Rural Institution for Community Development (RICOD)

Compile Baseline Survey Report (2016 & 2017)

Improving Mother and Child Nutrition Project Rural Village in Lalitpur

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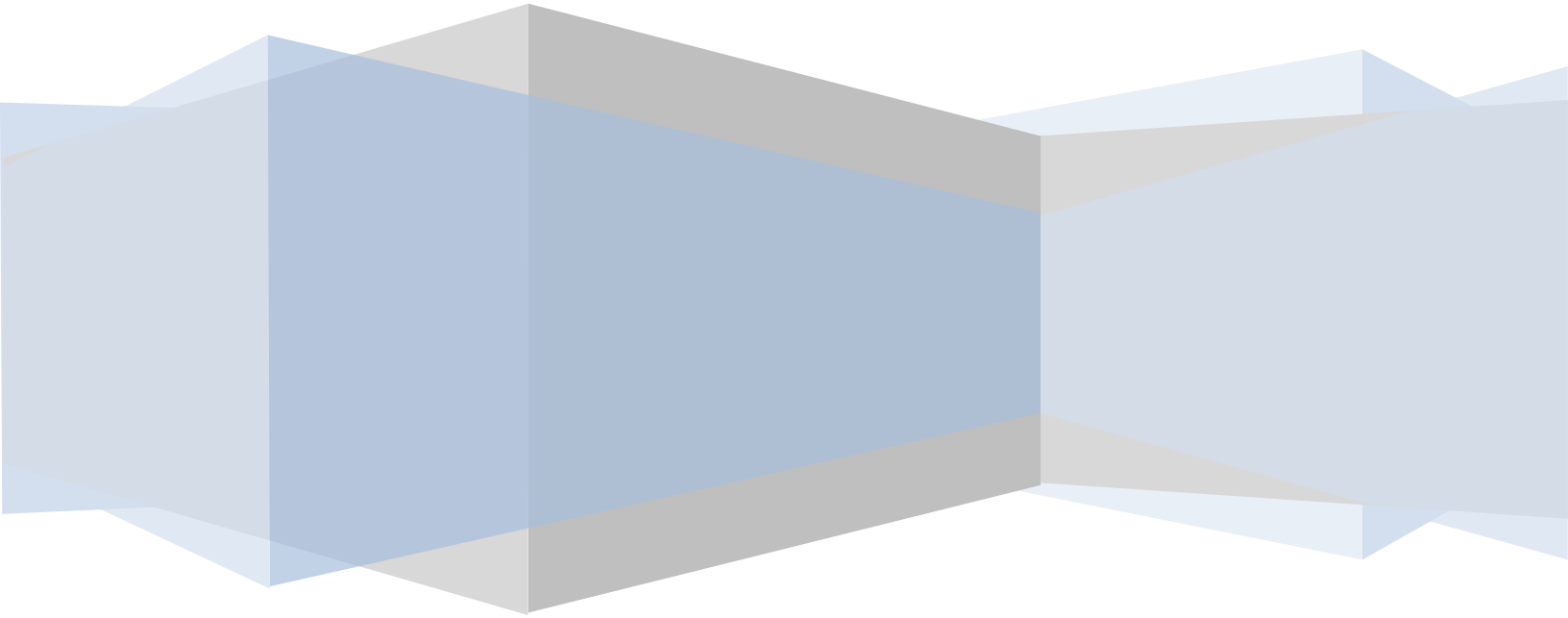

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Summary and Discussion

Nepal is a mountainous country where most households practice subsistence farming. About 90% of the people here are farmers and peasants. Hence, the country's economy is basically dependent on agriculture. Farmers as well as peasants live in the villages of the hills and plains. Their costumes, languages, and social practices differ from place to place.[1]

Due to the dependency on agricultural production, farmers are unable to grow sufficient food, which directly affects the economic condition of their families. Increasingly, people are seeking other means of livelihood and alternate sources of income to buy food. Two-thirds of Lalitpur district is considered rural, with scattered settlements. The eight Village Development Committees (VDCs) which were surveyed (Ashrang, Gimdi, Thuladurlung, Gotikhel, Manikhel, Bukhel, Kaleswor and Chandanpur) are located in the southern part of Lalitpur district. According to National Population and housing Census 2011, the total population of the area is 13163; District Public Health office estimated the total population of the area on 2015 at 15,531 population, of which 53% are part of the Tamang ethnic group.

The sample size was 399 women in 2016 and 275 in 2017. The sample size was calculated by using Raosoft software (http://www.raosoft.com/samplesize.html). During the survey, about 30% of mothers with children U-5 were interviewed in each VDC. Out of the total number, newly married women, pregnant women, and women who had delivered recently (within 45 days of delivery) were also interviewed. In addition to interviews with target groups of women, during the survey of 2016, 384 children under 5 years of age were measured (height and weight measurement). In 2017, 152 male community members (husbands of targeted women) were also interviewed in 2017.

A baseline survey explored nutritional status, maternal health practices (antenatal check-ups (ANCs), postnatal check-ups (PNCs), and institutional delivery), availability of food, food consumption patterns, and the role of women in decision-making in those 8 VDCs of Lalitpur District. The questionnaire was designed to determine the nutritional status of women and children in relation to n indicators that was recommended by the district public health Office, Lalitpur. In exploring the knowledge of men and women on mothers' nutrition and health, individual interviews were carried out. In finding the nutritional status of children, height and weight were measured and were used to calculate weight-for-age (underweight), height-for-age (stunting), and weight-for-height (wasting).

