the respiratory illnesses among the women in Jashore Sadar. The findings of the study are also included at the end of the first section as an appendix titled "Respiratory problems among the Improved Cooking Stove (ICS) and Traditional Cooking Stove (TCS) Users".

7.1 Results of Baseline and End-line Surveys

7.1.1 Survey Outline at-a-Glance

Survey area	:	11 Unions of Jashore Sadar Upazila (newly added to this project).
Target of survey	:	1,100 People (100 people from each 11 unions)
Survey period	:	Baseline Survey: 25 April – 4 May 2016
Endline Survey	:	17-27 September 2018
Survey criteria	:	Survey method included the following criteria: 1. To be conducted in three places (paras) of three villages of previous three Wards under each Union 2. Survey community is to be vulnerable as below: a. Ultra Poor b. Uneducated c. Lack of health services d. Distant place from Community Clinic e. Lack of awareness 3. Survey places to be selected with the help of the UP 4. To be conducted at every third household 5. 100 Households to be surveyed at three places (paras) with male and female ratio at 50:50. 6. An interviewee is to be at least 25 years of age, which can be relaxed in case of married female 7. Only one person to be interviewed in each household.

7.1.2 Knowledge on NCD

The term of "Non-Communicable Disease" (NCD) was new to most of the residents in the surveyed unions as they said they 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.

Table 7.1: Area-wise distribution of knowledge on NCD

	Baseline		End-line	
Union	**No**	**Percentage**	**No.**	**Percentage**
Chanchra	0	0.0%	83	83.0%
Fatepur	1	1.0%	87	87.0%
Haibatpur	0	0.0%	92	92.0%
Ichali	0	0.0%	90	90.0%
Kachua	0	0.0%	87	87.0%
Kashimpur	0	0.0%	92	92.0%
Lebutala	1	1.0%	91	91.0%
Narendrapur	0	0.0%	85	85.0%
Noapara	2	2.0%	89	89.0%
Ramnagar	0	0.0%	88	88.0%
Upashahar	5	5.0%	89	89.0%
Total	**9**	**0.8%**	**973**	**88.5%**

During the baseline survey the number of people having some knowledge on NCD was only 9, which increased to 973 people, a huge jump from 0.8% to 88.5%.

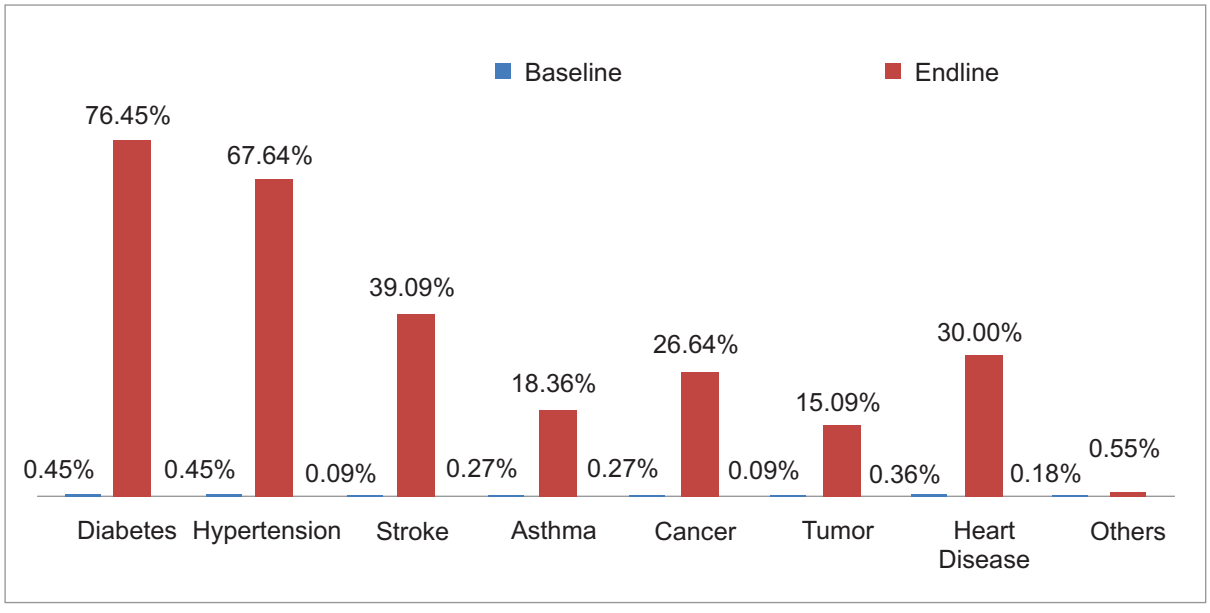
7.1.3: Knowledge on the name of specific non-communicable diseases

As mentioned above, many people knew some specific disease names without recognizing that they come under the NCD category. Table 7.2 and Fig. 7.1 clearly show the enhancement of their knowledge.

Table 7.2: Name of Non-Communicable Diseases

Name of NCD	Baseline		Endline	
	No. (1100)	**Percentage**	**No. (1100)**	**Percentage**
Diabetes	5	0.45%	841	76.45%
Hypertension	5	0.45%	744	67.64%
Stroke	1	0.09%	430	39.09%
Asthma	3	0.27%	202	18.36%
Cancer	3	0.27%	293	26.64%
Tumor	1	0.09%	166	15.09%
Heart Disease	4	0.36%	330	30.00%
Others	2	0.18%	6	0.55%
Total	**24**	**0.73%**	**3,012**	**91.27%**

Fig. 7.1: Name of Non-Communicable Diseases



During the endline survey many people remembered the name of each NCD. Fig. 1 shows that 76.45% respondents were able to remember the name of diabetes as one of NCDs, which was only 0.45% in the baseline survey. In the endline survey 67.64% respondents named hypertension and 39.09% stroke as an NCD, but it was only 0.45% and 0.09% respectively in the baseline survey.

7.1.4: Knowledge on Risk factors of NCD

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 lose lives 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 insignificant in Bangladesh. Rather arsenic-related cancer, heart diseases and asthma are common in the target area.

It is of first and foremost importance to control these risk factors to prevent NCDs. Special emphasis was given during the project 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.

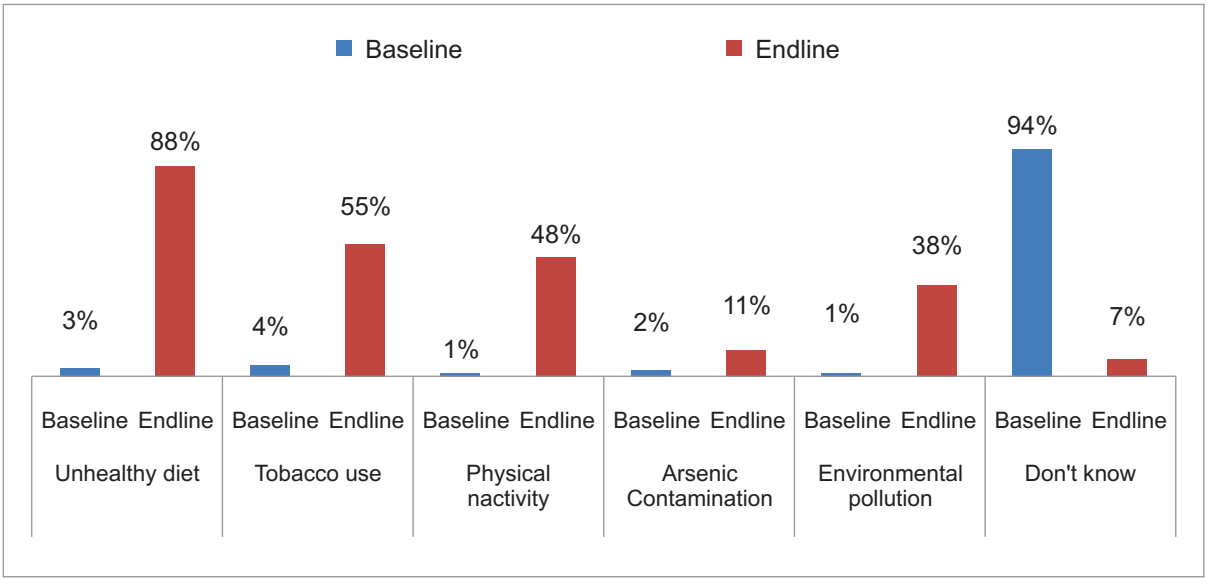
Table 7.3: Area-wise distribution of knowledge on the risk factors of NCD

