



Reports on Barrier Analysis Survey/Formative Research on 'Diet Diversification':

HHs Consumption and Home Garden Cultivation of Nutritious Crops/Vegetables

**Location: Selected Sites in 5 Township in Northern Chin State (CORAD
Current Project Implementation Area)**



Prepared By

Dr. Peterlian., PhD., DD

Director (Regional Office)

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ABBREVIATION

BA	Barrier Analysis
EA	Extension Advisors
CORAD	Chokhlei Organization for Rural and Agricultural Development
NMC	Nutrition and Monitoring Coordinator
CRS	Roman Catholic Service
FG	Farmer Groups

ACKNOWLEDGEMENT

First of all, warm and heartfelt thanks to the women, FG Groups, Households family for their valuable time during the interview. Thank you all to the concern team for facilitating the study preparation, questionnaire development, training data collection and related logistics and transports, including the NMC for supervision and EAs staffs for the incredible efforts of mobilizing the communities ahead of data collection. And finally, a special gratitude to CRS for giving us the technical training on 'How To Conduct a Barrier Analysis' as well as some other necessary resources, without which it could not be accomplished as 'Reports on Barrier Analysis Survey By CORAD' s program as a whole.

Therefore, I shall be grateful to you all for participating in this program taking your tremendous efforts and magnificent contributions in order to accomplish this work in optimum level.

Dr. Peter Lian., PhD., DD

Director (CORAD, Head Office)

1. Background and Rational

In its realistic estimation, CORAD is implementing the nutrition sensitive program on “Diet Diversification” in five townships in Northern Chin State under the funding supports of LiFT in the time frame of May, 2016 to June, 2019. Under the component 3, the nutrition program as to “Households improve their diet through adoption of nutrition practices and consumption of nutrient rich foods. CORAD would like to study the existing barrier of the targeted community in terms of practicing the set up two behaviors¹: the HHs family adds at least 3/4 nutritious crops in their daily Meal reflecting 3 food groups and colors and the HHs family cultivate at least 3 nutritious crops/vegetables in their respective home garden reflecting 3 food groups and colors.

CORAD has significantly selected 6 villages in each of 5 Township. Villages for the BA formative Research were selected based on the criteria that villages which can generally represent the whole situation of Township for doing a behavior. In the light of this program, CORAD would be able to figure out what are the potential determinants that needs to be considered for designing the appropriate intervention in the local context and identify key messages about nutrition practices in the targeted community.

2. Methods

The Barrier Analysis (BA) survey is based on the ‘Designing for Behavior Change’ method², which is a formative research method that helps to identify the specific determinants that differ significantly between doers’ and ‘non-doers’ of a particular behavior and that are useful to address during the implementation phase of a project. The overall process followed for this study is summarized in the graph on the right. (See also in **Annex 1**)

Study Date and Location:

Township	Data Collection Date	Data Collection Finished Date	No. Of Villages	N0. of Respondent
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¹ HHs family adds at least 3 or 4 Nutritious Crops/vegetables in the daily meal reflecting the food groups and its color and HHs family cultivate at least 3 or 4 Nutritious Crops /Vegetables in their respective home garden reflecting food groups and its color.

² The Designing for Behavior Change approach was developed by CORAD team with the technical support of CRS-KMSS, the project partners

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Falam	7 th June, 2017	23 rd June, 2017	6	180
Tedim	9 th June, 2017	23 rd June, 2017	6	180
Tonzang	8 th July, 2017	20 th July 2017	7	180
Hakha	7 th July 2017	22 nd July 2017	6	180
Thantlang	7 th Sep 2017	23 rd Sep 2017	5	180

Sample Size: In the framework of the DBC/Barrier Analysis Survey Guideline, the planned sample size was set to 45 Doers and 45 Non-Doers.

Respondents: Data was collected of HHs members including Pregnant and Lactating women. A number of Screening Question were applied to establish whether somebody is a Doer, a Non-Doer or should not be interviewed. Due to the very specific eligibility criteria, including a significant consideration of all household members, the project mobilized both man, women and children to actively participate and answer the questionnaires.

Questionnaires and Translation: Questions were formulated to assess the perceptions by both doers and non-doers for the 12 determinants³ as per the DBC framework and methodology. The questionnaire was based on the standard template of two lines or rows. The English Questionnaires was prepared ahead of the training (See **Annex 2**); the Burmese translations were done by the outsider and again the Burmese translations were re-edited by the ‘NMC’ with all Township Team during the training so that the conceptual meaning were easy to be understood in their dialectic local context of Chin Community.

Training and Mock Survey:

The training was facilitated by the NMC to all EA staffs for 2 days (1 day for the conceptual theory session and the other day for ‘mock survey’) in each township. The Mock Survey was done to measure the level of EAs understanding on the questionnaire: key determinants and also is a practical exercise for interviewing the respondents in tune with



³ The 12 determinants include: Perceived Self-Efficacy/Skills, Social Norms, Perceived Positive Consequences, Perceived Negative Consequences, Cues for Actions/Reminders, Perceived Susceptibility/risk, perceived severity, Perceived Efficacy, Perception of Divine Will, Policy and Culture.

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its specific timing. The training included the following key topics: a) welcome speech and overview, b) BA questionnaire (general, in-depth and translation), c) Interviewing techniques, d) Mock Survey interviews, e) Feedback, f) Logistics and closing.

Enumerators and Supervisors: Per-township, 3 Extensions Advisors as Enumerators collected data who were strictly supervised by the NMC prior to the actual field data collection. The enumerators were well trained and informed to maintain a tally sheet of the number of doers/non-doers interviewed in their area to ensure the recommended sample size was accomplished. **Annex 3** shows the list of Enumerators.

Data Collection:

Data was collected on 15th June, 2017 and finished in 27th September, 2017 from the selected villages of each township. The data collection took almost 3 weeks in per- township due to the tight schedules of other work activities in the township itself. Data Collection Process was done by Door to Door Approaches or Home Visit in the selected village. Prospective participants of the study were mobilized at a convenient spot and data collection applied the questionnaire. Initial screening questions are verified eligibility to the survey and eligible study participants were then either interviewed using doer or the non-doer question on the form. The EA staffs had to manage a tally sheet or count of how many doer and non-doer had been interviewed so far and then go on for the data collection. As 3 EA were assigned for data collection per-township, the villages had to be divided in line with the systematic coverage of the adjustment.



Response Coding and Manual Data Analysis (Frequencies): In line with the data collection, the qualitative answers were coded into agreed categories and frequencies counted for each of the generated categories. Simple frequencies were recorded for all pre-coded answers. In CORAD, the

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coding and analysis was only done in regional office by the NMC as we have done it in our respective township and was not unfortunately included in our budget line in the time of writing a proposal. The frequencies were recorded on the draft paper initially and later on centered by the study lead into the existing MS Excel tabulation template developed for barrier analysis data. Due to limited time at during the coding day by the nutrition coordinator, the study lead counted the responses to the last 11 pre-coded questions without the group’s involvement.

Data Analysis and Level of Significance: For the manually recorded frequencies and percentages, the recommended crude ‘15 percentage point difference’s rule’ was significantly applied to indicate whether a response/response category yielded a significantly different response by doers vs non-doers. The pre-designed MS Excel spreadsheet calculates the odds ratio and a p value for the odds ratio (significance at $P < 0.05$), including automated information and interpretation about the likelihood of doers vs non-doers mentioning a particular response. Based on the experience, there is not always full agreement between methods in estimating a statistically significant difference between the doers and non-doers. Both methods were used for the current data and a response/determinant was considered significant providing that at least one of the methods indicated a significant difference in optimum level.

3. Findings

As CORAD is doing the BA Survey or Formative Research in 5 Township, the finding of each township based on the set up two behaviors accordingly.

3.1.FALAM TOWNSHIP

a) HHs Consumption of Nutritious Crops/vegetables

In line with the response coding and tabulation sheet, the perception of doers and non-doers in HHs consumption differed in response to 9 out of the 12 determinants investigated the survey, including perceived self-efficacy, perceived social norms, perceived access, cue for action/reminders, Perceived Susceptibility/Perceived Risk, perceived action efficacy, perceived severity and perceived divine will. Most of the responses were identified as significantly different by both of the two methods described in the following session.