Women's empowerment is considered a key construct for overall development of the family and society. Involvement of women in all household decision-making – including daily food planning for family members, planning child feeding, utilizing maternal and child nutrition and health services is found to be low. On the whole, Nepal is a patriarchal society, where female household members generally have less involvement in household decision-making. In the 8

[1] http://nepalnatureresources.blogspot.com/2009/12/farmers-of-nepal.html

surveyed VDCs the status of growth monitoring of children U-5, is low, as is the consumption of three groups of food. This is due to lack of knowledge about the significance of nutritious food consumption and child health development. Additionally the utilization of maternal and child health services are low due to lack of practices of health service seeking habits and less awareness of the adverse effects of ill-health practices. The knowledge of men and women on ANCs and PNCs was found to be very low. Women are considered to be the decision-makers in relation to food and cooking, therefore, the knowledge of women must be enhanced to gain optimum quality and quantity of food-eating habits.

Background

The Rural Institution for Community Development (RICOD) is a non-governmental social organization working with children, youth, and women in Nepal. RICOD was registered at the Lalitpur District Administration Office and became affiliated with the Social Welfare Council in 1994. RICOD began with the fundamental aim of establishing an equitable society for a dignified co-existence of focus groups deprived of access and control over services and facilities. By organizing and empowering focus groups through participatory processes to fulfill their rights.

The organization has successfully implemented a Rural Nutrition Project (RNP) from 2001-2009 with financial and technical support from Terre des hommes (Tdh) in five rural VDCs; namely Bhattedanda, Malta, Shankhu, Ikudol and Pyutar of Lalitpur district. Similarly, a five-year (2009-2013) nutrition project was implemented in eight VDCs with financial support from World Vision International, and a four-year (2013-2016) Improving Mother and Child Nutrition Project (IMCNP) was implemented with support from Canadian Food Grains Bank (CFGB) and Mennonite Central Committee (MCC).

Nepal is a mountainous country where most households practice subsistence farming. However, due to the effects of global warming, climate change, and haphazard use of chemicals, Nepal's agricultural production is not environmentally sustainable.[2] Increasingly people are seeking other means of livelihood and alternate sources of income to buy food.

Two-thirds of Lalitpur district is covered by rural areas with the scattered settlements. The eight VDCs targeted in this survey (Gotikhel, Manikhel, Bukhel, Gimdi, Ashrang, Thuladurlung, Kaleshwor, Chandanpur) are located in the far southern part of the district. Total population of the area is 13,163 (National population and housing census 2011) people and more than half of the population is of the Tamang ethnic group and the second largest population is covered by privileged Brahmin ethnic group.

To identify the nutritional status of women and children, RICOD conducted a survey in 2016 with 399 target women and in 2017 with 275 target women. In general men are less likely to be at risk for malnutrition because they control the income of the household, however, there had previously been no formal study done on the nutritional status in the area. Therefore, the survey conducted in 2016 was focused on the knowledge of the nutritional status of women and children in the project areas, including measurement of child health indicators of 384 children. Another survey was conducted in 2017. It also focused on the previously-noted three target groups (newly married couples, pregnant women, and women with children U-5). Additionally, 152 male members (husbands of targeted women) were also interviewed.

[2] Source: Situational Analysis of Environmental Health in Nepal, WHO and Nepal Health Research Council, 2009

Objective of the survey:

2.1 General Objective:

To determine the knowledge and practice of women on health service seeking behavior of women and children on nutritional health in eight VDCs (Gotikhel, Manikhel, Bhukhel, Gimdi, Ashrang, Thuladurlung, Kaleshwor, Chandanpur) of rural village of Lalitpur district.

2.2 Specific Objectives

1. To assess knowledge of women and men on nutritional health in target community
2. To investigate the practice of ANCs, PNCs, and institutional delivery in the target area.
3. To evaluate the nutritional status of children U-5 years through weight and height measurements

Methodology

3.1 Survey method:

A descriptive cross-sectional survey was done in eight VDCs (Gotikhel, Manikhel, Bhukhel, Gimdi, Ashrang, Thuladurlung, Kaleshwor and Chandanpur) from mid-April to mid-May, 2016, with 399 target women. The target group was newly-married women, pregnant women, women who had just delivered (45 days), and mothers with children U-5. The sample size made up 33.4% of the total target group (1194). During the survey, 28 (7%) newly-married, 36 (9%) pregnant women, 335 mothers with children U-5, including 11 who had delivered in the past 45 days.

A second, supplemental survey was conducted one year later in April 2017 with those target groups with different women as well as male household members. This survey included additional questions related to specific indicators recommended by CFGB. The sample size was 275 women including 20 (7.3%) newly-married, 29 (10.5%) pregnant women, and 226 (82.2%) mothers with children U-5. Additionally 152 male members (husband of target women) were interviewed to explore their knowledge of the four food group, as well as the number and timing of recommended ANC and PNC visits.

In both surveys, the questionnaire was developed based on the baseline survey questionnaire of Improving Mother and Child Nutrition Project (IMCNP) from 2013. The draft questionnaire was discussed with the RICOD board and MCC representatives. A pre-test for both baseline surveys was done between the volunteers and the staff as a mock interview during capacity-building training for volunteers and staff. The survey questionnaire was reviewed and finalized based on feedback from training participants, MCC, and RICOD. Social maps and details regarding the targeted women and Female Community Health Volunteers (FCHVs) of each ward (there are 9 wards in each VDC) were prepared by respective volunteers indicating target group households.

In 2016, eight peer educators (PEs) were selected – one from each VDC – and trained on administering the survey questionnaire. PEs were trained on questioning skills, weighing skills, measuring skills, and communicating with the people in the community people, use of language and showing respect. For the survey, PEs and project staff were jointly mobilized, but in the 2017 survey, only 11 project staff were mobilized for interviews as staff had already been recruited at the time of the second survey.