	Unhealthy diet		Tobacco use		Physical inactivity		Arsenic		Environ-mental pollution		Don't know	
	BLS	ELS	BLS	ELS	BLS	ELS	BLS	ELS	BLS	ELS	BLS	ELS
Chanchra	6%	85%	6%	49%	0%	37%	6%	12%	0%	30%	85%	10%
Fatepur	6%	91%	7%	45%	2%	47%	2%	16%	1%	40%	89%	8%
Haibatpur	1%	87%	1%	62%	0%	52%	0%	13%	0%	35%	98%	6%
Ichali	2%	81%	0%	60%	0%	49%	0%	11%	0%	27%	99%	14%
Kachua	6%	93%	7%	45%	2%	53%	7%	7%	4%	44%	89%	4%
Kashimpur	0%	80%	1%	50%	0%	48%	0%	17%	0%	39%	99%	10%
Lebutala	1%	91%	0%	61%	1%	47%	1%	14%	0%	42%	98%	3%
Narendrapur	0%	88%	0%	53%	1%	41%	0%	11%	0%	45%	99%	6%
Noapara	2%	87%	6%	65%	4%	50%	0%	6%	0%	39%	93%	4%
Ramnagar	7%	90%	8%	53%	2%	50%	4%	12%	2%	37%	89%	9%
Upashahar	2%	95%	6%	61%	3%	49%	2%	6%	1%	44%	91%	3%
Total	**3%**	**88%**	**4%**	**55%**	**1%**	**48%**	**2%**	**11%**	**1%**	**38%**	**94%**	**7%**

Table 7.4: Cause-based Knowledge on NCD risk factors

NCD Risk Factors	Baseline		Endline	
	No. (1100)	Percentage	No. (1100)	Percentage
Unhealthy diet	33	3.0%	967	87.9%
Tobacco use	42	3.8%	604	54.9%
Physical inactivity	15	1.4%	522	47.5%
Arsenic Contamination	22	2.0%	126	11.5%
Environmental pollution	8	0.7%	421	38.3%
Don't know	1,029	93.5%	77	7.0%
Total	**1,149**	**34.8%**	**2,717**	**82.3%**

Fig. 7.2: What are the risk factors of NCD?



During the baseline survey almost all people did not know anything about the risk factors of NCDs, but in the endline survey 88% respondents named "unhealthy diet" as a cause of NCDs and 55% knew that tobacco use also contributes to NCDs. Many people (48% and 11%) understood that insufficient physical exercise and water pollution (arsenic) are responsible for NCDs. Alongside, 38% respondents thought that environmental pollution, especially indoor air pollution, also causes NCDs.

7.1.5: Treatment service providers

When people get sick, most of them go to a doctor or any medical service facility. In rural areas of Bangladesh a so-called "village doctor" (kobiraz) is common for them to visit first. What would happen to NCD patients? Would they choose a village doctor or a Community Clinic near their houses or visit a hospital?

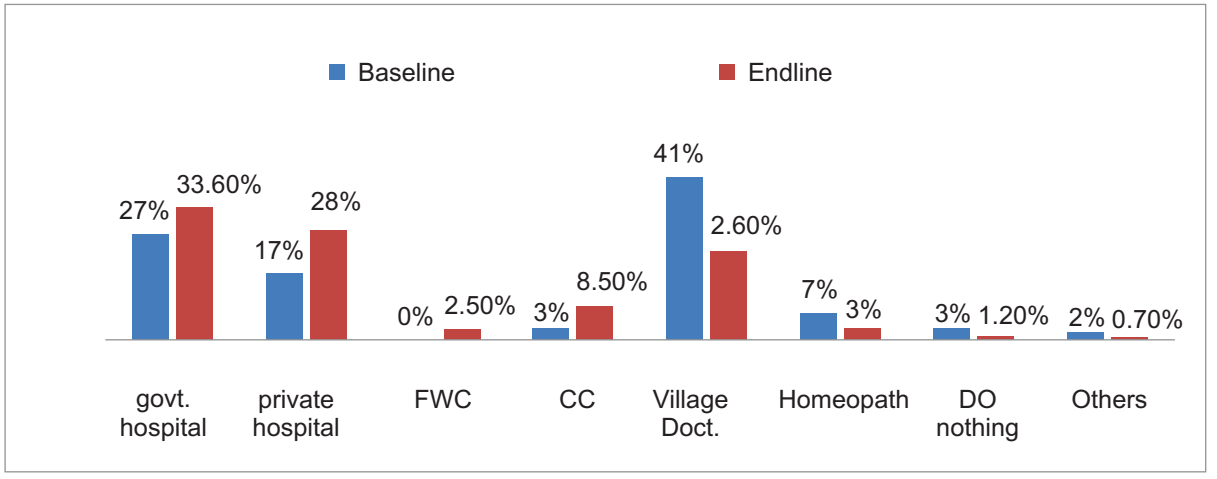
The baseline survey findings are compared with those of the endline survey below.

Table 7.5: Treatment received from:

NCD patients received treatment from*	Baseline		Endline	
	No	Percentage	No	Percentage
MBBS in government hospital	85	16%	399	59%
MBBS in private hospital	2	0%	146	22%
FWC	54	10%	5	1%
Community Clinic	148	29%	9	1%
Village Doctors	53	10%	93	14%
Homeopathy Doctor	9	2%	9	1%
Do nothing	121	23%	16	2%
Other	46	9%	2	0%
Total:	**518**	**100%**	**679**	**100%**

** Multiple answers*

Fig. 7.3: Treatment received from



It is illustrated from the above that the number of people receiving treatment from government hospitals increased from 27% to 33.6% and in case of private hospitals from 17% to 28%. To the contrary, a sharp decrease is observed in cases of village doctors (from 41% to 22.6%) and "Do Nothing" (3% to 1.2%).

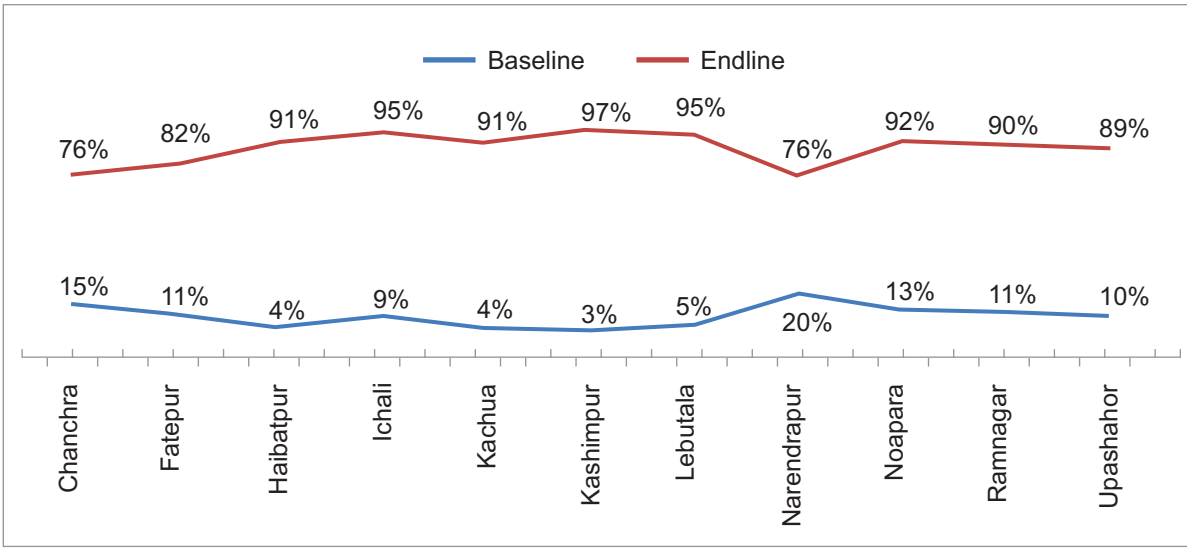
7.1.6: Knowledge on Regular Blood Pressure Check-up:

Blood pressure is essential to life because it forces the blood around the body, delivering all the nutrients it needs. Blood pressure in the range of more than 120 over 80 and less than 140 over 90 (120/80-140/90) is supposed to be normal but many doctors recommend to lower it to prevent unnecessary death from stroke and heart disease. How many villagers know the importance of regular blood pressure measurement and are they practicing it? Did they develop their knowledge on how to control blood pressure?

Table 7.6: Do you check your blood pressure regularly?

Union	Baseline		Endline	
	No.	Percentage	No.	Percentage
Chanchra	15	15%	76	76%
Fatepur	11	11%	82	82%
Haibatpur	4	4%	91	91%
Ichali	9	9%	95	95%
Kachua	4	4%	91	91%
Kashimpur	3	3%	97	97%
Lebutala	5	5%	95	95%
Narendrapur	20	20%	76	76%
Noapara	13	13%	92	92%
Ramnagar	11	11%	90	90%
Upashahor	10	10%	89	89%
Total	**105**	**10%**	**974**	**89%**

Fig. 7.4: Regular blood pressure checking status



It is evident that the knowledge on regular blood pressure checking was developed in all the surveyed areas. People learned from the project that high blood pressure or hypertension can lead to heart disease and stroke unless they make changes in their lifestyle like more exercise and less salt. People found it important to get blood pressure checked regularly followed by a change in behavior if necessary.

In Kashimpur union 97 people (97%) were checking their blood pressure regularly at the time of the endline survey against only 3 people at the time of the baseline survey. Overall, people's interest in regular blood pressure measurement grew high over the project period as seen from the average figure of 89% at the time of the baseline survey compared with 10% at the time of the baseline survey.