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Table 1 on page 8-11 provide an overview of all response that were found to be significant. Table 2 on page 12 provides an overview of determinants, which is in line with the tabulation sheet.

Focusing on the significant results, the study revealed that only half of the doers are able to do the behavior with their current knowledge, resources, and skill to adding of 3 vegetables /crops in their daily meal while 53% of Non-Doers felt that they might possibly be able to do add 3 vegetables in daily meal.

The 47% of Doers responded that it is easier to do or maintain the behavior because they have a small home garden to cultivate some vegetables and crops whereas the 44% of non-doers felt that it will be difficult to do the behavior as there is no space for them to cultivate vegetables and crops.

For the getting the positive results, the 100% of non-doer believe that they will be getting good health if doing the behavior and 18 % of non-doer mentioned they will be able to do the behavior as they have some money. The 44 % of doers mentioned that neighbors are mostly approving their behaviors. The 47% of Non-Doers felt that it is very difficult to get access what they want to get for doing the behavior while the 29% of Doers are mostly likely said that it is somewhat difficult to do the behavior and 14 % of Doers mentioned it will not be difficult at all to get materials and service for doing the behavior. The 37 % of doers mentioned that it is getting serious if be getting sick and disease. The 100% of Non-Doers felt that there will be any community law and regulation that are likely against doing the behavior while 84 % of Doer mentioned that there are no any other law and regulation in the community that are likely against doing the behavior.

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Table 1. Determinants that were significantly different between doers and no-doers, either based on the 15 % difference rule or the p value of the odds ratio, or both. (HHs Consumption)

<i>Determinants:</i>	<i>Doers: +Exp. (A)</i>	<i>Non- doers: +Exp. (B)</i>	<i>Doers %</i>	<i>Non- doers %</i>	<i>Diff.</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>	<i>Estim. Relative Risk</i>	<i>p-value</i>	
	Formula Adjusted Accordingly						Lower Limit	Upper Limit		
1. Self-Efficacy: Can you do the behavior?										
Yes	34	17	76%	38%	38%	5.09	2.05	12.63	4.35	0.000
Possibly	12	24	27%	53%	-27%	0.32	0.13	0.77	0.35	0.009
No	0	4	0%	9%	-9%	0.00			0.00	0.058
Don't know			0%	0%	0%					1.000
2. Self - Efficacy: What makes it easier?			0%	0%	0%					1.000
cultivated in home garden	21	2	47%	4%	42%	18.81	4.06	87.23	9.221	0.000
3. Self - Efficacy: Makes it Difficult:										
No money	5	6	11%	13%	-2%	0.81	0.23	2.88	0.828	0.500
No water sources	3	1	7%	2%	4%	3.14	0.31	31.42	2.607	0.308

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No space for cultivation	1	20	2%	44%	- 42%	0.03	0.00	0.22	0.034	0.000
4. Positive Consequences: What are the advantages?										
Good health	20	45	44%	100%	- 56%	0.00			0.047	0.000
Have more energy	3	18	7%	40%	- 33%	0.11	0.03	0.40	0.123	0.000
6. Social Norms: Do most people approve?										
Yes	45	34	100%	76%	24%					0.000
Possibly	0	5	0%	11%	- 11%	0.00			0.000	0.028
7. Social Norms: Who approves?										
Relative	5	8	11%	18%	-7%	0.58	0.17	1.93	0.606	0.275
Doctors	4	3	9%	7%	2%	1.37	0.29	6.48	1.319	0.500
NGO	4	0	9%	0%	9%				10.878	0.058
Neighbors	20	4	44%	9%	36%	8.20	2.51	26.77	5.629	0.000
9. Access - how difficult is it to get what you get what you need to do the behavior?										
Very difficult	16	21	36%	47%	- 11%	0.63	0.27	1.47	0.659	0.196
Somewhat difficult	13	19	29%	42%	- 13%	0.56	0.23	1.33	0.587	0.135
Not difficult at all	11	4	24%	9%	16%	3.32	0.97	11.36	2.774	0.044

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			0%	0%	0%					1.000
10. Reminders - how difficult is it to remember?			0%	0%	0%					1.000
<i>Very difficult</i>	15	10	33%	22%	11%	1.75	0.69	4.47	1.643	0.173
<i>Somewhat difficult</i>	19	22	42%	49%	-7%	0.76	0.33	1.75	0.785	0.336
<i>Not difficult at all</i>	14	6	31%	13%	18%	2.94	1.01	8.53	2.537	0.037
11. Risk- How likely to get the problem?										
<i>Very likely</i>	28	22	62%	49%	13%	1.72	0.74	3.99	1.632	0.144
<i>Somewhat likely</i>	20	21	44%	47%	-2%	0.91	0.40	2.10	0.922	0.500
<i>Not likely at all</i>	4	3	9%	7%	2%	1.37	0.29	6.48	1.319	0.500
12. Severity - How serious is the problem?			0%	0%	0%					1.000
<i>Very serious</i>	8	13	18%	29%	-11%	0.53	0.20	1.45	0.562	0.159
<i>Somewhat serious</i>	37	27	82%	60%	22%	3.08	1.17	8.13	2.808	0.018
<i>Not serious at all</i>	0	1	0%	2%	-2%	0.00			0.000	0.500
			0%	0%	0%					1.000

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			0%	0%	0%					1.000
13. Action Efficacy - will doing the behavior prevent the problem?										
<i>Very likely</i>	16	16	36%	36%	0%	1.00	0.42	2.37	1.000	0.587
<i>Somewhat likely</i>	26	27	58%	60%	-2%	0.91	0.39	2.11	0.921	0.500
<i>Not likely at all</i>	0	0	0%	0%	0%					1.000
			0%	0%	0%					1.000
14. Divine Will - does God approve of you doing the behavior?										
<i>Yes</i>	45	41	100%	91%	9%					0.058
<i>No</i>	0	0	0%	0%	0%					1.000
15. Policy - Any community laws/regulations that make is less likely you will do the behavior?										
<i>Yes</i>	7	45	16%	100%	- 84%	0.00			0.017	0.000
<i>No</i>	38	0	84%	0%	84%				58.857	0.000

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Table 2. Determinants Interpretation Table

Behavior  Determinants 	HHs Consumption of 3 to 4 nutritious crops and vegetables in their daily meal
Self-Efficacy (Can you Do it?)	Both Doers and Non-Doers perceived obstacles.
Self-Efficacy (What make it easier?)	Doers perceived that they can add at least 3-4 vegetable as they have a home garden to cultivate them.
Self-Efficacy (What makes it difficult?)	Non-Doer mentioned that the behaviors cannot be done due to insufficient place or space for cultivation
Positive Consequenes (What are advantages?)	Non-Doers see more advantages than Doer such as a good health and more energy for doing the behavior.
Negetative Consequence (What are disadvanges?)	No significant
Social Norms (Who approves?) INFLUENCING GROUPS	Doers perceived that their neighbors approve the behavior. The influencing group will be their neighbors.
Social Norms (Who disapproved?) INFLUENCING GROUPS	No Significant
Access (How diffiucult is it to do the behavior?)	Non-doers more than Doers perceived that it will be very difficult for doing the behavior.
Cue for Action (How difficult to remnber?)	Doer perceived that it is difficult at all for doing the behavior.
Divine Will (Does GOD controls or approve?)	No significant
Policies (Are there policies?)	Doer more than non-doer perceived that there are laws and regulations against doing the behavior.
Culture (Any Cultural Taboos?)	No significant
Susceptibility (Could you have this problem?)	No significant
Severity (How seriouse is the problem?)	Doers are more likely to state that it will be serious if getting sick or disease.
Action Efficacy (Will doing the behavior prevent the problem)	Not significant

b) Home Garden cultivation of Nutritious Crops/Vegetables:

Table 3 on page **13** provide an overview of all response that were found to be significant. **Table 4** on page 12 provides an overview of determinants, which is in line with the tabulation sheet.