Stratified random sampling using a lottery method was used. At first, ward-wise, total households were divided into 3 different groups known as strata; that is, newly-married, mothers with children U-5, and pregnant women. The strata were then sampled proportionally (i.e. 30% of mothers with children U-5 from each stratum were drawn randomly from each ward through a lottery method). 100 % of the sample of newly-married women and pregnant women were surveyed in each strata. Salter scales, height boards, weighing machines, and measuring tapes were used to complete the survey.

During the 2016 survey, heights and weights of 384 children, aged 6-59 months, were measured. The height and weight data of these children were entered into an Emergency Nutrition Assessment (ENA) program on the same date of measurement.[3] All the other data were entered into the SPSS 16.0 version for Windows in 2016 and SPSS 23.0 version for Windows in 2017. Analysis was done using descriptive statistics tools, such as frequency and cross tables.

In 2017, Focus Group Discussions (FGD) were done in all 8 VDCs with male members of the targeted households as well as school teachers (Principals and/or ECD facilitators) to extract the information on perception of men and women on nutrition, child nutrition including the perception and understanding of the teachers themselves. A total of 36 male members and 22 teachers from 13 schools were interviewed in FGDs.

Survey findings

4.1 Distribution of Target Groups

Table 1: Distribution of Respondents with Respect to Target Groups

Targeted women	**Number (%)***	**Number (%)****
Newly-married woman	28 (7.0%)	20 (7.3%)
Pregnant Woman	36 (9.0%)	29 (10.5%)
Mothers with children U-5	335 (84.0%)	226 (82.2%)
Total	**399 (100%)**	**275 (100%)**

*Source: Baseline Survey Report 2016 * and 2017***

[3] The ENA program was developed by Dr. Juergen Erhardt in cooperation with Prof. Michael Golden, November 2008, (www.nutrisurvey.net/ena/ena.html).

Table 1 shows that three different target groups of women where the total respondents were 399 in 2016 and 275 in 2017. The highest number of respondents was mothers with children below 5 years and lowest number of participants was newly-married women in both surveys.

4.2 Age Group of Respondents

Table 2: Distribution of Female Respondents with Respect to their Age Group

Age Group	**Number (%)***	**Number (%)****
12-15 years	3 (0.75%)	2 (0.7%)
16-19 years	39 (9.77%)	27 (9.8%)
20-23 years	119 (29.82%)	72 (26.2%)
24-27 years	110 (27.57%)	80 (29.1%)
28-31 years	62 (15.54%)	63 (22.9%)
above 31 years	66 (16.54%)	31 (11.3%)
Total	**399 (100%)**	**275 (100%)**

*Source: Baseline Survey Report 2016 * and 2017***

Table 2 shows that the highest numbers of female respondents were in the age groups of 20-27 years and the lowest numbers were below 15 years of age. About 10% of respondents were below the age of 20 years in both surveys. It shows that there still exists early marriage in the new project areas.

4.3 Educational Status of Respondents

Table 3: Educational Status of Respondents

Educational Status	**Number (%)***	**Number (%)****
Illiterate	62 (15.54%)	36(13.1%)
Literate	80(20.05%)	55(20.0%)
≤ Secondary	164(41.1%)	83(30.2%)
Higher Secondary	70(17.54)	53(19.3%)
≥ Bachelor	23(5.76%)	44(16.0%)
Total	**399 (100%)**	**275 (100%)**

*Source: Baseline Survey Report 2016 * and 2017***

Table 3 shows that in the 2016 baseline survey report, the highest number of respondents had up to a secondary level education and the lowest number of respondents had higher education. In the 2017 survey, the highest percentage of respondents had up to a secondary level education. Most notably, although Lalitpur district is declared a literate district, the data shows that about 15% of 2016 respondents and 13% of 2017 respondents were illiterate.

4.4 Child Feeding Practices

These questions were asked with only the 139 women who have children of 6-24 months of age.

Table 4: Number of women having Children of 6-24 months feeding Supplementary Foods (Super Flour or Posilo Jaulo)

8 VDCs	Fed Super Flour	Fed Posilo Jaulo
Yes	5.25%	15.60%
No	94.75%	84.40%
Total	**100.00%**	**100.00%**

Source: Baseline Survey 2017

Table 4 shows that very few children under 5 are fed supplementary food such as super flour and posilo jaulo (Intermediate Outcomes 1.2). In the Baseline Survey Report from 2016, table 25 shows that only 6.25% women know the method of preparing super flower and 27.31% of preparing posilo jaulo. Additionally, in the Baseline Survey Report from 2016, table 22 exhibits the response of 24-hour recall regarding the child feeding practices. Only 36.54% of respondents shared that they are feeding three types (four groups) of food to their children. Table 22 also demonstrates that around 17% of children are consuming junk food.

4.5 Hand Washing Practices

Table 5: Hand Washing Practices

Hand Washing Practices	Number	%
Hand wash with soap before cooking?	184	66.9%
Hand wash with soap before eating or feeding?	202	73.5%
Hand wash with soap after toilet use?	252	91.6%

Source: Baseline survey 2017

Table 5 shows practicing timely hand washing with soap before cooking, eating, and after toilet use (Intermediate outcome 1.3). It illustrates that the highest percentage – 91.6% of people – use soap to wash their hands after toilet use. In contrast, the percentage of people who use soap for hand-washing before cooking is lower even than the percentage of people who wash their hands before eating or feeding.