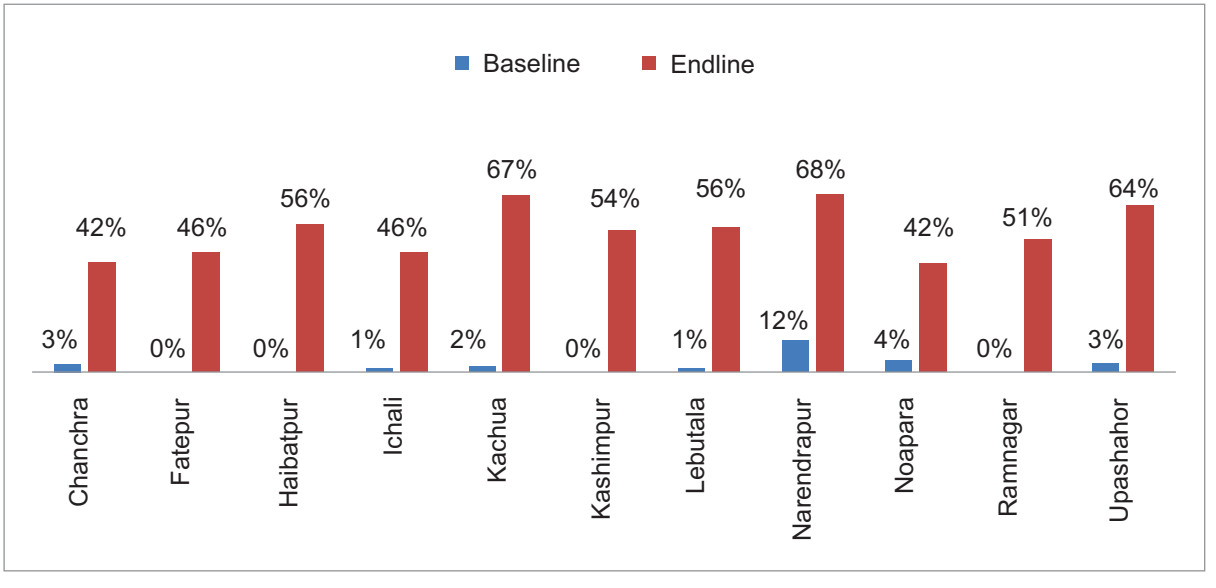
7.1.7: Visiting CC/FWC/USC for NCD related support

From the results of baseline survey it was found that many villagers were not satisfied with the quality of service of Community Clinics and some of them complained of the distance from their houses to the nearest CC or Family Welfare Centre (FWC) or Union Sub-Centre (USC). Upon learning this, the project included the information about the facilities of CC/FWC/USC in relation to NCDs during awareness programs and conveyed it among villagers. This effort of the project is reflected in the increased percentage of receiving service from CC and other local medical facilities.

Table 7.7: Do you or your family go to CC/FWC/USC for NCD related support?

Union	Baseline		Endline	
	No.	Percentage	No.	Percentage
Chanchra	3	3.0%	42	42.0%
Fatepur	0	0.0%	46	46.0%
Haibatpur	0	0.0%	56	56.0%
Ichali	1	1.0%	46	46.0%
Kachua	2	2.0%	67	67.0%
Kashimpur	0	0.0%	54	54.0%
Lebutala	1	1.0%	56	56.0%
Narendrapur	12	12.0%	68	68.0%
Noapara	4	4.0%	42	42.0%
Ramnagar	0	0.0%	51	51.0%
Upashahar	3	3.0%	64	64.0%
Total	**26**	**2.4%**	**592**	**53.8%**

Fig. 7.5: Visiting CC/FWC/USC for NCD related support



During the baseline survey only 26 respondents (2.4%) answered that they were visiting CC/FWC/USC for their NCD-related sufferings. The number increased to 592 (53.8%) during the endline survey.

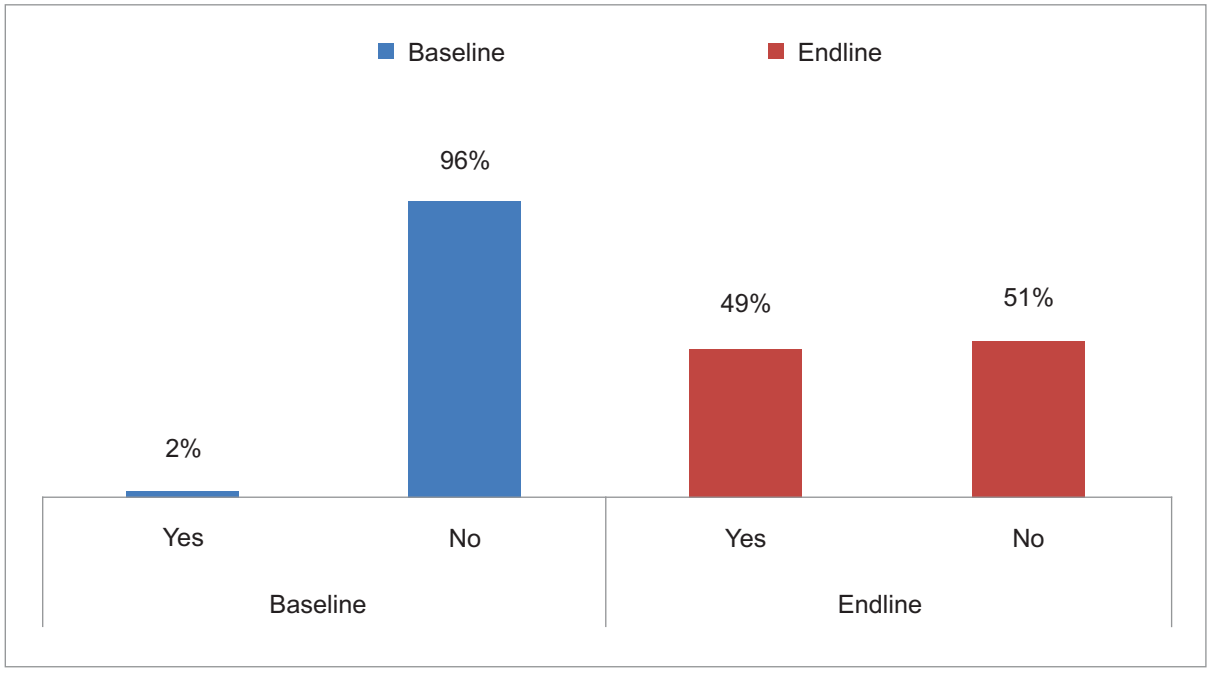
7.1.8: Role of secondary school students in NCD awareness

Children are said to be "Ambassador to the community". They bring back home what they have learned in the school and talk about it with their family members, neighbours and friends, often enthusiastically if the topic is new and exciting. How much did secondary school students help the project in delivering NCD messages to the community? The results of baseline and endline surveys are compared in Table 7.8 and Fig. 7.6 below.

Table 7.8: Did any secondary school student (If any in your family) tell you about NCDs?

Union	Baseline		Endline		Families without any student
	No. (1100)	Percentage	No. (1100)	Percentage	
	Yes	No	Yes	No	
Chanchra	0%	100%	41%	59%	51%
Fatepur	3%	97%	43%	57%	70%
Haibatpur	2%	98%	53%	47%	51%
Ichali	3%	89%	39%	61%	69%
Kachua	1%	87%	72%	28%	71%
Kashimpur	1%	99%	41%	59%	56%
Lebutala	1%	95%	57%	43%	58%
Narendrapur	0%	100%	44%	56%	59%
Noapara	3%	97%	52%	48%	56%
Ramnagar	1%	99%	51%	49%	59%
Upashahar	3%	95%	46%	54%	59%
Total	**2%**	**96%**	**49%**	**51%**	**60%**

Fig. 7.6: Secondary school student in NCD awareness



During the baseline survey 96% of the respondents answered negating receipt of NCD awareness messages from their child at secondary school if any in the family, whereas it decreased to 51% at the time of endline survey. It was unfortunate that 60% households in the survey area did not have a child who goes to a secondary school. It was also regretful that the "Yes" answers of the endline survey remained at 49% only.

7.1.9: Testing Arsenic in Drinking Water

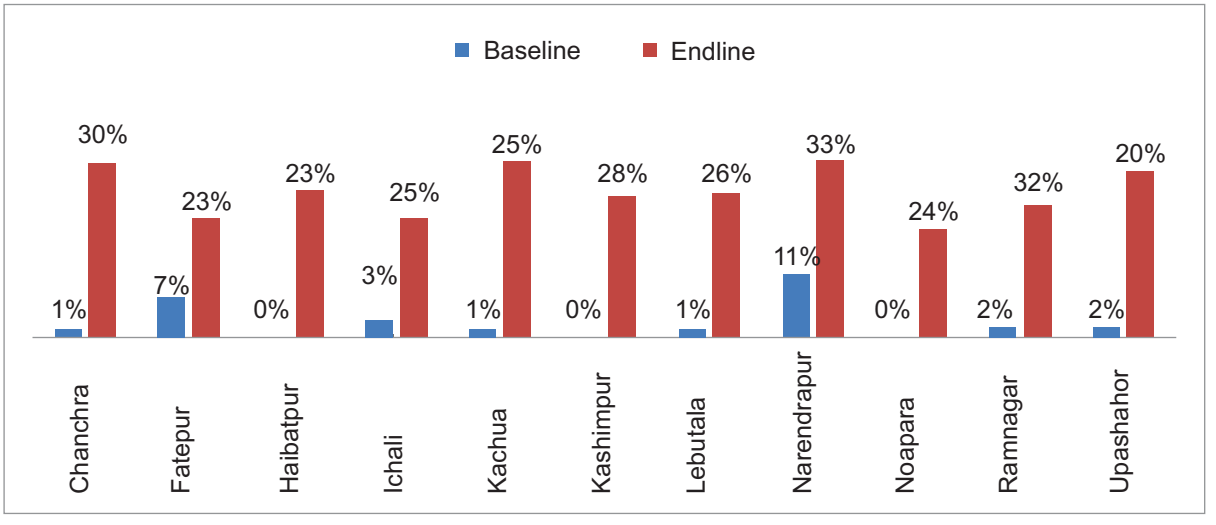
As explained earlier, the project considered arsenic-contaminated water as one of the four NCD risk factors in place of the "harmful use of alcohol" by WHO. Some unions are located in arsenic-contaminated areas but most of the residents do not know whether their tube well water is arsenic-safe or not. However, there is no water quality testing facility in their locality nor surveillance system by the government.