Focusing on the significant results, the study revealed that almost all doers are able to do the behavior with their current knowledge, resources, and skill to cultivating 3 vegetables /crops in their respective home garden while 18% of Non-Doers felt that they might possibly be able to cultivate 3 vegetables in their respective home garden. The 53 % of Doers perceived that it is easier to do the behavior because they have the home garden to cultivate crops and vegetables while 24 % of Non-Doers felt that it is difficult to do the behavior due to having no equipment and needed materials. The 53 % of Doers perceived that by doing the behavior, they can get more income and saved some expenses. The 27 % of Non-Doers felt that their behavior is being approved by the villagers, 20 % of Non-Doers said by the health department while 16 % of Doers said the behavior is being approved the medical doctor. The 82 % of Doer felt that it is very difficult to do the behavior while 60 % of Non-Doers said it might possible be difficult if doing the behavior. The 29 % of Doer said it is difficult to remember for doing the behavior while 85 % of Non-Doers felt that it might possibly be difficult to remember for doing the behavior, and 62 % of Doers said it will not be difficult at all for doing the behavior. The 29 % of Doers felt that they might be very likely to get the disease or illness in the next one month while 84 % of Non-Doers said that they might be getting the disease or illness in the next one month, and 62 % of Doers felt that they will be getting any disease or illness at all. The 91 % of Doers felt that their behavior is being approved by God.

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Table 3. Determinants that were significantly different between doers and no-doers, either based on the 15 % difference rule or the p value of the odds ratio, or both. (HHs Cultivation)

<i>Determinants</i>	<i>Doers: +Exp. (A)</i>	<i>Non- doers: +Exp. (B)</i>	<i>Doers %</i>	<i>Non- doers %</i>	<i>Diff.</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>		<i>Estim. Relative Risk</i>	<i>p-value</i>
							<i>Lower Limit</i>	<i>Upper Limit</i>		
1. Self-Efficacy: Can you do the behavior?	Formula Adjusted Accordingly									
<i>Yes</i>	42	24	93%	53%	40%	12.25	3.31	45.38	10.42	0.000
<i>Possibly</i>	1	8	2%	18%	-16%	0.11	0.01	0.88	0.12	0.015
<i>No</i>	0	4	0%	9%	-9%	0.00			0.00	0.058
<i>Don't know</i>			0%	0%	0%					1.000
2. Self - Efficacy: What makes it easier?			0%	0%	0%					1.000
water source	2	0	4%	0%	4%				10.419	0.247
Home garden	24	1	53%	2%	51%	50.29	6.37	397.26	14.442	0.000
Have interest in agriculture	2	0	4%	0%	4%				10.419	0.247

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3. Self - Efficacy: Makes it Difficult:										
Need labor	2	0	4%	0%	4%				10.419	0.247
No equipment/material	4	11	9%	24%	-16%	0.30	0.09	1.03	0.329	0.044
No Water sources	4	9	9%	20%	-11%	0.39	0.11	1.38	0.419	0.115
No Capacity/Money	0	5	0%	11%	-11%	0.00			0.000	0.028
4. Positive Consequences: What are the advantages?										
Good health	37	38	82%	84%	-2%	0.85	0.28	2.59	0.866	0.500
Good Brain	5	4	11%	9%	2%	1.28	0.32	5.12	1.247	0.500
Have fresh food	3	4	7%	9%	-2%	0.73	0.15	3.48	0.753	0.500
Save money or good income	24	11	53%	24%	29%	3.53	1.44	8.67	3.038	0.005
Good Body Building	0	10	0%	22%	-22%	0.00			0.000	0.001
6. Social Norms: Do most people approve?										
Yes	45	25	100%	56%	44%					0.000
Possibly	0	17	0%	38%	-38%	0.00			0.000	0.000
No	0	0	0%	0%	0%					1.000
Don't know			0%	0%	0%					1.000
			0%	0%	0%					1.000
7. Social Norms: Who approves?										
Relative	0	28	0%	62%	-62%	0.00			0.000	0.000

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villagers	2	12	4%	27%	-22%	0.13	0.03	0.61	0.144	0.004
Neighbors	7	8	16%	18%	-2%	0.85	0.28	2.59	0.865	0.500
			0%	0%	0%					1.000
Health Department	1	9	2%	20%	-18%	0.09	0.01	0.75	0.102	0.008
Pastor	10	7	22%	16%	7%	1.55	0.53	4.52	1.476	0.296
Medical Doctors	7	0	16%	0%	16%				11.658	0.006
School Teacher	8	3	18%	7%	11%	3.03	0.75	12.26	2.564	0.098
9. Access - how difficult is it to get what you get what you need to do the behavior?			0%	0%	0%					1.000
<i>Very difficult</i>	37	17	82%	38%	44%	7.62	2.88	20.16	6.329	0.000
<i>Somewhat difficult</i>	4	27	9%	60%	-51%	0.07	0.02	0.21	0.080	0.000
<i>Not difficult at all</i>	2	0	4%	0%	4%				10.419	0.247
			0%	0%	0%					1.000
10. Reminders - how difficult is it to remember?			0%	0%	0%					1.000
<i>Very difficult</i>	13	5	29%	11%	18%	3.25	1.05	10.07	2.746	0.032
<i>Somewhat difficult</i>	3	38	7%	84%	-78%	0.01	0.00	0.05	0.022	0.000

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<i>Not difficult at all</i>	28	1	62%	2%	60%	72.47	9.13	575.31	18.385	0.000
11. Risk- How likely to get the problem?										
<i>Very likely</i>	13	5	29%	11%	18%	3.25	1.05	10.07	2.746	0.032
<i>Somewhat likely</i>	3	38	7%	84%	-78%	0.01	0.00	0.05	0.022	0.000
<i>Not likely at all</i>	28	1	62%	2%	60%	72.47	9.13	575.31	18.385	0.000
			0%	0%	0%					1.000
14. Divine Will - does God approve of you doing the behavior?										
<i>Yes</i>	41	31	91%	69%	22%	4.63	1.39	15.45	4.164	0.008

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Table 4. Determinants Interpretation Table

Behavior  Determinants 	HHs cultivation of 3 to 4 nutritious crops and vegetables in each of their home garden
Self-Efficacy (Can you Do it?)	Non-doers more than Doers perceived obstacles.
Self-Efficacy (What make it easier?)	Doers perceived that they can cultivate at least 3-4 vegetable as they have a home garden.
Self-Efficacy (What makes it difficult?)	Non-Doer mentioned that the behaviors cannot be done due not having the needed materials and equipment.
Positive Consequenes (What are advantages?)	More doers see more advantages than Doer such as some income and save money for doing the behavior.
Negetative Consequence (What are disadvanges?)	No significant
Social Norms (Who approves?) INFLUENCING GROUPS	More Doers perceived that their family approve the behavior. Doers felt that their behavior was being approved by the health department and NGO.
Social Norms (Who disapproved?) INFLUENCING GROUPS	No Significant
Access (How diffiucult is it to do the behavior?)	Most Non- Doers perceived that it will be very difficult to get access or needed materials for doing the behavior.
Cue for Action (How difficcult to remnber?)	Doer perceived that it is difficult at all for doing the behavior.
Divine Will (Does GOD control or approve?)	Doers mentioned that their behavior is being approved by God.
Policies (Are there policies?)	No Significant
Culture (Any Cultural Taboos?)	No significant
Susceptibility (Could you have this problem?)	Non-doers more than Doer felt that they are likely to get a sickness or disease.
Severity (How seriouse is the problem?)	No Significant
Action Efficacy (Will doing the behavior prevent the problem)	Not significant

3.2.TEDIM TOWNSHIP:

a) HHs Consumption of Nutritious Crops/vegetables:

In line with the response coding and tabulation sheet, the perception of Doer and Non-Doers in HHs consumption differed in response to 6 out of the 12 determinants investigating the survey including perceived self-efficacy, perceived social norm, perceived positive consequences, perceived divine will and policy. Most of the responses are identified as significantly different by both of the two methods in the following session.

Table 5 on page **23** provide an overview of all response that were found to be significant. The table 6 on page 23 provide an overview of determinants, which is in tune with the DBC framework and Tabulation Sheet. The overall results including insignificant results presented in **Annex 6**.