4.6 Families Using Purified Water

Table 6: Families Using Purified Water

	Frequency	Percent
Using Purified Water	106	38.5
Using Non-Purified Water	169	61.5
Total	**275**	**100%**

Method Using for Purifying Water		
Using Boiled Water	68	24.7
Using Filtered Water	49	17.8
Using a Water Sedimentation Filter	6	2.2
Using Chlorinated Water	5	1.8
Using SODIS Water	9	3.3

Source: Baseline survey 2017
Note: Some participants responded with 2 or more methods

Table 6 shows the percentage of families using purified water as their main source for fresh drinking water (Intermediate Outcomes 1.4). Only 38.5% of families use purified water. Of these, the highest percentages of families have adopted a boiling methodology for water purification whereas the lowest percentage of families use chlorinates for purification.

4.7 Prevalence of Acute Malnutrition by Age, based on Weight-for-Height, Z-scores, and/or Oedema

Table 7: Prevalence of Acute Malnutrition by Age, based on Weight-for-Height

Age in months and total number of measured children		**Severe Wasting (<-3 z-score)**		**Moderate Wasting (>= -3 and< -2 z-score)**		**Normal (> = -2 z score)**	
Age (mo)	Total no.	No.	%	No.	%	No.	%
6-17	104	3	2.9	8	7.7	93	89.4
18-29	81	6	7.4	6	7.4	69	85.2
30-41	90	4	4.4	9	10.0	77	85.6
42-53	75	4	5.3	8	10.7	63	84.0
54-59	34	1	2.9	5	14.7	28	82.4

Total	**384**	**18**	**4.7%**	**36**	**9.4%**	**330**	**85.9%**

Source: Baseline Survey Report 2016, Table-5

Table 7 (Baseline survey report 2016) revealed that the average percentage of severe wasting in children is 4.7% and moderate wasting is 9.4% (Intermediate outcomes- 1.6). The highest prevalence of severe wasting was found among children aged 18-29 months and the prevalance of moderate wasting was highest among the children aged 54-59 months.

4.8 Annual Income from Agriculture and Livestock

Table 8: Annual Income from Agriculture

Household's income from Agriculture	**Frequency**	**Percent**
Yes	260	94.5
No	15	5.5
Total	**275**	**100**

Annual Income Range		
Less than 5000	45	17.3
5000- 25,000	88	33.8
25,001- 45,000	42	16.2
45,001- 65,000	45	17.3
65,001- 85,000	7	2.7
85,001- 105,000	12	4.6
More than 105,000	21	8.1
Total	**260**	**100**

Source: Baseline Survey 2017

Table 8 indicates that the annual income from agricultural production for the average participant household was Rs. 36,375 (Intermediate outcomes 2.1). It shows that the highest percentage – 32.0% of respondents – had an income from agriculture ranging from Rs. 5000-25,000. The lowest percentage of respondents had an agricultural income ranging from Rs. 65,001-85,000. The table also shows significant difference between income ranges. The income range from Rs. 65,001 – 85,000 is about three times less than people having income more than Rs. 105,000.

Table 9: Annual income from livestock

Household's income from Livestock	**Frequency**	**Percent**
Yes	251	91.3
No	24	8.7

Total	**275**	**100**
Annual Income Range		
Less than 5000	39	15.5
5000- 25,000	64	25.5
25,001- 45,000	40	15.9
45,001- 65,000	34	13.5
65,001- 85,000	13	5.2
85,001- 105,000	14	5.6
More than 105,000	47	18.7
Total	**251**	**100**

Income from Livestock

Source: Baseline Survey 2017

Table 9 indicates that the annual income from livestock production for the average participant household was Rs. 47,958 (Intermediate outcomes 2.1). It indicates that highest percentage – 23.3% of respondents – had an income from livestock ranging from Rs. 5000-25,000. The lowest percentage of households had an income from livestock production ranging from Rs. 65,001-85,000. It also shows that a similar percentage of respondents had an income range of less than Rs. 5000 as had a range or Rs. 25,001-45,000. Lastly, there were about four times more households with an income greater than Rs. 105,000 (likely from the sale of larger animals like buffalo) than with an income range of 65,001-85,000, the category with the fewest respondents.

4.9 Women's Involvement in Household Decision-Making

Table 10: Involvement of Women in Household Decision-Making Process (n=399)

Participating in decision making	**Yes**	**No**
Food Purchasing	80 (20%)	319 (80%)
Cooking	287 (71.92%)	112 (28.08%)
Agriculture Plan	35 (8.77%)	364 (91.23%)
Medical treatment	20 (5.01%)	379 (94.99%)

Table 10 shows the percentage of women involved in household decision-making on food purchasing (20%) and agriculture plans (8.77%) (Intermediate outcomes 2.3). It illustrates that the highest percentage (71.92%) of women involved in cooking decision whereas the percentage of women on medical treatment (5.01%) is lowest.

4.10 Families Consuming Kitchen Garden Production

Table 11: Families Consuming Kitchen Garden Production (n=314)

VDCs	Consume	Sell in the market	Both
Ashrang	84.60%	0%	15.40%
Bukhel	41.03%	5.12%	53.84%
Gotikhel	25.64%	0%	74.36%
Gimdi	93.88%	0%	6.12%
Manikhel	24.40%	0%	75.60%
Thuladurlung	85.70%	0%	14.30%
Kaleswore	8.82%	0%	91.18%
Chandanpur	37.5%	0%	62.5%
Total VDCs	**52.55%**	**0.64%**	**46.81%**

Source: Baseline Survey Report 2016, Table- 20

Table 11 shows the differing usage of kitchen garden production. 52.55% of families used kitchen garden production for self-consumption (Intermediate Outcomes 2.4) and about half of respondents both consume and sell their kitchen garden production. In contrast, very few families are using kitchen garden production solely for sale in the market.