The project, therefore, introduced a union-led arsenic testing system by giving training to Village Police on how to use a field arsenic test kit and how to run and manage the system in a sustainable way. Was the arsenic testing system useful/helpful for those concerned with drinking water quality?

Table 7.9: Do you check arsenic in your drinking source within One year?

Union	Baseline		Endline	
	No.	Percentage	No.	Percentage
Chanchra	1	1.0%	30	30.0%
Fatepur	7	7.0%	23	23.0%
Haibatpur	0	0.0%	23	23.0%
Ichali	3	3.0%	25	25.0%
Kachua	1	1.0%	25	25.0%
Kashimpur	0	0.0%	28	28.0%
Lebutala	1	1.0%	26	26.0%
Narendrapur	11	11.0%	33	33.0%
Noapara	0	0.0%	24	24.0%
Ramnagar	2	2.0%	32	32.0%
Upashahar	2	2.0%	20	20.0%
Total	**28**	**2.5%**	**289**	**26.3%**

Fig. 7.7: Testing Arsenic in Drinking Water



As shown in Table 7.9 and Fig. 7.7, at the time of the baseline survey only 28 respondents (2.5%) out of 1,100 said that they had their tube well water tested for arsenic in the past one year. The number increased to 289 people (26.3%) at the time of the endline survey, confirming the positive impact of the introduction of the union-led arsenic testing system.

Then how many tube wells were tested and what was the result? As shown in Table 7.10, the water of 913 tube wells were tested under the union-led arsenic test system. It was found that 46 tube wells (5%) contain arsenic >50 ppb, higher than the Bangladeshi permissible level of 50 ppb/L, while 867 (95%) had arsenic <50 ppb being safe as drinking water.

Table 7.10: Union-wise Result of Arsenic Test

Union	<50ppb	>50ppb	Total Test
Chanchra	303	13	316
Fathepur	41	0	41
Haibatpur	64	23	87
Ichhali	53	2	55
Kachua	67	2	69
Kashimpur	49	4	53
Labutala	31	1	32
Noapara	79	0	79
Norendrapur	72	0	72
Ramnagar	50	1	51
Upasahar	58	0	58
Total:	**867**	**46**	**913**

7.1.10: Use of improved cooking stoves

One of the big differences between traditional stoves and improved stoves is whether it is equipped with a chimney or not. The traditional stoves do not have a chimney; therefore smoke billows in the kitchen polluting the air and covering the ceiling and wall with soot, whereas improved stoves have a chimney which carries away smoke and keeps the air clean. The project encouraged people to switch to improved stoves to protect themselves from respiratory diseases like asthma. Was the promotion effective?

Table 7.11: Do your family use improved cooking stove for cooking?

Union	Baseline		Endline	
	No.	Percentage	No.	Percentage
Chanchra	3	3.0%	35	35.0%
Fatepur	8	8.0%	24	24.0%
Haibatpur	4	4.0%	29	29.0%
Ichali	23	23.0%	13	13.0%
Kachua	13	13.0%	22	22.0%
Kashimpur	3	3.0%	19	19.0%
Lebutala	5	5.0%	41	41.0%
Narendrapur	6	6.0%	29	29.0%
Noapara	3	3.0%	22	22.0%
Ramnagar	7	7.0%	38	38.0%
Upashahor	10	10.0%	44	44.0%
Total	**85**	**7.7%**	**316**	**28.7%**

Fig. 7.8: Use of improved cooking stoves

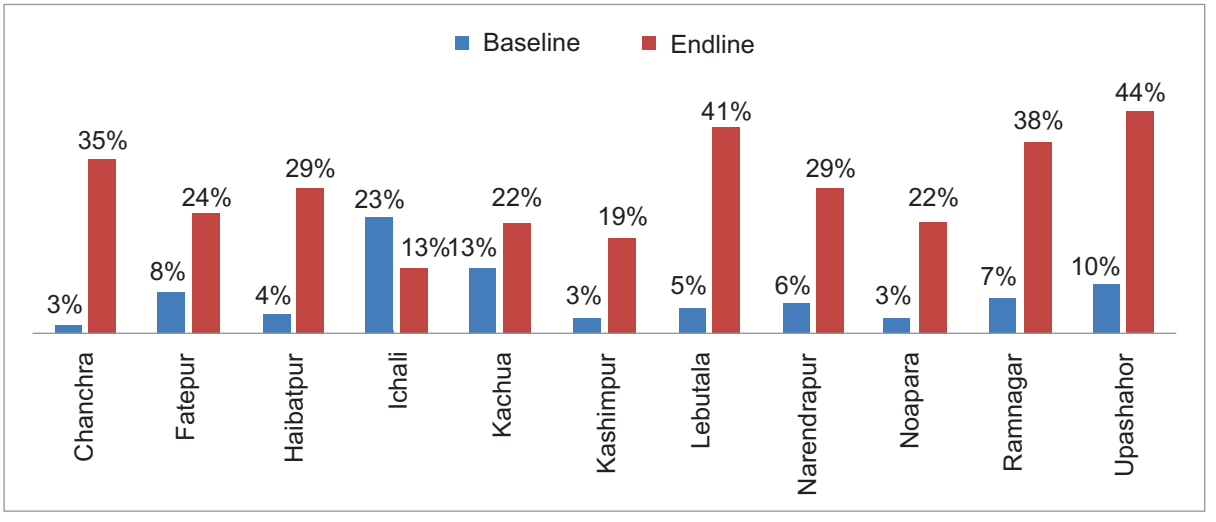
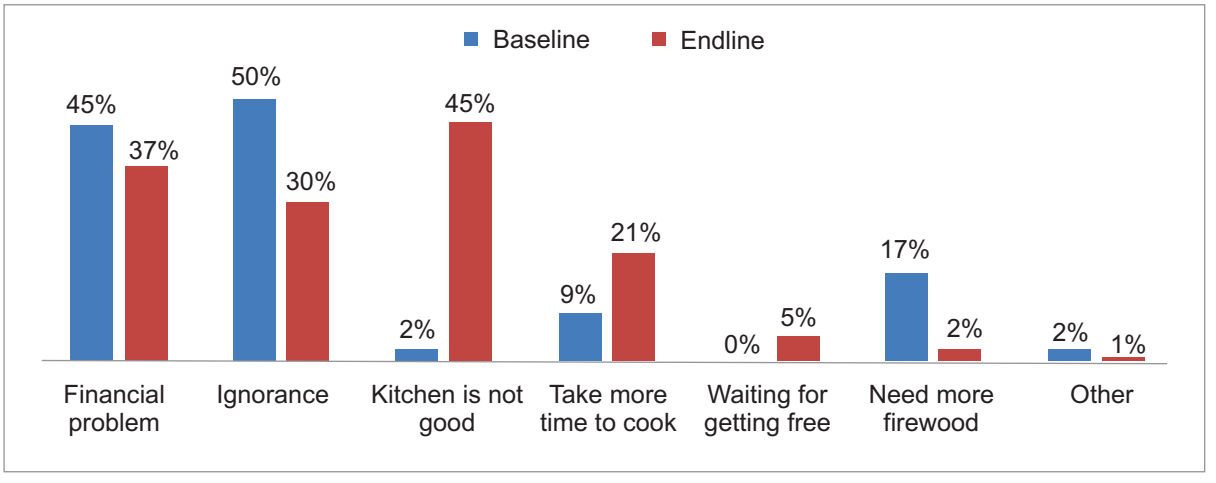


Table 7.11 and Fig. 7.8 confirm that the number of users of improved stoves increased to 316 (28.7%) at the time of the end-line survey from 85 (7.7%) at the time of the baseline survey. It seems more promotion is required in a more effective way. Let's see the reasons why many people do not switch to an improved stove.