The study has significantly revealed that more than half of Non-Doers (69 %) felt that they can absolutely be able to add 3 to 4 vegetable in their daily meal while 22 % of doer said that they can do this behavior and 47 % of Doers said that they might probably be able to do the behavior. More than half of Non-Doers (67 %) felt the behavior could not be done due to not having enough money. The 27 % of Non-Doers felt that they it would be difficult to do the behavior because of having the nutrition education training in the targeted communities. The 27 % of Non-Doers felt that they would not be able to add 3 to 4 nutritious crops/vegetables in their daily meal as there is no space for cultivation. The 27 % of Doers said that pest and disease make them difficult to do the behavior. The 33 % of Non-Doers said that since no cultivation, it will be difficult to do the behavior. The 82 % of Doers said that they got more good health as they are doing the behavior and the 64 % of Doers also said that they got more energy and strength as they are doing the behavior. The 62 % of Non-Doers said that their behavior will be mostly approved by the people. The 29 % of Doer said that probably, there behavior is mostly approved by the people. The 64 % of Non-Doers perceived that their behavior will be approved by their family members while 56 % of Doer felt that their behavior is being approved by the health department and 29 % of Doer said that their behavior is approved by NGO. The 69 % of Non-Doer perceived that it is very difficult to get what is needed in terms of getting materials and resources for doing the behavior. The 56 % of Non-Doers perceived that it is difficult to remember for doing the behavior. The 60 % of Doers mentioned that it is somehow difficult to remember for doing the behavior while 27 % of Non-Doers felt that it would not be difficult at all for doing the behavior. The 76 % of Non-Doers perceived that it is likely to be getting sick and any disease in the next one or two month while 42

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% of Doers felt that they would probably be getting sick or any disease in the next one or two month. The 100 % of Non-Doers perceived that the behaviors are being approved by God while 44 % of Does felt that their behavior is not approved by God.

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Table 5. *Determinants that were significantly different between doers and no-doers, either based on the 15 % difference rule or the p value of the odds ratio, or both. (HHs Consumption)*

<i>Determinants</i>	<i>Doers: +Exp. (A)</i>	<i>Non- doers: +Exp. (B)</i>	<i>Doers %</i>	<i>Non- doers %</i>	<i>Diff.</i>	<i>Odds Ratio</i>	<i>Confidence Interval</i>		<i>Estim. Relative Risk</i>	<i>p-value</i>
							<i>Lower Limit</i>	<i>Upper Limit</i>		
	Formula Adjusted Accordingly									
1. Self-Efficacy: Can you do the behavior?										
Yes	10	2	22%	4%	18%	6.14	1.26	29.90	4.31	0.013
Possibly	21	12	47%	27%	20%	2.41	1.00	5.82	2.18	0.040
No	8	31	18%	69%	-51%	0.10	0.04	0.26	0.12	0.000
3. Self - Efficacy: Makes it Difficult:										
No money	12	30	27%	67%	-40%	0.18	0.07	0.45	0.217	0.000
No Nutrition Training	1	12	2%	27%	-24%	0.06	0.01	0.50	0.071	0.001
No home garden	3	12	7%	27%	-20%	0.20	0.05	0.75	0.218	0.011

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<i>Pest and disease</i>	12	0	27%	0%	27%				13.273	0.000
<i>No cultivating</i>	7	15	16%	33%	-18%	0.37	0.13	1.02	0.400	0.042
4. Positive Consequences: What are the advantages?										
<i>Good health</i>	37	15	82%	33%	49%	9.25	3.46	24.74	7.475	0.000
<i>More strength</i>	29	9	64%	20%	44%	7.25	2.80	18.78	5.602	0.000
6. Social Norms: Do most people approve?										
<i>Yes</i>	28	45	62%	100%	-38%	0.00			0.065	0.000
<i>Possibly</i>	13	0	29%	0%	29%				13.656	0.000
<i>Family members</i>	14	29	31%	64%	-33%	0.25	0.10	0.60	0.287	0.001
<i>Health Department</i>	25	11	56%	24%	31%	3.86	1.57	9.49	3.286	0.002
<i>NGO</i>	13	4	29%	9%	20%	4.16	1.24	14.00	3.325	0.015
<i>Very difficult</i>	16	31	36%	69%	-33%	0.25	0.10	0.60	0.290	0.001
<i>Very difficult</i>	3	25	7%	56%	-49%	0.06	0.02	0.21	0.070	0.000

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<i>Somewhat difficult</i>	27	8	60%	18%	42%	6.94	2.63	18.29	5.318	0.000
<i>Not difficult at all</i>	3	12	7%	27%	-20%	0.20	0.05	0.75	0.218	0.011
11. Risk- How likely to get the problem?										
<i>Very likely</i>	25	34	56%	76%	-20%	0.40	0.16	0.99	0.449	0.038
<i>Somewhat likely</i>	19	9	42%	20%	22%	2.92	1.14	7.48	2.558	0.020
14. Divine Will - does God approve of you doing the behavior?										
<i>Yes</i>	24	45	53%	100%	-47%	0.00			0.056	0.000
<i>No</i>	20	0	44%	0%	44%				17.200	0.000

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Table 6. Determinants Interpretation Table

Behavior Determinants	HHs Consumption of 3 to 4 nutritious crops and vegetables in each of their home garden.
Self-Efficacy (Can you Do it?)	Non-doers more than Doers perceived obstacles.
Self-Efficacy (What make it easier?)	No Significant
Self-Efficacy (What makes it difficult?)	Non-Doer mentioned that the behaviors cannot be done due not having Cash, nutrition education training and home garden. Doer felt that pest and disease make them difficult for doing the behavior.
Positive Consequenes (What are advantages?)	More doers see more advantages than Doer such as good health and more strength and energy.
Negetative Consequence (What are disadvanges?)	No significant
Social Norms (Who approves?) INFLUENCING GROUPS	Non-Doers perceived that their villagers and health department approve the behavior. The influencing group will be their neighbors. Doers felt that their behavior was being approved by their medical doctor. Most Doers than Non-Doer perceived that most people will approve their behavior. More non-doers perceived that
Social Norms (Who disapproved?) INFLUENCING GROUPS	No Significant
Access (How diffiucult is it to do the behavior?)	Both Doers and Non- Doers perceived that it will be very difficult to get access or needed materials for doing the behavior.
Cue for Action (How difficcult to remnber?)	Doer perceived that it is difficult at all for doing the behavior.
Divine Will (Does GOD control or approve?)	Doers mentioned that their behavior is being approved by God.
Policies (Are there policies?)	No Significant
Culture (Any Cultural Taboos?)	No significant
Susceptibility (Could you have this problem?)	Non-doers more than Doer felt that they are likely to get a sickness or disease.
Severity (How seriouise is the problem?)	No Significant
Action Efficacy	Not significant

(Will doing the behavior prevent the problem)	
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b) Home Garden Cultivation of Nutritious Crops/Vegetables:

In line with the ‘Home Garden Cultivation of Nutritious crops/Vegetables, the study has significantly revealed that 96 % of Doer mentioned that they were able to do the behavior with their current skills, knowledge or resources to the cultivation of nutrition crops/vegetables in their respective home garden whereas 53 % of Non-Doers said they are able with the behaviors. About 31 % of Doer said that having a fertilizer make it easy to do the behavior whereas only 13 % of Non-Doer mentioned this. About 27 % of No-Doer perceived that having some kind of techniques make it easy to do the behavior whereas 27 % of Doer mentioned that a good weather make it easy to do the behavior. About 33 % of Doer said that it is easier to do the behavior as they are good in health whereas only 4 % of Non-Doer mentioned this. About 27 % of Doer mentioned that it is difficult to do the behavior because their garden is not properly fenced. About 18 %t of Non-Doer mentioned that the behaviors will be approved by Pastor (religious leader), whereas only 4 % of Doer mentioned this. About 38 % of Non-Doer mentioned it will be difficult to do the behavior because of no having the sufficient water. About 18 % of Non-Doer perceived that the pastor are approving their behavior whereas only 4 % of Doer mentioned this. About 29 % of Non-doer perceived that the behavior is being approved by the agricultural department whereas only 11 % of Doer mentioned this. About 58 % of Non-Doer mentioned that it is somewhat difficult to get the necessary materials for doing the behavior whereas 29 % of Doer mentioned this. About 27 % of Non-Doer mentioned that it will not be difficult at all to get the necessary materials for doing the behavior. About 38 % of Non-Doer mentioned that it is very difficult to do the behavior and 42 % of doer mentioned that it is somewhat likely to get sickness in the next 1 or two months. About 104 % of Doer mentioned that it will be very serious if getting sick or disease. About 42 % of Doer mentioned that they will be getting any disease or mal-nutrition if not doing the behavior. About 24 % of Doers mentioned that there are cultural taboos or rules against the behaviors whereas 7 % of Non-Doers mentioned this. About 93 % of Non-Doer and 76 % of Doers mentioned that there are is no such things as taboos or rules that are against the behavior.