4.11 Mother with Children under 5 Attending Monthly Growth Monitoring

Table 12: Mother with Children U-5 Attending Monthly Growth Monitoring (n=343)

Name of VDC	Yes	No
Ashrang	35.42%	64.58%
Bukhel	48.72%	51.28%
Gotikhel	34.15%	65.85%
Gimdi	26.67%	73.33%
Manikhel	42.86%	57.14%
Thuladurlung	36.00%	64.00%

Kaleswore	42.31%	57.69%
Chandanpur	27.03%	72.97%
Total	**123 (35.86%)**	**220 (64.14%)**

Source Baseline Survey Report 2016, Table- 20

Table 12 highlights that only 35.86% of mother with children under 5 attended monthly growth monitoring (Intermediate outcomes 3.1). This includes 35.42% of mothers in Aashrang, 48.72% in Bukhel, 34.15% in Gotikhel, 26.6% in Gimdi, 42.86% in Manikhel, 36% in Thuladurlung, 42.31% in Kaleswore and 27.03% in Chandanpur.

4.12 Pregnant women that use antenatal Check-up (n=371): The questions of antenatal/postnatal and institutional delivery were only asked to pregnant women (36), delivered (11) and women having children U5 years of age(324).

4.13 Frequency of ante natal check-up (n=339)

Table 3: Frequency of Antenatal check-up

Name of VDCs	Frequency of antenatal check-up				
	0	1	2	3	≥4
Ashrang (n= 52)	4(7.7%)	1 (1.9%)	6(11.5%)	9(17.3%)	32 (61.6%)
Bukhel (n= 42)	4(9.5%)	0 (0%)	3 (7.2%)	4 (9.5%)	31 (73.8%)
Gotikhel (n= 45)	2 (4.4%)	1(2.2%)	4 (8.9%)	4 (8.9%)	34 (75.6%)
Gimdi (n= 69)	8 (11.6%)	4(5.8%)	3(4.3%)	11(15.9%)	43 (62.4%)
Manikhel (n= 45)	2(4.4%)	1(2.2%)	3(6.7%)	3(6.7%)	36(80.0%)
Thuladurlung (n= 52)	11(21.2%)	5 (9.6%)	6 (11.5%)	6(11.5%)	24(46.2%)
Kaleswore (n= 31)	1(3.2%)	1(3.2%)	3(9.7%)	2(6.5%)	24(77.4%)
Chandanpur (n= 35)	0 (0.0%)	1 (2.9%)	0 (0%)	5 (14.3%)	29 (82.8%)
Total (n=371)	**32 (8.6%)**	**14 (3.8%)**	**28(7.5%)**	**44(11.9%)**	**253(68.2%)**

Source: Baseline Survey Report 2016, based on table 11 and 12

Table 13 demonstrates that only 68.2% women attended at least four time ANC check- (Intermediate outcomes 3.2). The highest ANC check-up is in Chandanpur (82.8%) and lowest is in Thuladurlung (46.2%).

4.15 Postnatal Check-ups

These postnatal questions were asked to women who had delivered babies (11), pregnant women who had already delivered a child (16), and women with children under 5 (324)

Table 14: Frequency of women for PNCs

VDC	Times of PNCs			
	0 PNC	1st PNC	2nd PNC	3rd PNC
Ashrang (n= 50)	45 (90.0%)	0 (0%)	4 (8.0%)	1 (2.0%)
Bukhel (n= 40)	18 (45.0%)	16 (20.0%)	2 (5.0%)	4 (10.0%)
Gotikhel (n= 42)	20 (47.6%)	8 (19.1%)	9 (21.4%)	5 (11.9%)
Gimdi (n= 64)	54 (84.4%)	2 (3.1%)	6 (9.4%)	2 (3.1%)
Manikhel (n= 42)	23 (54.8%)	13 (30.9%)	5 (11.9%)	1 (2.4%)
Thuladurlung (n= 50)	44 (88.0%)	2 (4.0%)	4 (8.0%)	0 (0%)
Kaleswore (n= 27)	13 (48.1%)	4 (14.8%)	8 (29.6%)	2 (7.4 %)
Chandanpur (n= 36)	28 (77.8%)	5 (13.9%)	2 (5.6%)	1 (2.8%)
Total VDCs (n= 351)	**245 (69.8%)**	**50 (14.2%)**	**40 (11.4%)**	**16 (4.6%)**

Source: Baseline Survey Report 2016, Based on Table – 15 and 16

Table 14 shows that only 4.6% (16/351) mothers attended at least 3 times PNC check-up (Intermediate outcomes 3.3), The highest percentage is in Gotikhel and lowest percentage is in Thuladurlung.

Table 15: Women who have an Institutional Delivery (n=351)

Name of VDC	Place of delivery	
	Home	Health Institution
Ashrang (n=49)	25(51.0%)	24(49.0%)
Bukhel (n= 42)	16(40.0%)	24(60.0%)
Gotikhek (n= 42)	12(28.6%)	30(71.4%)
Gimdi (n= 64)	31(48.4%)	33(51.6%)
Manikhel (n=42)	6(14.3%)	36(85.7%)
Thuladurlung (n=50)	33(66.0%)	17(34.0%)
Kaleswore (n=27)	6(22.2%)	21(77.8%)
Chandanpur (n= 37)	20(54.1%)	17(45.9%)
Total VDCs (n=351)	**149(42.5%)**	**201(57.5%)**

Source: Baseline Survey Report 2016, Table- 13

Table 15 reveals that the average percentage of institutional deliveries was 57.5 (Intermediated outcomes 3.4). The highest number of institutional deliveries was in Manikhel and the lowest was in Thuladurlung.