Table 7.12: Reasons of not using an improved cooking stove

Reason	Baseline		Endline	
	No.	Percentage	No.	Percentage
Financial problem	496	45%	403	36.6%
Ignorance	550	50%	333	30.3%
Kitchen is not good	19	2%	499	45.4%
Take more time to cook	95	9%	229	20.8%
Waiting for getting free	0	0%	49	4.5%
Need more firewood	183	17%	23	2.1%
Other	19	2%	6	0.5%
Total	**1,362**	**41%**	**1,542**	**46.7%**

Fig. 7.9: Reason of not using improved cooking stoves



In the survey form this question on the reasons of not using improved cooking stoves allowed multiple answers when applicable. The total numbers of respondents at both the baseline and endline surveys, therefore, exceed 1,100. The reasons of ignorance and financial problem decreased from 50% to 30% and from 45% to 37% respectively. It is evaluated high that "ignorance" decreased to a certain extent, from 50% to 30%. The decrease in the reason of "need more firewood" is also a welcome one, but it contradicts with the increase in the reason of "take more time to cook", as improved cooking stoves are designed for fire not to escape from the gaps between the cooking pan and stove and normally the user can cook with less firewood in a shorter time.

Case Study

Happy with soot-free kitchen

Mrs. Rehana Khatun, a resident of Bhamradaha village, Shaharbati Union of Meherpur district, gladly welcomed a team from the project. She ushered them into the kitchen, which was inside her house. In rural area of Bangladesh, kitchens are often in a separate hut and normally blackish as soot of smoke from the traditional cooking stove covers the ceiling and wall. What a different look Rehana's kitchen has! With three posters on NCD on the wall!

Yes, Rehana is a proud user of an improved cooking stove (ICS) since she installed it five months ago, soon after she came to know good things about ICS at a courtyard awareness meeting of the project. "You see, my kitchen is so clean. No smoke inside and the ceiling and wall are soot-free", Rehana remarked cheerfully. She said she suffered coughing previously while cooking with a traditional cooking stove but now she has no cough. Then, "I am very pleased with the ICS because I can save fuel cost, too", she added happily.

7.1.11 Referral patient tracking

Suspected NCD patient are usually referred from two places i.e., from villages after holding NRI campaign and from community clinics. Villagers having higher BP, BMI and Blood Sugar level (any one or all) during NRI Camp were suggested to visit Community Clinic. However, out of 199 referred to CC only140 visited CC. Details of referral patient tracking as below;

7.1.12 Village level NRI to CC

15 campaigns were took place at 15 unions where 917 villagers participated to get health check-up.

Referred participant: 199 (21.7%) out of 917 came to 11 numbers of NRI campaign at village level in Jashore Sadar Upazila.

Risk factor considered:

BP : ⩾140/90

RBS : ⩾11.1 mmol/l

BMI : ⩾25.0

Visited CC : 140 (70%) out of 199

Reasons of not visiting CC by the referral suspected patient:

1. Taking medicine from village doctor/medicine shop
2. Presently having no problem
3. Lack of awareness to visit CC
4. Location of CC is far

Among the suspected NCD patients who visited CC individually or being referred from NRI were then referred to NCD corner at the Upazila Health Complex. After tracking it was found that 207 suspected patients were referred from 11 CCs of Jashore Sadar uapzila to 250 Bedded Hospital in Jashore between December 2017 ~ May 2018. The summary is as given below.

7.1.13 CC to 250 Bedded Hospital in Jashore

Project checked 207 patients' status who wereadvised to visit 250 Bedded Hospital from CC

Referred participant: 207 (Male-68, Female-139)

Visited 250 Bedded Hospital : 87(42%) Male-13 (19%), Female- 74 (53%)

Reasons of not visiting 250-Bedded Hospital by rest 120 (58%) referred patients

26% answered about their financial inability

23% took treatment from village doctor/ medical shop

13% believed that they would not get medicine from hospital

11% believed that their condition was not so serious to visit 250 Bedded Hospital

5% complained about hospital service

2% believed that their diseases were under controlled

7% Others (negligence, etc).

Appendix

Respiratory Problems among the Improved Cooking Stove (ICS) and Traditional Cooking Stove (TCS) Users

The project carried out a cross-sectional study to assess the respiratory illnesses including Chronic Obstructive Pulmonary Diseases COPD among the women who were cooking for more than three years. Both the improved cooking stove (ICS) and traditional cooking stove (TCS) users aged 20 years or more were targeted in the study. A total of 1,232 study participants (411 ICS users and 821 TCS users) were selected from the project population. For each ICS user two TCS users were selected from nearby households. A survey questionnaire was tailored to assess the respiratory illnesses among the whole participants. As for COPD assessment, a COPD population screener (CPS) and COPD Assessment Test (CAT) forms were used to collect data from the participants aged 35 years or more.

The study participants of both groups were age-matched (±1year) and the average age of the women was approx. 35.7 years. On an average the respondents were cooking for 19.23±11.47 years and the daily cooking duration was 3.08 hours.

As background information, a higher proportion of the TCS users had no formal education (27.6%) while among the ICS users the education level of SSC (19.7%) and HSC and above (10.7%) was found. Respondents using TCS had a lower monthly income (Taka 9,351) and the ICS users had a higher monthly income and majority of them lived in pucca (50.6%) and semi-pucca (24.3%) houses.

Among the total participating women none of them had the habits of smoking, but 10.2% of them had the habits of chewing tobacco. Among the TCS users consumption of smokeless tobacco (11.7%) was found more than that of ICS users (7.3%).

Regarding the cooking practice, it was found that overall 85.5% of the respondents used biomass fuel with the ICS users (86.6%) at a comparatively higher proportion. The biomass fuels used for the cooking purposes were wood (78.3%), cow dung (75.0%), leaves (26.6%) and others (12.3%). Some of the common reasons for not using ICS were: (1) cooking with ICS was not suitable or comfortable, (2) ICS was not affordable and (3) ICS needs more cooking fuel. The main reasons for using ICS were: (1) ICS does not produce soot and kitchen can be kept clean, (2) ICS does not produce smoke inside the house and (3) ICS needs less time to cook.

The occurrences of respiratory illnesses were found significantly high among the respondents of TCS users (48.1%) compared to those of ICS users (39.2%). Regarding suffering from COPD, among the respondents aged 35 years and above, 21.4% reported to suffer from COPD, which was found at a higher proportion (24.1%) among the TCS users than among ICS users (16.6%).