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Table 7. Determinants that were significantly different between doers and no-doers, either based on the 15 % difference rule or the p value of the odds ratio, or both. (HHs Consumption)

DETERMINANTS	DOERS: +EXP. (A)	NON- DOERS: +EXP. (B)	DOERS %	NON- DOERS %	DIFF.	ODDS RATIO	CONFIDENCE INTERVAL		ESTIM. RELATIV E RISK	P-VALUE
							Lower Limit	Upper Limit		
	Formula Adjusted Accordingly									
1. SELF-EFFICACY/SKILL: CAN YOU DO THE BEHAVIOR?										
YES	43	24	96%	53%	42%	18.81	4.06	87.23	15.86	0.000
POSSIBLY	1	2	2%	4%	-2%	0.49	0.04	5.59	0.52	0.500
NO	0	17	0%	38%	-38%	0.00			0.00	0.000
DON'T KNOW			0%	0%	0%					1.000
2. SELF - EFFICACY: WHAT MAKES IT EASIER FOR YOU TO DO THE BEHAVIOR?			0%	0%	0%					1.000
HOME GARDEN	18	22	40%	49%	-9%	0.70	0.30	1.61	0.722	0.262
WATERACCESS	21	23	47%	51%	-4%	0.84	0.37	1.91	0.852	0.417
FERTILIZERS	6	14	13%	31%	-18%	0.34	0.12	0.99	0.371	0.037
HAVE SEED	4	10	9%	22%	-13%	0.34	0.10	1.18	0.369	0.072

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<i>TECHNIQUES</i>	1	12	2%	27%	-24%	0.06	0.01	0.50	0.071	0.001
<i>GOOD WEATHER</i>	12	1	27%	2%	24%	16.00	1.98	129.28	7.429	0.001
<i>HAVE LABOR</i>	1	2	2%	4%	-2%	0.49	0.04	5.59	0.516	0.500
<i>GOOD HEALTH</i>	15	2	33%	4%	29%	10.75	2.29	50.51	6.318	0.000
<i>AGRICULTURE TOOLS</i>	12	8	27%	18%	9%	1.68	0.61	4.62	1.584	0.224
3. SELF - EFFICACY: MAKES IT DIFFICULT:										
<i>PEST AND DISEASE</i>	5	1	11%	2%	9%	5.50	0.62	49.11	3.893	0.101
<i>NO FERTILIZER</i>	4	6	9%	13%	-4%	0.63	0.17	2.42	0.659	0.370
<i>NO FENCING</i>	12	4	27%	9%	18%	3.73	1.10	12.64	3.045	0.026
<i>WATER</i>	4	17	9%	38%	-29%	0.16	0.05	0.53	0.182	0.001
<i>NO SEED</i>	0	11	0%	24%	-24%	0.00			0.000	0.000
			0%	0%	0%					1.000
			0%	0%	0%					1.000
6. SOCIAL NORMS: DO MOST PEOPLE APPROVE OF THE BAHVIOR?										
YES	45	43	100%	96%	4%					0.247
POSSIBLY	0	2	0%	4%	-4%	0.00			0.000	0.247
NO			0%	0%	0%					1.000
DON'T KNOW			0%	0%	0%					1.000
			0%	0%	0%					1.000
7. SOCIAL NORMS: WHO APPROVES?			0%	0%	0%					1.000

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<i>FAMILY/RELATIVE</i>	29	34	64%	76%	-11%	0.59	0.24	1.46	0.622	0.179
<i>VILLAGERS</i>	6	6	13%	13%	0%	1.00	0.30	3.37	1.000	0.621
<i>NEIGHBORS</i>	0	15	0%	33%	-33%	0.00			0.000	0.000
<i>PASTORS</i>	2	8	4%	18%	-13%	0.22	0.04	1.08	0.236	0.045
<i>HEALTH DEPARTEMENT</i>	5	13	11%	29%	-18%	0.31	0.10	0.95	0.336	0.032
<i>AGRICULTURE DEPARTEMENT</i>	2	7	4%	16%	-11%	0.25	0.05	1.29	0.275	0.079
9. ACCESS - HOW DIFFICULT IS IT TO GET WHAT YOU GET WHAT YOU NEED TO DO THE BEHAVIOR?			0%	0%	0%					1.000
VERY DIFFICULT	24	17	53%	38%	16%	1.88	0.81	4.36	1.763	0.102
SOMEWHAT DIFFICULT	13	26	29%	58%	-29%	0.30	0.12	0.71	0.334	0.005
NOT DIFFICULT AT ALL	3	12	7%	27%	-20%	0.20	0.05	0.75	0.218	0.011
			0%	0%	0%					1.000
10. REMINDERS - HOW DIFFICULT IS IT TO REMEMBER?			0%	0%	0%					1.000
VERY DIFFICULT	3	17	7%	38%	-31%	0.12	0.03	0.44	0.135	0.000
SOMEWHAT DIFFICULT	29	26	64%	58%	7%	1.32	0.57	3.10	1.289	0.333
NOT DIFFICULT AT ALL			0%	0%	0%					1.000
11. RISK- HOW LIKELY TO GET THE PROBLEM?										
VERY LIKELY	24	32	53%	71%	-18%	0.46	0.19	1.11	0.505	0.064



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SOMEWHAT LIKELY	19	9	42%	20%	22%	2.92	1.14	7.48	2.558	0.020
NOT LIKELY AT ALL			0%	0%	0%					1.000
			0%	0%	0%					1.000
12. SEVERITY - HOW SERIOUS IS THE PROBLEM?			0%	0%	0%					1.000
VERY SERIOUS	47	40	104%	89%	16%	-2.94			-2.483	0.000
SOMEWHAT SERIOUS	1	4								
NOT SERIOUS AT ALL			0%	0%	0%					1.000
			0%	0%	0%					1.000
			0%	0%	0%					1.000
			0%	0%	0%					1.000
13. ACTION EFFICACY - GET DISEASE OR MALNUTRITION IF NOT DOING THE BEHAVIOR?										
VERY LIKELY	24	32	53%	71%	-18%	0.46	0.19	1.11	0.505	0.064
SOMEWHAT LIKELY	19	9	42%	20%	22%	2.92	1.14	7.48	2.558	0.020
NOT LIKELY AT ALL			0%	0%	0%					1.000
			0%	0%	0%					1.000
14. DIVINE WILL - DOES GOD APPROVE OF YOU DOING THE BEHAVIOR?										
YES	45	25	100%	56%	44%					0.000
NO			0%	0%	0%					1.000
WON'T SAY/DOESN'T KNOW			0%	0%	0%					1.000
			0%	0%	0%					1.000
			0%	0%	0%					1.000

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			0%	0%	0%					1.000
15. POLICY - ANY COMMUNITY LAWS/REGULATIONS THAT MAKE IS MORE LIKELY YOU WILL DO THE BEHAVIOR?										
YES	9	6	20%	13%	7%	1.63	0.53	5.02	1.536	0.286
NO	36	42	80%	93%	-13%	0.29	0.07	1.14	0.348	0.059
DON'T KNOW/WON'T SAY			0%	0%	0%					1.000
16. CULTURE - ANY CULTURAL RULES/TABOOS AGAINST THE BEHAVIOR?			0%	0%	0%					1.000
YES	11	3	24%	7%	18%	4.53	1.17	17.55	3.508	0.019
NO	34	42	76%	93%	-18%	0.22	0.06	0.86	0.285	0.019

Table 7. Determinant Interpretation Table

Behavior  Determinants 	HHs cultivation of 3 to 4 nutritious crops and vegetables in each of their home garden
Self-Efficacy (Can you Do it?)	Doers more than Non-Doer perceived obstacles.
Self-Efficacy (What make it easier?)	Mostly Doers mentioned that it is easier to do the behavior as they have a fertilizer. Doer felt that it is easier to do the behavior because they have techniques, good weather and good health.
Self-Efficacy (What makes it difficult?)	Non-Doer mentioned that the behaviors cannot be done due not having a water source and Doer felt that it is difficult to do the behavior because their home garden cannot be fenced properly.
Positive Consequenes (What are advantages?)	No Significant
Negetative Consequence (What are disadvanges?)	No Significant
Social Norms (Who approves?) INFLUENCING GROUPS	Non-Doers perceived that their pastor (religious leader) and agricultural department approve the behavior. The influencing group will be their pastor (religious leader) and Agricultural Department.
Social Norms (Who disapproved?) INFLUENCING GROUPS	No Significant
Access (How diffiucult is it to do the behavior?)	Both Doers and Non- Doers perceived that it will be somewhat difficult to get access or needed materials for doing the behavior.
Cue for Action (How difficcult to remnber?)	No Significant
Divine Will (Does GOD control or approve?)	No Significant
Policies (Are there policies?)	No significant
Culture (Any Cultural Taboos?)	No Significant
Susceptibility (Could you have this problem?)	Non Doer mentioned that they will be probably getting sickness or malnutrition in the next 1 or 2 month.