4.17 Women who can Name the Four Food Groups

Table 16: Women who can Name the Four Food Groups

Status	Frequency	Percent
Don't Know	228	82.9
Know only One Food Group	9	3.3
Know Two Food Groups	13	4.7
Know Three Food Groups	9	3.3
Know Four Food Groups	16	5.8
Total	**275**	**100.0**

Source: Baseline survey 2017

Table 16 shows that only 5.8% of women can name the four food group (Immediate outcomes 1.1) It illustrates that the percentage of women who do not know the four food groups is about 14 times greater than the percentage of women can name the four food group.

4.18 Men who can Name the Four Food Groups

Table 17: Men who can Name the Four Food Groups

Know food groups	Frequency	Percent
Don't know	119	78.3
Know 1 Food Group	3	2.0
Know 2 Food Groups	9	5.9
Know 3 Food Groups	13	8.6
Know 4 Food Groups	8	5.3
Total	**152**	**100.0**

Source: Baseline survey 2017

Table 17 shows that the men who can name the four food groups that are promoted for pregnant and lactating women and children under 5 is 5.3% (Immediate outcomes 1.2). It illustrates that the percentage of men who don't know the four food groups is about 15 times greater than the men who can name the four food groups.

4.19 Women Groups with Current Written Records of Members

Table 18: Women Groups with Current Written Records of Members

VDC	Frequency	Percent
Ashrang	4	44.44
Gimdi	8	88.89
Thuladurlung	8	88.89
Chandanpur	8	88.89
Kaleshwor	8	88.89
Gotikhel	4	44.44
Manikhel	9	100.0
Bukhel	5	55.56
Total	**54**	**75.0**

Source: Baseline survey 2017

This table highlights that 75% of women groups have current written records of the savings and loans of their members (Immediate outcomes 3.1). It shows that the highest percentage of records is in Manikhel whereas the lowest percentage of records of members is in Ashrang.

4.20 Amount of Monthly Savings by Women

Table 19: Women's participating in monthly savings Scheme

VDC	Yes	No
Ashrang (n=39)	1(2.56%)	38 (97.44%)
Gimdi (n=44)	8(18.18%)	36(81.82%)
Thula Durlung (n=34)	12 (35.29%)	22(64.71%)
Chandanpur (n=29)	20 (68.97%)	9(31.03%)
Kaleshwor (n=27)	14(51.85%)	13 (48.15%)
Gotikhel (n=38)	7(18.42%)	31(81.58%)
Manikhel (n=31)	8(25.81%)	23 (74.19%)
Bukhel (n=33)	13 (39.39%)	20 (60.61%)
Total	**83 (30.18%)**	**192 (68.82%)**

Monthly Saving Amount in NRs

VDC	Below 50	51- 100	Above 100	Total
Ashrang	1 (100%)	0 (0.0%)	0(0.0%)	1(100.0%)
Gimdi	7(87.5%)	1(12.5%)	0(0.0%)	8(100.0%)
Thula Durlung	12 (100.0%)	0(0.0%)	0(0.0%)	12(100.0%)
Chandanpur	20 (100.0)	0(0.0%)	0(0.0%)	20(100%)
Kaleshwor	14(100.0%)	0(0.0%)	0(0.0%)	14(100.0%)
Gotikhel	5(71.4)	1(14.3)	1(14.3%)	7(100.0%)
Manikhel	3(37.5%)	3(37.5%)	2(25.0%)	8(100.0%)
Bukhel	13 (100%)	0(0.0%)	0(0.0%)	13(100%)
Total	**75 (90.4%)**	**5(6.0%)**	**3(3.6%)**	**83(100%)**

Source: Baseline survey 2017

Table 21 shows that 30% (83/275) of women in the saving groups meet their group's required amount of monthly saving (Immediate outcomes 2.2). Among them, most of the women (90.4%) save below Rs. 50 on a monthly basis in their group.

4.21 Women with Children under 5 Knowledge about Recommended Number of Antenatal Check-ups (ANC)

Table 20: Women's knowledge of recommended number of ANCs

VDC	Frequent	Percentage
Ashrang (n=39)	20	51.3%
Gimdi (n=44)	28	63.6%
Thula Durlung (n=34)	19	55.9%
Chandanpur (n=29)	12	41.4%
Kaleshwor (n= 27)	23	85.2%
Gotikhel (n=38)	30	78.9%
Manikhel (n=31)	26	83.9%
Bukhel (n=33)	21	63.6%
Total (n=275)	**179**	**65.1%**

Source: Baseline Survey 2017

Table 20 shows that 65.1% of women with children under 5 know about the recommended number of antenatal check-ups (Immediate outcomes 3.1). The highest percentage is in Manikhel and lowest is in Chandanpur.

4.22 Women's Knowledge about timing of Recommended Antenatal Check-ups

Table 21: Women knowledge of timing of Recommended ANCs

VDC	Frequency	Percentage
Ashrang (n=39)	7	17.9%
Gimdi (n=44)	10	22.7%
Thula Durlung (n=34)	19	55.9%
Chandanpur (n=29)	3	10.3%
Kaleshwor (n= 27)	8	29.6%
Gotikhel (n=38)	7	18.4%
Manikhel (n=31)	11	35.5%
Bukhel (n=33)	6	18.2%
Total (n=275)	**71**	**25.8%**

Source: Baseline survey 2017

Table 21 shows that only 25.8% of women with children under 5 know about the recommended timing of antenatal check-ups (Immediate outcomes 3.1). The highest percentage is in Thuladurlung and the lowest is in Chandanpur.