Fig. 7.A1 Type of stove being used and respiratory problems

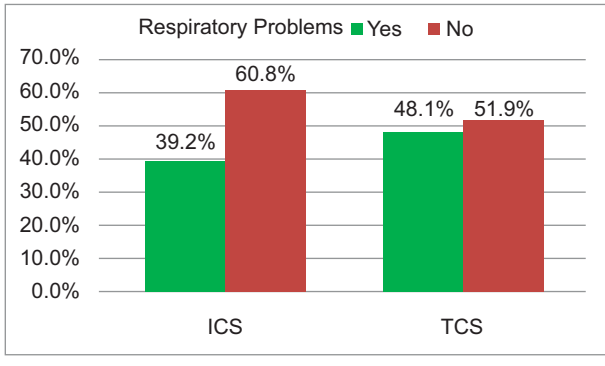


Fig. 7.A2 Type of stove being used and COPD

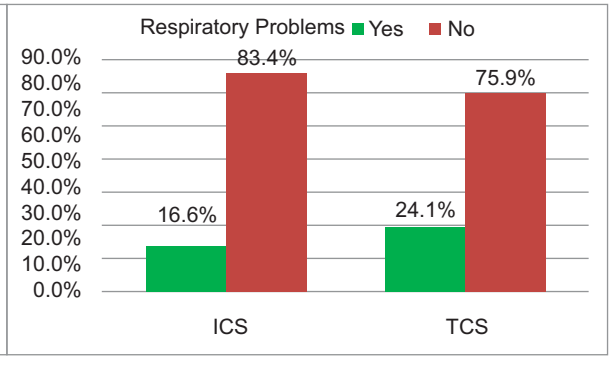


Fig. 7.A3 Biomass fuel use and respiratory problems

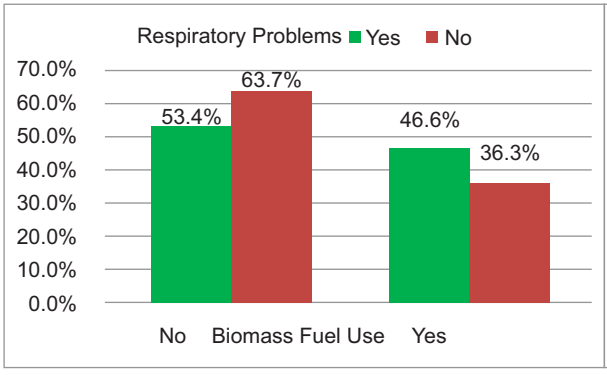


Fig. 7.A4 Biomass fuel use and COPD

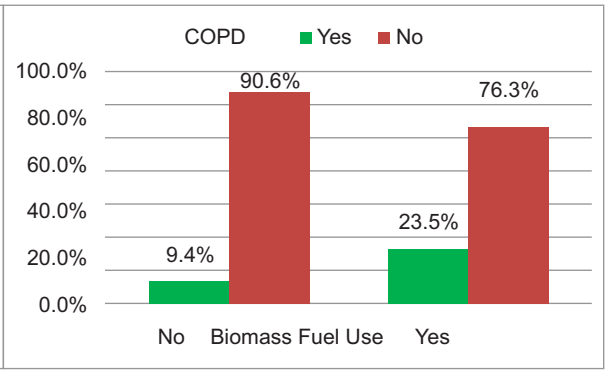


Fig. 7.A5 Tobacco Use and Respiratory Problems

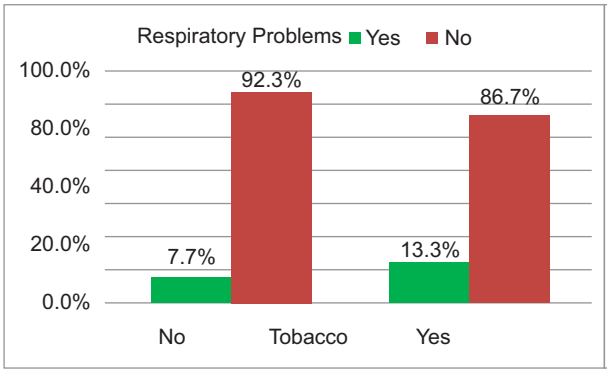
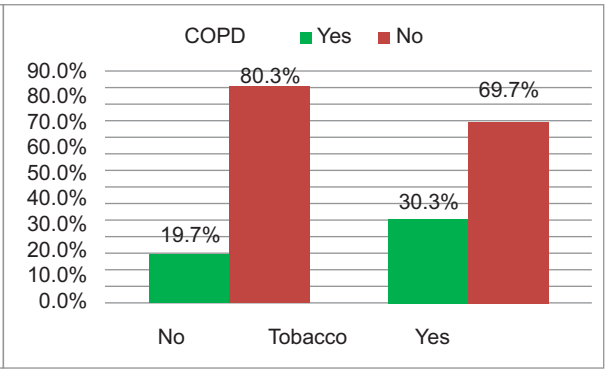


Fig. 7.A6 Tobacco Use and COPD



COPD was also found more common among the biomass fuel users (23.5%) and who had habits of chewing tobacco (30.3%). The manifestations of the respiratory illnesses found among the respondents were cough with mucus (19.4%), dyspnoea (20.5%), chest tightness (21.2%), asthma (21.7%) and chronic cough (33.0%). All these manifestations were significantly high among the TCS users compared to those of the ICS users except the chest tightness.

7.2 Summary of output and achievements

<table>
<tr><th></th><th></th><th>Output and Verifiable Indicator</th><th>Achievement</th></tr>
<tr><td>(1)</td><td colspan="2">NCDs prevention activity at the community level is shifted from Social Support Groups (SSG) to Community Groups (CG)</td><td></td></tr>
<tr><td></td><td>1-1.</td><td>In union workshops the members of union parishads will discuss and select vulnerable area/groups based on the priority</td><td>All 24 unions (15 Unions in Jashore Sadar and 9 replication unions in Khulna division) selected their vulnerable areas through workshops</td></tr>
<tr><td></td><td>1-2.</td><td>80% Community Groups of Community Clinic will include NCD prevention work in their Local Level Plan</td><td>All 87 Community Clinics (60 in Jashore Sadar and 27 in the replication areas) adopted NCD prevention activities for their Local Level Plan (LLP) that was reflected in their yearly plan, too.</td></tr>
<tr><td>(2)</td><td colspan="2">NCD volunteers are created through training for strengthening the capacity of various groups for working on NCD prevention program</td><td></td></tr>
<tr><td></td><td>2-1.</td><td>Seven (7) persons from each CG committee will make themselves involved in NCD control program</td><td>Excluding HWs and UP members there were 14 members in a committee. In 60 CCs in Jashore Sadar 610 (73%) members out of 840 (60CC X 14) made themselves involved in NCD control activities. In case of replication area 319 (84%) members out of 378 (27 X 14) made them involved.</td></tr>
<tr><td></td><td>2-2.</td><td>The number of health workers who will promote NCD control program</td><td>All 217 Health & Family Planning Workers received training and worked in field in Jashore Sadar while the number was 158 in replication areas.</td></tr>
<tr><td></td><td>2-3.</td><td>The number of health promotion volunteers who will be working at union, school or youth club.</td><td>The type and number of health promotion volunteers who received training and worked for NCD programs as detailed below:
<table>
<tr><th rowspan="2">Sl.</th><th rowspan="2">Type of Volunteer</th><th colspan="2">Received Training</th></tr>
<tr><th>Jashore Sadar</th><th>Replication</th></tr>
<tr><td>1</td><td>CG Member</td><td>685</td><td>459</td></tr>
<tr><td>2</td><td>Up Member</td><td>191</td><td>117</td></tr>
<tr><td>3</td><td>Health Workers</td><td>217</td><td>166</td></tr>
<tr><td>4</td><td>Youth Club Member</td><td>199</td><td>150</td></tr>
<tr><td>5</td><td>School & Madrassa Teacher</td><td>1,253</td><td>685</td></tr>
<tr><td>6</td><td>Village Police</td><td>98</td><td>68</td></tr>
<tr><td>7</td><td>Women Group Member</td><td>187</td><td>178</td></tr>
<tr><td colspan="2">Total</td><td>2,830</td><td>1823</td></tr>
</table></td></tr>
<tr><td></td><td>2-4.</td><td>80% NCD prevention volunteers will play role as resource persons</td><td>A total of 2,516 volunteers (91%) out of 2,778 received training played role in their communities as detailed below:
<table>
<tr><th>Sl.</th><th>Type of Volunteer</th><th>Training Received</th><th>Played role</th><th>%</th></tr>
<tr><td>1</td><td>CG Member</td><td>685</td><td>610</td><td>89%</td></tr>
<tr><td>2</td><td>Up Member</td><td>139</td><td>119</td><td>86%</td></tr>
<tr><td>3</td><td>Health Workers</td><td>217</td><td>176</td><td>81%</td></tr>
<tr><td>4</td><td>Youth Club Member</td><td>199</td><td>141</td><td>71%</td></tr>
<tr><td>5</td><td>School & Madrassa Teacher</td><td>1,253</td><td>1,240</td><td>99%</td></tr>
<tr><td>6</td><td>Village Police</td><td>98</td><td>77</td><td>79%</td></tr>
<tr><td>7</td><td>Women Group member</td><td>187</td><td>153</td><td>82%</td></tr>
<tr><td colspan="2">Total</td><td>2,778</td><td>2,516</td><td>91%</td></tr>
</table></td></tr>
</table>

<table>
<tr><th></th><th></th><th>Output and Verifiable Indicator</th><th>Achievement</th></tr>
<tr><td></td><td></td><td></td><td>90% of the volunteers received training and made themselves involved in NCD activities as detailed below:
<table>
<tr><th>Sl.</th><th>NCD volunteer from different corner</th><th>Training Received</th><th>Played role</th><th>%</th></tr>
<tr><td>1</td><td>CG Member</td><td>364</td><td>319</td><td>88%</td></tr>
<tr><td>2</td><td>Up Member</td><td>117</td><td>88</td><td>75%</td></tr>
<tr><td>3</td><td>Health Workers</td><td>158</td><td>139</td><td>81%</td></tr>
<tr><td>4</td><td>Youth Club Member</td><td>150</td><td>132</td><td>88%</td></tr>
<tr><td>5</td><td>School & Madrassa Teacher</td><td>685</td><td>645</td><td>94%</td></tr>
<tr><td>6</td><td>Village Police</td><td>66</td><td>49</td><td>74%</td></tr>
<tr><td>7</td><td>Women Group member</td><td>178</td><td>178</td><td>100%</td></tr>
<tr><td colspan="2">Total</td><td>1,718</td><td>1,550</td><td>90%</td></tr>
</table></td></tr>
<tr><td>(3)</td><td colspan="2">Human resources trained through (1) and (2) encourage community to get united, work and promote the environmental improvement for NCDs prevention (especially focusing on women, the poor and NCD patients)</td><td></td></tr>
<tr><td></td><td>3-1.</td><td>80% female of the project area (11 unions of Jashore Sadar Uazilla) will develop awareness on NCD</td><td>The population of 11 unions of Sadar Upazila was 371,980 (Male-187,601, Female-184,379), among which 352,048 poeple participated in NCD awareness activities. In case of replication areas 121,710 female got awareness messages out of targeted population 197,721 (Male 98,479 and Female 99,242).

NCD volunteers trained though Output (1) and (2) played role as human resources and conveyed messages through various awareness programs. In case of the 11 unions of Sadar Upazila, women participants in such programs was 324,672, which was 176% of the total female population, far over the targeted of 80%. It indicated that some women attended the programs more than once.</td></tr>
<tr><td></td><td>3-1-a.</td><td>Half of the vulnerable groups and vulnerable communities will develop awareness on NCD. Primarily it was estimated to cover NCD awareness program among 27898 (25%) of the vulnerable population. However, the number has been revised to 55979 (50%) based on discussion with CG and Union in the workshop.</td><td>Actual number of vulnerable people was found 38,856 in 175 communities in Jashore. Project was able to convey NCD prevention messages to 29,707 of them being 76%, i.e., higher than the target of 50%.