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Severity (How serious is the problem?)	Doers more than Non-Doer Felt that they will be getting serious if getting sick or illness.
Action Efficacy (Will doing the behavior prevent the problem)	No significant

3.3.HAKHA TOWNSHIP:

a) HHs Consumption of Nutritious Crops/vegetables:

In line with the response coding and tabulation sheet, the perception of Doer and Non-Doers in HHs consumption differed in response to 10 out of the 12 determinants investigating the survey including perceived self-efficacy, perceived positive consequences, perceived access, perceived reminders, perceived risks, perceived severity, perceived action efficacy, perceived divine will, Perceived Policy and culture. Most of the responses are identified as significantly different by both of the two methods in the following session.

The study significantly revealed that 42 % of Doers mentioned that they able to do the behavior with their current skill, knowledge and resources whereas the 20 % of Non-doer only mentioned this. About 44 % of Non-doer said that they might be possibly able to do the behavior their current knowledge, skill and resources whereas only 24 % of non-doer mentioned this. About 58 % of Doer mentioned that home garden makes it easier to do the behavior whereas 31 % of Non-Doer mentioned this. About 89 % of Doers mentioned that they get a good health because of practicing the behavior while 38 % of Non-Doer only mentioned this. About 11 % of Doer mentioned that they can saved money because of practicing the behavior. About 38 % of Doer mentioned that it is very difficult to get some materials and equipment for doing the behaviors while 13 % of Non-Doer mentioned this. About 64 % of Doer perceived that they would be probably getting some disease or sickness in the next 1 or 2 months while 22 % of Non-Doers mentioned only this. About 49 % of Doers perceived that it will be getting serious if be fallen into sick or illness while 11 % of Non-Doer only mentioned this. About 53 % of Doer mentioned that they will be getting some disease or problem if not practicing the behavior while 27 % of Non-Doer mentioned this. About 89 % of Doer perceived that their behavior is approved by God while 67 % of non-doer mentioned this. About 31 % of Doer mentioned that there is community laws and regulation that are likely against doing the behavior whereas only none of Non-Doer mentioned this. About 96 % of Doer mentioned that there are such as rules and regulations that are against the behavior while 62 % of Non-Doer mentioned this.

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Table 9. Determinants that were significantly different between doers and no-doers, either based on the 15 % difference rule or the p value of the odds ratio, or both. (HHs Consumption)

DETERMINANTS	DOERS: +EXP. (A)	NON- DOERS: +EXP. (B)	DOERS %	NON- DOERS %	DIFF.	ODDS RATIO	CONFIDENCE INTERVAL		ESTIM. RELATIVE RISK	P-VALUE
							Lower Limit	Upper Limit		
	Formula Adjusted Accordingly									
1. SELF-EFFICACY: CAN YOU DO THE BEHAVIOR?										
YES	19	9	42%	20%	22%	2.92	1.14	7.48	2.56	0.020
POSSIBLY	20	11	44%	24%	20%	2.47	1.01	6.08	2.23	0.038
NO	6	7	13%	16%	-2%	0.84	0.26	2.71	0.85	0.500
DON'T KNOW			0%	0%	0%					1.000
2. SELF - EFFICACY: WHAT MAKES IT EASIER?			0%	0%	0%					1.000
HAVE HOME GARDEN	26	14	58%	31%	27%	3.03	1.28	7.20	2.683	0.010
3. SELF - EFFICACY: MAKES IT DIFFICULT:										
NO KNOWLEDGE	4	4	9%	9%	0%	1.00	0.23	4.27	1.000	0.643
NO FENCING	3	0	7%	0%	7%				10.643	0.121

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4. POSITIVE CONSEQUENCES: WHAT ARE THE ADVANTAGES?										
<i>GOOD HEALTH</i>	40	17	89%	38%	51%	13.18	4.35	39.90	10.653	0.000
<i>HAVE MORE ENERGY</i>	9	5	20%	11%	9%	2.00	0.61	6.52	1.833	0.192
<i>GOOD IMMUNE SYSTEM</i>	8	2	18%	4%	13%	4.65	0.93	23.27	3.526	0.045
<i>HAVE LONG LIFE</i>	4	0	9%	0%	9%				10.878	0.058
<i>LOOKS GOOD</i>	5	0	11%	0%	11%				11.125	0.028
<i>SAVED MONEY</i>	5	0	11%	0%	11%				11.125	0.028
6. SOCIAL NORMS: DO MOST PEOPLE APPROVE?										
YES	34	31		69%	-69%	1.40	0.55	3.53	1.353	0.319
POSSIBLY	2	0	4%	0%	4%				10.419	0.247
7. SOCIAL NORMS: WHO APPROVES?			0%	0%	0%					1.000
<i>RELATIVE</i>	21	14	47%	31%	16%	1.94	0.82	4.58	1.804	0.097
<i>VILLAGERS</i>	15	9	33%	20%	13%	2.00	0.77	5.21	1.844	0.117
<i>VILLAGE LEADER</i>	5	2	11%	4%	7%	2.69	0.49	14.64	2.321	0.217
			0%	0%	0%					1.000
<i>NEIGHBORS</i>	6	7	13%	16%	-2%	0.84	0.26	2.71	0.849	0.500
9. ACCESS - HOW DIFFICULT IS IT TO GET WHAT YOU GET WHAT YOU NEED TO DO THE BEHAVIOR?			0%	0%	0%					1.000
VERY DIFFICULT	17	6	38%	13%	24%	3.95	1.38	11.27	3.241	0.007

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SOMEWHAT DIFFICULT	16	11	36%	24%	11%	1.71	0.68	4.25	1.607	0.179
NOT DIFFICULT AT ALL	10	13	22%	29%	-7%	0.70	0.27	1.83	0.727	0.315
10. REMINDERS - HOW DIFFICULT IS IT TO REMEMBER?			0%	0%	0%					1.000
VERY DIFFICULT	10	3	22%	7%	16%	4.00	1.02	15.68	3.189	0.034
SOMEWHAT DIFFICULT	10	13	22%	29%	-7%	0.70	0.27	1.83	0.727	0.315
NOT DIFFICULT AT ALL	17	13	38%	29%	9%	1.49	0.62	3.61	1.432	0.251
11. RISK- HOW LIKELY TO GET THE PROBLEM?										
VERY LIKELY	29	10	64%	22%	42%	6.34	2.50	16.09	5.041	0.000
SOMEWHAT LIKELY	7	18	16%	40%	-24%	0.28	0.10	0.75	0.306	0.009
NOT LIKELY AT ALL	1	1	2%	2%	0%	1.00	0.06	16.50	1.000	0.753
12. SEVERITY - HOW SERIOUS IS THE PROBLEM?			0%	0%	0%					1.000
VERY SERIOUS	22	5	49%	11%	38%	7.65	2.55	22.95	5.468	0.000
SOMEWHAT SERIOUS	16	22	36%	49%	-13%	0.58	0.25	1.34	0.608	0.143