4.23 Women's knowledge of Recommended Number of Postnatal Check-ups

Table 22: Women's knowledge of Recommended Number of PNCs

VDC	Frequency	Percentages
Ashrang (n=39)	5	12.8%
Gimdi (n=44)	22	50.0%
Thula Durlung (n=34)	2	5.9%
Chandanpur (n=29)	1	3.4%
Kaleshwor (n= 27)	6	22.2%
Gotikhel (n=38)	7	18.4%
Manikhel (n=31)	6	19.4%
Bukhel (n=33)	1	3.0%
Total (n=275)	**50**	**18.2%**

Source: Baseline survey 2017

Table 22 shows that only 18.2% women with children under 5 know about the recommended number of postnatal check-ups (Immediate outcomes 3.1). The highest percentages women knowing the recommended number of postnatal check-ups is in Gimdi and the lowest is in Bukhel.

4.24 Women's Knowledge about Duration of Recommended Postnatal Check-ups

Table 23: Women's Knowing about Duration of Recommended PNCs

VDC	Frequency	Percentages
Ashrang (n=39)	6	15.4%
Gimdi (n=44)	4	9.1%
Thula Durlung (n=34)	4	11.8%
Chandanpur (n=29)	1	3.4%
Kaleshwor (n= 27)	0	0.0%
Gotikhel (n=38)	0	0.0%
Manikhel (n=31)	6	19.4%
Bukhel (n=33)	0	0.0%
Total (n=275)	**21**	**7.6%**

Source: Baseline survey 2017

Table 23 shows that only 7.6% women with children under 5 know about the duration of recommended postnatal check-ups (Immediate outcomes 3.1). The highest percentages of women who know the duration of recommended postnatal check-ups is in Manikhel, whereas women of Kaleswor, Gotikhel, and Bukhel don't know the correct time of a recommended postnatal check-up.

4.25 Women's Knowledge about Recommended Frequency of Growth Monitoring

Table 24: Knowledge of Women with children U-5 about Recommended Frequency of Child Growth Monitoring

VDC	Frequency	Percentage
Ashrang (n=39)	21	53.8%
Gimdi (n=44)	32	72.7%
Thula Durlung (n=34)	22	64.7%
Chandanpur (n=29)	21	72.4%
Kaleshwor (n= 27)	13	48.1%
Gotikhel (n=38)	21	55.3%
Manikhel (n=31)	8	25.8%
Bukhel (n=33)	13	39.4%
Total (n=275)	**151**	**54.9%**

Source: Baseline survey 2017

Table 24 shows that 54.9% of women with children under 5 know about the recommended frequency of child growth monitoring (Immediate outcomes 3.2). The percentage is highest in Gimdi and Chandanpur, but lowest in Manikhel.

4.26 Men's Knowledge or Recommended Number of Antenatal Check-ups

Table 25: Men with children U-5 who know about Recommended Number of ANC

VDC	Frequency	Percentage
Ashrang (n=21)	7	33.3%
Gimdi (n=26)	7	26.9%
Thula Durlung (n=18)	7	38.9%
Chandanpur (n=22)	9	40.9%
Kaleshwor (n= 20)	9	45.0%
Gotikhel (n=18)	12	66.7%
Manikhel (n=9)	4	44.4%
Bukhel (n=18)	1	5.6%
Total (n=152)	**56**	**36.8%**

Source: Baseline survey 2017

Table 25 shows that 36.8 % of men with children under 5 know about the recommended number of recommended antenatal check-ups (Immediate outcomes 3.3). The highest percentage was in Gotikhel and the lowest was in Bukhel.

4.27 Men's Knowledge about the Recommended Timing of Antenatal Check-ups

Table 26: Men's knowledge about Recommended Timing of ANCs

VDC	Frequency	Percentage
Ashrang (n=21)	2	9.5%
Gimdi (n=26)	3	11.5%
Thula Durlung (n=18)	6	33.3%
Chandanpur (n=22)	1	4.5%
Kaleshwor (n= 20)	0	0.0%
Gotikhel (n=18)	4	22.2%
Manikhel (n=9)	0	0.0%
Bukhel (n=18)	0	0.0%
Total (n=152)	**16**	**10.5%**

Source: Baseline survey 2017

Table 26 shows that 10.5% of men with children under 5 know about the timing of recommended antenatal check-ups (Immediate outcomes 3.3). The highest percentage was in Thuladurlung, whereas the men of Kaleswor, Manikhel and Bukhel don't know the timing of recommended antenatal check-ups.

4.28 Men's Knowledge about Number of Recommended Postnatal Check-ups

Table 27: Men's Knowledge about Number of Recommended PNCs

VDC	Frequency	Percentage
Ashrang (n=21)	4	19.0%
Gimdi (n=26)	2	7.7%
Thula Durlung (n=18)	2	11.1%
Chandanpur (n=22)	0	0.0%
Kaleshwor (n= 20)	2	10.0%
Gotikhel (n=18)	3	16.7%
Manikhel (n=9)	1	11.1%
Bukhel (n=18)	4	22.2%
Total (n=152)	**18**	**11.8%**

Source: Baseline survey 2017

Table 27 shows that 11.8% of men with children under 5 know about the number of recommended postnatal check-ups (Immediate outcomes 3.3). The highest percentage was in Ashrang, whereas men of Chandanpur don't know about the number of recommended postnatal check-ups.