In the 97 vulnerable communities of the Replication areas 17,171 (72%) people received awareness message out of the total 23,862 people</td></tr>
</table>

<table>
<tr><td></td><td>3-2.</td><td>Each Union will conduct 25-30 NRI campaigns during the 3 year project with initiatives of CGs</td><td>A total of 999 NRI campaigns held during the project. In Jashore 659 NRI campaigns held in 15 unions out of targeted 375 to 450 with the initiatives of CG which was also a target of the project.</td></tr>
<tr><td></td><td>3-3.</td><td>The unions will promote the environmental improvement for NCD prevention (e.g., arsenic test program, improved cooking stoves, exercise practices)</td><td>All 15 unions in Jashore Sadar started testing tube well water for arsenic and promoted physical exercise and use of improved cooking stoves.</td></tr>
<tr><td></td><td>3-4.</td><td>15,000 women will be participating at NRI campaign program</td><td>In Jashore 659 NRI campaigns held in 15 unions where 37,499 female participated out of targeted 15,000 as detailed below:
<table>
<tr><th rowspan="2">Actor</th><th rowspan="2">Number of NRI</th><th colspan="3">No. of Participants</th></tr>
<tr><th>Male</th><th>Female</th><th>Total</th></tr>
<tr><td>CG-led</td><td>659</td><td>7,217</td><td>28,957</td><td>36,174</td></tr>
<tr><td>YC-led</td><td>226</td><td>4,609</td><td>6,218</td><td>10,827</td></tr>
<tr><td>WG-led</td><td>114</td><td>664</td><td>2,324</td><td>2,988</td></tr>
<tr><td>Total:</td><td>999</td><td>12,490</td><td>37,499</td><td>49,989</td></tr>
</table></td></tr>
<tr><td></td><td>3-4-a.</td><td>Among the participants in NRI campaigns 5,760 people will be able to understand BMI as a part of NCD prevention.</td><td>A total of 6,440 people (64%) out of 10,110 have been able to understand BMI.</td></tr>
<tr><td></td><td>3-4-b.</td><td>50% of pregnant women will get their blood pressure checked at least twice a year.</td><td>All of 1,023 pregnant women got their blood pressure checked at least twice a year at the EPI centres and satellite clinics.</td></tr>
<tr><td></td><td>3-4-c.</td><td>50% of the recorded NCD patients in vulnerable areas will receive follow-up checking by health workers and doctors.</td><td>Among the 2,195 recorded NCD patients in vulnerable areas 1,050 (49%) came under follow-up checking by the health workers at home, CC & FWC etc.</td></tr>
<tr><td></td><td>3-5.</td><td>With the initiative of CG, a “Mobile Health Check-up Campaign” will be launched in each union.</td><td>44 campaigns were conducted in 11 unions being twice in a year started from the second year of the project. It was also carried out in two places of vulnerable area/union of the replication areas. Under this activity, project staff took the facilities at the door step of the suspected patients identified during NRI to make them used to of regular health check-up. After 3 months the facility was facility was gradually shifted from door-step to CC. The patients were then requested to visit CC as meanwhile they adapted regular health check-up. HW and Doctors also guided the patients during NRI Campaign / EPI Field Visits.</td></tr>
<tr><td></td><td>3-6.</td><td>The quantity of families exposed to environmental NCD risks will be half</td><td>With the effort of unions, at least 3,123 households improved their environmental risks related to smoky stoves, arsenic pollution in tube wells and physical inactivity. Improved cooking stoves were replaced at 1,791 households, exercise was being practiced by 419 people of 29 groups and 913 tube well water was checked for arsenic.</td></tr>
</table>

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<tr><td></td><td>3-6-a.</td><td>50% of listed patients will get their conditions developed compared to the sufferings remained at the beginning</td><td>During the End-line Survey out of the total 1100 respondents 369 (34%) were found as NCD patients and among them 346 (93.76%) that their NCD related physical condition got improved after changing lifestyle while 21(5.69%) said that physical condition remained unchanged and rest 2 (0.54%) reported health condition deteriorated.</td></tr>
<tr><td></td><td>3-7.</td><td>90% healthcare centers came under safe water coverage</td><td>The number of healthcare providing canter is 75 and now 72 (96%) of them have safe water devices. The project repaired 5 tube wells and installed 11 tube wells.</td></tr>
<tr><td>(4)</td><td colspan="2"></td><td></td></tr>
<tr><td></td><td>4-1.</td><td>The differences regarding "residents' consciousness, behaviour, and local health service" between 11 unions and 4 unions will be indicated with numerical value</td><td>Data of baseline, mid-term and follow-up surveys were collected. Besides the role of CG and SSG was also evaluated. Based on the analysis strategies were utilized and carried for making effective plans.</td></tr>
<tr><td>(5)</td><td colspan="2"></td><td></td></tr>
<tr><td></td><td>5-1.</td><td>The number of CCs to launch NCD activities in 9 replication unions of Khulna division will be 80%</td><td>All 27 CCs (100%) enlisted NCD prevention activities in their Local Level Plan (LLP) and it has been also reflected in yearly plan.</td></tr>
<tr><td></td><td>5-2.</td><td>Each Union will conduct NRI campaign more than 5 times (9 unions)</td><td>A total of 321 NRI campaigns were held which was more than the estimation as detailed below:
<table>
<tr><th>Particular</th><th>Number of NRI</th><th>Male</th><th>Female</th><th>Total</th></tr>
<tr><td>CG Led</td><td>134</td><td>1,493</td><td>5,773</td><td>7,266</td></tr>
<tr><td>Youth Club Led</td><td>81</td><td>1,875</td><td>1,906</td><td>3,781</td></tr>
<tr><td>Women Led</td><td>106</td><td>694</td><td>2,726</td><td>3,420</td></tr>
<tr><td>Total</td><td>321</td><td>4,062</td><td>10,405</td><td>14,467</td></tr>
</table></td></tr>
<tr><td></td><td>5-3.</td><td>The number of community clinics will start doing activities to measure health risk factors related to NCD</td><td>All 27 CCs of 9 unions started activities to measure health risk factors related to NCD.</td></tr>
<tr><td></td><td>5-4.</td><td>NCD screening will be conducted visiting door-to-door in the targeted unions</td><td>NCD screening was conducted in Roygram union under Kaliganj Upazila of Jhenaidah district where 11,604 people of ⩾25 years of age out of total 13,902 were screened through door-to-door visits.</td></tr>
<tr><td></td><td>5-5.</td><td>NRI campaign guidebook is to be made</td><td>An NRI campaign guidebook was produced and 1,500 copies were disseminated.</td></tr>
<tr><td></td><td>5-6.</td><td>The lessons learnt from the NCD screening in the pilot area are to be reflected on the NRI guidebook and the final report.</td><td>The lessons learnt from the NCD screening were presented at the “Screening Result Sharing Workshop” and the Final Seminar and also has been recorded in the final report.</td></tr>
</table>

ANNEX

ANNEX 1

NCD Screening Form

Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division-Project

AAN	40	44	33	74	-	Vill ID	F am ID	Above >25Y	Man ID						H #	

NID																		

1. Basic Information:

Name:..... Age/DoB..... F/S.....

Relation with HHH:..... Para:..... Mobile.....

2. Physical parameter check:

2-1	Blood Pressure			☐ Medication (within 24 hrs)	☐ Without medication

2-2	Blood Sugar	☐ FBS .....mmol/L ☐ RBS ..... mmol/L	☐ Medication ☐ Without medication	☐ Medication (within last 24 hrs)

2-3	Height	.....cm		Weight	.....kg	BMI	

2-4	Waist	_____Inch	☐ Male	☐ Female	☐ Pregnant

3. Demographic Information:

3-1	Household information				
	Total member			Total member (=25y)	
	Male			Male	
	Female			Female	

3-2	Are your living room & kitchen separate? ☐ Yes ☐ No
3-3	What type of house do you have? ☐ Katcha ☐ Tin ☐ Roof (RCC)

3-4	What type of oil do you use for cooking your family? ☐ Bottle ☐ From container ☐ Mustard oil
3-5	What amount of oil do you use in a month for your family? ☐ ..... ltr/m

3-3	Does your household have		
	Electricity	☐ Yes	☐ No
	Color Television	☐ Yes	☐ No
	Mobile phone	☐ Yes	☐ No
	Cupboard (Almirah / wardrobe)	☐ Yes	☐ No
	Electric fan	☐ Yes	☐ No
	Battery bike/van	☐ Yes	☐ No
	Refrigerator	☐ Yes	☐ No
	Water motor (domestic use)	☐ Yes	☐ No
	Latrine with flash system	☐ Yes	☐ No
	Laptop	☐ Yes	☐ No
	Motorcycle	☐ Yes	☐ No

3-4	Cooking Stove		
	☐ Traditional	☐ Improved (LP gas)	☐ Improved (piped)
	☐ Electric stove		

3-5	Fuel for cooking?		
	Animal dung	☐ Yes	☐ No
	Agricultural crop	☐ Yes	☐ No
	Straw	☐ Yes	☐ No
	Wood	☐ Yes	☐ No
	Charcoal	☐ Yes	☐ No
	Biogas	☐ Yes	☐ No