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13. ACTION EFFICACY - WILL DOING THE BEHAVIOR PREVENT THE PROBLEM?										
VERY LIKELY	24	12	53%	27%	27%	3.14	1.30	7.60	2.753	0.009
SOMEWHAT LIKELY	14	1	31%	2%	29%	19.87	2.48	159.09	8.384	0.000
14. DIVINE WILL - DOES GOD APPROVE OF YOU DOING THE BEHAVIOR?										
YES	40	30	89%	67%	22%	4.00	1.31	12.23	3.613	0.010
NO	1	1	2%	2%	0%	1.00	0.06	16.50	1.000	0.753
15. POLICY - ANY COMMUNITY LAWS/REGULATIONS THAT MAKE IS LESS LIKELY YOU WILL DO THE BEHAVIOR?										
YES	14	0	31%	0%	31%				14.065	0.000
NO	10	6	22%	13%	9%	1.86	0.61	5.64	1.723	0.204
DON'T KNOW/WON'T SAY	19	25	42%	56%	-13%	0.58	0.25	1.35	0.617	0.146
16. CULTURE - ANY CULTURAL RULES/TABOOS AGAINST THE BEHAVIOR?			0%	0%	0%					1.000
YES	0	0	0%	0%	0%					1.000
NO	43	28	96%	62%	33%	13.05	2.80	60.92	11.297	0.000

Table 10. Determinant Interpretation Table

Behavior Determinants	HHs cultivation of 3 to 4 nutritious crops and vegetables in each of their home garden
Self-Efficacy (Can you Do it?)	Almost both Doers and Non-Doer faced the obstacles.
Self-Efficacy (What make it easier?)	Mostly Doers mentioned that it is easier to do the behavior as they have a home garden.
Self-Efficacy (What makes it difficult?)	No Significant
Positive Consequenes (What are advantages?)	Most doers mentioned that they gained a good health and save some money as they practiced the behavior.
Negetative Consequence (What are disadvanges?)	No Significant
Social Norms (Who approves?) INFLUENCING GROUPS	No significant
Social Norms (Who disapproved?) INFLUENCING GROUPS	No Significant
Access (How diffiucult is it to do the behavior?)	Most doer mentioned that it is very difficult to get some necessary materials and equipment for doing the behavior.
Cue for Action (How difficcult to remnber?)	No Significant
Divine Will (Does GOD control or approve?)	Most doer mentioned that the behavior was being approved by God.
Policies (Are there policies?)	No significant
Culture (Any Cultural Taboos?)	More doer mentioned that there is the community laws and regulation that are likely against doing the behavior.
Susceptibility (Could you have this problem?)	Most Doer mentioned that they will be probably getting sickness or malnutrition in the next 1 or 2 month.
Severity (How seriouse is the problem?)	No significant
Action Efficacy (Will doing the behavior prevent the problem)	No significant

b) Home Garden Cultivation of 3 to 4 Nutritious crops/vegetables

In line with the response coding and tabulation sheet, the perception of Doer and Non-Doers in HHs cultivation differed in response to 4 out of the 12 determinants investigating the survey including perceived self-efficacy, Social Norms, perceived access, perceived reminders, perceived action efficacy and perceived access. Most of the responses are identified as significantly different by both of the two methods in the following session.

The study significantly revealed that 93 % of Non-doers mentioned that they can do the behavior with their current skill, knowledge and resources while 60 % of Doers mentioned only this. About 18 % of Doers mentioned that they can be possibly doing the behavior with their current skill, knowledge and resources. About 64 % of Doers mentioned that no fencing for home garden make it difficult to do the behavior while 22 % of Non-Doers mentioned this. About 24 % of Non-doers mentioned that the behavior cannot be done as there is no fertilizers for cultivation. About 49 % of Non-Doers mentioned that the domestic animal make it difficult for doing the behaviors. About 91 % of Non-Doers mentioned that their behaviors are being approved by God. About 49 % of Doers mentioned that their behaviors are being approved by their relatives. The 64 % of Doers mentioned that it is difficult to get the necessary materials and equipment for doing the behavior while 42 % of Non-Doers mentioned this. About 20 % of Doers mentioned that it is somewhat difficult to remember for doing the behavior. About 78 % of Non-Doer mentioned that it is very likely that they will have some disease or illness if not doing the behaviors.

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Table 11. *Determinants that were significantly different between doers and no-doers, either based on the 15 % difference rule or the p value of the odds ratio, or both. (HHs Cultivation)*

DETERMINANTS	DOERS: +EXP. (A)	NON- DOERS: +EXP. (B)	DOERS %	NON- DOERS %	DIFF.	ODDS RATIO	CONFIDENCE INTERVAL	ESTIM. RELATIVE RISK	P-VALUE	
	Formula Adjusted Accordingly					Lower Limit	Upper Limit			
1. SELF-EFFICACY: CAN YOU DO THE BEHAVIOR?										
YES	27	42	60%	93%	-33%	0.11	0.03	0.40	0.17	0.000
POSSIBLY	8	2	18%	4%	13%	4.65	0.93	23.27	3.53	0.045
2. SELF - EFFICACY: WHAT MAKES IT EASIER?			0%	0%	0%					1.000
HAVE WATER	6	4	13%	9%	4%	1.58	0.41	6.02	1.495	0.370
HAVE FENCING	6	7	13%	16%	-2%	0.84	0.26	2.71	0.849	0.500
HAVE LAND	16	21	36%	47%	-11%	0.63	0.27	1.47	0.659	0.196
GOOD HEALTH	1	4	2%	9%	-7%	0.23	0.02	2.17	0.254	0.180
GOOD FERTILIZER	0	7	0%	16%	-16%	0.00			0.000	0.006

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GOOD WEATHER	0	5	0%	11%	-11%	0.00			0.000	0.028
3. SELF - EFFICACY: MAKES IT DIFFICULT:										
NO PEST AND DISEASE CONTROL	17	15	38%	33%	4%	1.21	0.51	2.88	1.190	0.413
FENCING	29	10	64%	22%	42%	6.34	2.50	16.09	5.041	0.000
NO WATER SOURCES	13	17	29%	38%	-9%	0.67	0.28	1.62	0.695	0.251
BAD WEATHER	3f	3		7%						#VALUE!
NO FERTILIZER	3	11	7%	24%	-18%	0.22	0.06	0.86	0.244	0.019
NO SEED	8	9	18%	20%	-2%	0.86	0.30	2.49	0.877	0.500
DESTRUCTION (DOMESTIC ANIMAL)	12	22	27%	49%	-22%	0.38	0.16	0.92	0.416	0.025
4. POSITIVE CONSEQUENCES: WHAT ARE THE ADVANTAGES?										
GOOD HEALTH	2	3	4%	7%	-2%	0.65	0.10	4.10	0.675	0.500
HAVE FRESH	12	5	27%	11%	16%	2.91	0.93	9.10	2.507	0.052
SAVD MONEY AND INCOME	11	17	24%	38%	-13%	0.53	0.21	1.32	0.564	0.127
6. SOCIAL NORMS: DO MOST PEOPLE APPROVE?										
YES	21	41		91%	-91%	0.09	0.03	0.28	0.135	0.000

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POSSIBLY	1	0	2%	0%	2%				10.205	0.500
NO	0	1	0%	2%	-2%	0.00			0.000	0.500
7. SOCIAL NORMS: WHO APPROVES?										
RELATIVE	22	10	49%	22%	27%	3.35	1.34	8.35	2.887	0.007
VILLAGERS	22	28	49%	62%	-13%	0.58	0.25	1.34	0.614	0.144
VILLAGE LEADER	7	13	16%	29%	-13%	0.45	0.16	1.27	0.484	0.102
FRIENDS	4	3	9%	7%	2%	1.37	0.29	6.48	1.319	0.500
9. ACCESS - HOW DIFFICULT IS IT TO GET WHAT YOU NEED TO DO THE BEHAVIOR?			0%	0%	0%					1.000
VERY DIFFICULT	9	12	20%	27%	-7%	0.69	0.26	1.84	0.712	0.309
SOMEWHAT DIFFICULT	29	19	64%	42%	22%	2.48	1.06	5.80	2.266	0.028
NOT DIFFICULT AT ALL	7	4	16%	9%	7%	1.89	0.51	6.97	1.744	0.261
10. REMINDERS - HOW DIFFICULT IS IT TO REMEMBER?										
VERY DIFFICULT	4	10	9%	22%	-13%	0.34	0.10	1.18	0.369	0.072