4.29 Men's Knowledge about Timing of Recommended Postnatal Check-ups

Table 28: Men's Knowledge about Timing of Recommended PNCs

VDC	Frequency	Percentage
Ashrang (n=21)	4	19.0%
Gimdi (n=26)	2	7.7%
Thula Durlung (n=18)	2	11.1%
Chandanpur (n=22)	0	0.0%
Kaleshwor (n= 20)	2	10.0%
Gotikhel (n=18)	3	16.7%
Manikhel (n=9)	1	11.1%
Bukhel (n=18)	0	0.0%
Total (n=152)	**14**	**9.2%**

Source: Baseline survey 2017

Table 28 shows that 9.2% of men with children under 5 know about the timing of recommended postnatal check-ups (Immediate outcomes 3.3). The highest percentage wasin Ashrang, whereas men of Chandanpur and Bukhel don't know about the timing of recommended postnatal check-ups.

4.30 Women's Dietary Diversity Score

Table 29: Women's Dietary Diversity Score

VDC	Cereals	Lentils	Vegetable	Fruits	Meat/ Egg	Milk	Sugar	Oil/ Ghee	Salt	Total	WDDS
Ashrang (n=39)	39	25	15	11	19	21	33	39	39	239	6.13
Gimdi (n=44)	44	32	28	19	20	22	36	44	44	289	6.57
Thuladurlung(n=34)	34	20	15	0	13	11	23	28	34	178	5.29
Chandanpur (n=29)	28	19	14	12	13	11	9	24	28	158	5.45
Kaleshwor (n= 27)	27	26	21	22	14	20	22	26	27	205	7.59
Gotikhel (n=38)	38	35	32	23	14	30	35	36	37	280	7.37
Manikhel (n=31)	31	26	17	10	15	17	29	31	31	207	6.68
Bukhel (n=33)	33	29	24	9	11	25	32	32	33	228	6.91
Total	**274**	**212**	**166**	**106**	**119**	**157**	**219**	**260**	**273**	**1786**	**6.49**

Source: Baseline Survey 2017

Table 29 shows that the women's dietary diversity score is 6.49. The highest WDDS is in Kaleshwor (7.59) and lowest is in Thuladurlung (5.29).

Analysis of Focus Group Discussion among Male Members in 2016:

The majority of the male household members indicated that mothers need more nutrition. Very few male household members have knowledge of the food groups and they do not provide nutritious food to their children.

The majority of the male household members agreed that children's and mothers' health is poor and reason for this is due to no participation of women in decision-making at the household-level. Some men perceive that women ignore or are not interested in taking responsibility. Another reason for the lack of involvement in decision-making is that women are very restricted in accessing household money. A few men argued that women should be the head of the family as they can manage the economy of the family and are responsible for child-rearing.

Intervention as Suggested by Male Members to Improve the Nutritional Status

Male household members agreed that there should be a kitchen garden practice in order to improve the nutritional status of mother and children. They also indicated that nutritional awareness programs should be conducted for male members, mothers, and students, and that discouraging junk foods to improve the nutritional status of school children is necessary.

Conclusion

In both the 2016 and 2017 survey, about one sixth of respondents were illiterate and 10% of the respondents had gotten married at an early age (i.e. before 20 years of age).

Women's Dietary Diversity Score is only 6.49. It shows respondents have very poor knowledge of the four food groups and have very poor consumption patterns. Self-consumption of local vegetables produced through kitchen gardens was found to be relatively low and the practice of borrowing seasonal vegetables existed. Health services are available for pregnant and lactating women as well as children, and it is worthwhile to take quality services in adequate quantity. However, the knowledge and practice of women and men on antenatal and postnatal check-ups was found to be low.

Although average ANCs is good; only three quarters of the respondents made four or more ANC visits. Two fifths of deliveries took place at home. Practice of preparation of super flour and *posilo jaulo* was found to be poor. Moreover, practices of feeding the four food groups to children was found to be poor.

Women's empowerment is considered to be a key construct for the all round development of the family and, ultimately, the society. In this regard, involvement of women in all of the household decision-making, including daily food purchasing and agriculture plans, was found to be unsatisfactory.

Recommendations:

1. The trend of early marriage and pregnancy prevails, so launching awareness programs/projects is highly recommended to emphasize the adverse effects of early pregnancy on female reproductive health.
2. The practice of giving four food groups to the children is considerably low. To address this concern, the same intervention program regarding the self-production and consumption of four food groups should be encouraged.
3. The frequency of ANCs is relatively satisfactory, but the rates of institutional delivery and PNCs are still poor. To address this problem, an intervention program is needed to increase the health-seeking practices of women.
4. The consumption of four food groups by pregnant and lactating women is relatively low. Thus, an intervention to encourage consumption of four food groups every day is justifiable.
5. Most of the households have kitchen gardening, but they are producing seasonal vegetables only. To improve the family health, diversifying production in kitchen gardens should be addressed.
6. Less than half of community members are familiar with the nutritious supplementary foods and even lower numbers feed the proper supplementary food to their children. An intervention concerning with the infant and young child feeding practices is advised.
7. Baby health services, including the trends of growth monitoring, are not at an acceptable level. Women need to be encouraged to practice regular growth monitoring to identify the nutritional status of their children on time.

8. The empowerment level of women in household decision-making, particularly in food purchasing and agricultural plans, was found to be low. A program emphasizing the power of female decision-making for the optimum development of the community is highly suggested.
9. The knowledge of men on four food groups, as well as ANCs and PNCs was found to be very low. Male members play an important role in food consumption decisions in the family and support attendance in ANCs and PNCs. Therefore, the knowledge of male members on four food groups, ANCs, and PNCs should be enhanced.

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