3 5	What type of tobacco products do you use?	☐ Smoke	☐ Smokeless	☐ Don't smoke
3-6	How many days in a week you eat fruits? (last 7 days)	☐..... days	☐... .not known	☐ Not ate
3-7	How much vegetable do you take in a day ?	☐..... ...gm	☐ Not take	☐ Don't say
3-8	Does your work involve vigorous-intensity activity cause increase heart rate (10 minutes continue)?	☐ Yes.....d/w	☐ No	☐ Irregular
3-9	Do you take additional raw salt during meal?	☐ Yes	☐ No	☐ Don't say
3-10	Did you check BP within last 2 months by own	☐ Yes	☐ No	☐ Don't say
3-11	Did you check Sugar last 6 months by own effort?	☐ Yes	☐ No	☐ Don't say
3-12	Major dirking source?	☐ Own TW	☐ Neighbor TW	☐ Outside
3-13	Does your drinking source As contaminated?	☐ Yes ☐ No	☐ Not tested	☐ Others
3-14	Do you have any arsenicosis symptom?	☐ Yes ☐ No	☐ Not checked	☐ Health card (if Y)

(marked means) family related information. Others are respondent's information)*

Data Collector				*Date*	d	d	m	m	Y	Y	Y	y

ANNEX 2

Asia Arsenic Network

Strengthening Community Capacity for Non-Communicable Disease Prevention in Khulna Division-Project

Research on use of Improved Cooking Stoves and Respiratory Disorders

Sl. No.

GPS: (Improved Cooking Stove user-HH)	N-
	E-

Name of the interviewer: ----------

1. General Information of the respondent

1.1 House No./ID No. : ----------

1.2 Name of the Respondent : ---------- Mobile No. ----------

1.3 Father/Husband's Name : ----------

1.4 Address (Detailed) : Area ---------- Village ---------- Union ----------

1.5 Location of the house (Landmark) : ----------

1.6 Gender? Code 1= Male, 2=Female : ☐

1.7 Occupation? : ☐

Code: 1=Day Laborer (Agri), 2 = Day Laborer (Non-Agri, Machanic, Painter, Helper), 3=Rikshaw/Van, 4=Business (Small), 5=Business (Large), 6 =Student, 7=Carpenter, 8=Service, 9=Housewife, 10=Unemployed, 11=Elderly people, 12=Driver, 13=Farmer, 14=Mason, 66=Others (please specify .....)

2. Demographic data of the respondent

2.1 What is your age? ☐

2.2 What is your religion?

Code: 1=Islam, 2=Hindu, 3=Christian, 4=Buddhist, 66=Others (please specify .....) ☐

2.3 What is your marital status?

Code 1=Married, 2=Unmarried, 3=Widow, 4=Widower, 66=Others (please specify .....) ☐

2.4 What is your Educational Qualification? ☐

Code: 1=Illiterate, 2=Primary, 3=SSC, 4=HSC, 5=Graduation, 6=Post Graduation, 66=Others (please specify .....) ☐

2.5 No. of your family members? ☐

2.6 What is the average monthly income of your family? ☐

2.7 What is the average monthly expenditure of your family? ☐

2.8 Type of your house?

Code: 1=Kancha, 2=Semi Pacca, 3=Pacca, 4=Tin Shed, 5=Sungrass, 66=Others (please specify .....) ☐

2.9 What type of family you live in? 1= Single 2=Joint ☐

2.10 Do any one of your family smoke?

2.11 What is the source of potable water of your family? ☐

2.12 Is your Tubewell Arsenic contaminated? ☐

2.13 Is there any Sanitary Toilet in your house? ☐

3. Cooking Related

3.1 What type of fuel do you use for cooking? ☐
Code: 1=Wood, 2=Coal, 3=Gas, 4=Kerosene, 5=Biomass, 6=Dry Leaves, 7=Electric Stoves, 66=Others (please specify .....)

3.2 Do you use Improved Cooking Stoke? ☐ ☐
If No, go to question no, 3.5

3.3 If yes, for how may years? ☐

3.4 Why do use improved cooking stove?
1. ---------- 2. ---------- 3. ----------

3.5 If no, reason of not using improved cooking stove?
1. ---------- 2. ---------- 3. ----------

3.6 How many hours do you spend for cooking?
Morning ---------- Hour, Noon ---------- House Evening ---------- Hour Total ---------- Hour

3.7 For how many years do you cook? ☐

3.8 How many times did you boil paddy during last one year? ☐

3.9 Did you boiled date juice to make molasses in last one year? ☐ ☐
If No, go to question no, 3.5

3.10 If answer yes, how many times? ☐

4. Personal habits related information

4.1 Do you consume tobacco related products? ☐ ☐
If yes, move to question no. 4.3

4.2 If no, have you quit tobacco in last one year? ☐ ☐
If no, move to question no. 5.1

4.3 If 4.1 or 4/2 is yes, for how many years you consumed tobacco? ☐
Code: 1=1-5 years, 2=6-10 year, 3=more than 10 years

4.4 What type of tobacco do you consume? ☐
Code: 1=Smoke, 2=Non-Smoke, 3=Both

4.5 In case of smoking, type of tobacco? ☐ ☐ ☐
Code: 1=Bidi, 2=Cigarette, 3=Hukka, 66=Others (please specify .....)

4.6 In case of Non-Smoky, type of tobacco? ☐ ☐ ☐
Code: 1=Dried leaf, 2=tobacco, 3=tobacco powder, 66=Others (please specify .....)

4.7 How many Cigarette/ Bidi sticks do you consume in a day? ☐
Code: 1=1-5, 2=6-10, 3=More than 10

5.1 Symptoms of respiratory disorders (Asthma related)

5.1.1 Do you have suffocation or noisy breathing? ☐ ☐

5.1.2 Do you feel suffocation after walking high or fast? ☐ ☐

5.1.3 Which of the following you suffer during waling high or running? ☐ ☐ ☐
Code: 1=Cough, 2=Noisy Breathing, 3=Chest congestion

5.1.4 Do you wake up for any of the reasons? ☐
Code: 1=Noisy Breathing, 2= Suffocation, 3=Both

5.1.5 When you feel noisy breathing? ☐ ☐
Code: 1=Staying in smoky place, 2=staying in dust and dirt, 3= Other Reasons

6.2 Cough related information

6.2.1 Do you suffer from cough in winter morning? ☐ ☐

6.2.2 Do you start coughing in winter day and night? ☐ ☐
If 6.3.2. and 6.2.2 Negative, then move to 6.3

6.2.3 If 6.2.1 or 6.2.2 yes then ask
Do you continue to cough at day time for 3 months in a year? ☐ ☐

6.3 Information on mucus

6.3.1 Do you have mucus with cough during winter? ☐☐

If 6.3.1 negative then move to 6.4

6.3.2 If yes then ask, Do you continue to have mucus for 3 months in a year? ☐☐

6.4 Running nose and Stuffy nose

6.4.1 Do you suffer from rhinitis and running nose? ☐☐

6.4.2 6.4.2 Did you have a stuffy nose? ☐☐

If 6.4.2 is Negativem then move to 6.5

6.4.3 If yes, when do you suffer? Code: 1=Winter, 2=Summer, 66= Others, Specify…… ☐☐

6.5 Information on chest congestion

6.5.1 Do you feel chest congestion? ☐☐

If no, then move to question no. 7

6.5.2 If yes, when do you feel this? Code: 1= During work, 2= During rest ☐

6.5.3 Do you feel chest congestion during work? ☐☐

7. Information on Respiratory disorders:

7.1 How many times did you suffer from Respiratory disorders in last 4 weeks?

Never	Short time	Some time	Mostly	Always
☐	☐	☐	☐	☐

7.2 Do you have Mucus with cough?

Never	When catch cold or Chest congestion	Sometimes with intervals	Most of the days in a week	Everyday
☐	☐	☐	☐	☐

7.3 Did you breath less than usual?

Strictly disagree	Disagree	Not sure	Agree	Highly Agree
☐	☐	☐	☐	☐

7.4 Have consumed 100 sticks of cigarettes in your lifetime?

Yes	No	Don't Know
☐	☐	☐

7.5 What is your age?

18-34	35-49	50-59	60-69	above 70
☐	☐	☐	☐	☐

8. Information on COPD: (Last 3 months data)

Score

8.1 I never cough	0 1 2 3 4 5	I always cough
8.2 I have no Mucus/cough	0 1 2 3 4 5	Chest full of mucus/cough
8.3 Never feel chest congestion	0 1 2 3 4 5	Feel chest congestion
8.4 Don't feel chest congestion during climbing up or heavy work	0 1 2 3 4 5	Feel chest congestion during climbing up or heavy work
8.5 Never feel discomfort to work a home	0 1 2 3 4 5	Feel discomfort to work a home
8.6 Confident to go outside with this lungs condition	0 1 2 3 4 5	Not confident to go outside with this lungs condition
8.7 Have sound sleep	0 1 2 3 4 5	Not have sound sleep due to lungs problems
8.8 I am full of energies	0 1 2 3 4 5	I don't have energies