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SOMEWHAT DIFFICULT	9	1	20%	2%	18%	11.00	1.33	90.95	6.000	0.008
NOT DIFFICULT AT ALL	23	28	51%	62%	-11%	0.63	0.27	1.47	0.665	0.198
11. RISK- HOW LIKELY TO GET THE PROBLEM?										
VERY LIKELY	8	13	18%	29%	-11%	0.53	0.20	1.45	0.562	0.159
SOMEWHAT LIKELY	26	25	58%	56%	2%	1.09	0.48	2.52	1.085	0.500
NOT LIKELY AT ALL	1	4	2%	9%	-7%	0.23	0.02	2.17	0.254	0.180
12. SEVERITY - HOW SERIOUS IS THE PROBLEM?										
VERY SERIOUS	8	15	18%	33%	-16%	0.43	0.16	1.16	0.464	0.073
SOMEWHAT SERIOUS	20	14	44%	31%	13%	1.77	0.75	4.20	1.666	0.138
NOT SERIOUS AT ALL	9	11	20%	24%	-4%	0.77	0.28	2.10	0.792	0.400
13. ACTION EFFICACY - WILL DOING THE BEHAVIOR PREVENT THE PROBLEM?										
VERY LIKELY	16	35	36%	78%	-42%	0.16	0.06	0.40	0.198	0.000
SOMEWHAT LIKELY	16	14	36%	31%	4%	1.22	0.51	2.94	1.197	0.412
NOT LIKELY AT ALL	1	5	2%	11%	-9%	0.18	0.02	1.62	0.200	0.101

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14. DIVINE WILL - DOES GOD APPROVE OF YOU DOING THE BEHAVIOR?										
YES	30	35	67%	78%	-11%	0.57	0.22	1.46	0.609	0.173
MAY BE	0	10	0%	22%	-22%	0.00			0.000	0.001
15. POLICY - ANY COMMUNITY LAWS/REGULATIONS THAT MAKE IS LESS LIKELY YOU WILL DO THE BEHAVIOR?										
YES	3	8	7%	18%	-11%	0.33	0.08	1.34	0.357	0.098
NO	18	10	40%	22%	18%	2.33	0.93	5.87	2.111	0.055
DON'T KNOW/WON'T SAY	16	23	36%	51%	-16%	0.53	0.23	1.23	0.562	0.101
16. CULTURE - ANY CULTURAL RULES/TABOOS AGAINST THE BEHAVIOR?										
YES	0	2	0%	4%	-4%	0.00			0.000	0.247
NO	37	40	82%	89%	-7%	0.58	0.17	1.93	0.617	0.275

Table 12. Determinant Interpretation Table

Behavior Determinants	HHs cultivation of 3 to 4 nutritious crops and vegetables in each of their home garden
Self-Efficacy (Can you Do it?)	Almost Doer mentioned faced the obstacles.
Self-Efficacy (What make it easier?)	No Significant
Self-Efficacy (What makes it difficult?)	Most Doers mentioned that no having a fencing for home garden make it difficult for doing the behavior. Non Doers mentioned that it is very difficult for doing because they don't have a fertilizer and due to the domestic animal destruction.
Positive Consequenes (What are advantages?)	No significant
Negetative Consequence (What are disadvanges?)	No Significant
Social Norms (Who approves?) INFLUENCING GROUPS	Most Doer mentioned that their behaviors are being approved by God.
Social Norms (Who disapproved?) INFLUENCING GROUPS	No Significant
Access (How diffiucult is it to do the behavior?)	Most doer mentioned that it is very difficult to get some necessary materials and equipment for doing the behavior.
Cue for Action (How difficcult to remnber?)	Most Doer mentioned it is difficult to remember for doing the behavior.
Divine Will (Does GOD control or approve?)	Most doer mentioned that the behavior was being approved by God.
Policies (Are there policies?)	No significant
Culture (Any Cultural Taboos?)	No Significant
Susceptibility (Could you have this problem?)	No Significant
Severity (How seriouse is the problem?)	No significant
Action Efficacy (Will doing the behavior prevent the problem)	No significant

3.4.THANTLANG TOWSHIP

a) HHs Consumption of Nutritious Crops/vegetables:

In line with the response coding and tabulation sheet, the perception of Doer and Non-Doers in HHs consumption differed in response to 5 out of the 12 determinants investigating the survey including perceived self-efficacy, perceived positive consequence, perceived access perceived positive consequences, perceived severity and Perceived Policy. Most of the responses are identified as significantly different by both of the two methods in the following session.

The study has significantly revealed that 87 % of the non-doers mentioned that they are able do the behavior with their current skill, knowledge and resources while 58 % of Doers mentioned this. About 80 % of Non-Doers perceived that the behavior can be done as they have a land for cultivation. About 18 % of Doers mentioned that having no money makes it difficult for doing the behavior while 13 % of Does mentioned that having no seed makes it difficult for doing the behavior, and about 47 % of Doers mentioned that having garden not fenced make it difficult for doing the behaviors. About 24 % of Doers mentioned that by doing the behaviors, they gain a good brain while 38 % of Doers mentioned they gain the good vitamin (a Good Energy). About 53 % of Doers mentioned that it is very difficult to get the necessary materials and resources for doing the behaviors whereas only 18 % mentioned this. About 40 % of Doers mentioned that it will be very serious if be fallen into sickness and illness whereas 78 % of Non-Doers mentioned that it would not be getting serious at all. About 95 % of Doers mentioned that there is no such things as community laws and regulation that makes it likely against the behavior.

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Table 13. *Determinants that were significantly different between doers and no-doers, either based on the 15 % difference rule or the p value of the odds ratio, or both. (HHs Cultivation)*

DETERMINANTS	DOERS: +EXP. (A)	NON- DOERS: +EXP. (B)	DOERS %	NON- DOERS %	DIFF.	ODDS RATIO	CONFIDENCE		ESTIM. RELATIVE RISK	P-VALUE
							INTERVAL	INTERVAL		
							Lower Limit	Upper Limit		
1. SELF-EFFICACY: CAN YOU DO THE BEHAVIOR?										
YES	26	39	58%	87%	-29%	0.21	0.07	0.60	0.26	0.002
POSSIBLY	12	4	27%	9%	18%	3.73	1.10	12.64	3.05	0.026
NO	4	0	9%	0%	9%				10.88	0.058
DON'T KNOW			0%	0%	0%					1.000
2. SELF - EFFICACY: WHAT MAKES IT EASIER?			0%	0%	0%					1.000
HAVE LAND	22	36	49%	80%	-31%	0.24	0.09	0.61	0.288	0.002
3. SELF - EFFICACY: MAKES IT DIFFICULT:										

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NO MONEY	8	2	18%	4%	13%	4.65	0.93	23.27	3.526	0.045
NO SEED	6	0	13%	0%	13%				11.385	0.013
NO WATER SOURCES	9	6	20%	13%	7%	1.63	0.53	5.02	1.536	0.286
NO FENCING	21	7	47%	16%	31%	4.75	1.75	12.87	3.813	0.001
4. POSITIVE CONSEQUENCES: WHAT ARE THE ADVANTAGES?										
GOOD HEALTH	35	35	78%	78%	0%	1.00	0.37	2.70	1.000	0.600
SAVE MONEY	1	3	2%	7%	-4%	0.32	0.03	3.18	0.343	0.308
GOOD BRAIN	11	0	24%	0%	24%				12.912	0.000
GOOD FOR SKIN	7	2	16%	4%	11%	3.96	0.78	20.23	3.132	0.079
GOOD APPETITE	1	6	2%	13%	-11%	0.15			0.163	0.055
GOOD VITAMIN	17	7	38%	16%	22%	3.30	1.20	9.02	2.808	0.015
MORE ENERGY	19	12	42%	27%	16%	2.01	0.83	4.88	1.859	0.091
5. NEGATIVE CONSEQUENCES: WHAT ARE THE DISADVANTAGES?										
6. SOCIAL NORMS: DO MOST PEOPLE APPROVE?										
YES	39	43		96%	-96%	0.30	0.06	1.59	0.366	0.133
POSSIBLY	3	0	7%	0%	7%				10.643	0.121
			0%	0%	0%					1.000

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7. SOCIAL NORMS: WHO APPROVES?			0%	0%	0%					1.000
<i>FAMILY, BROTHER, SISTER</i>	20	20	44%	44%	0%	1.00	0.44	2.30	1.000	0.584
<i>HEALTH DEPARTEMENT</i>	2	1	4%	2%	2%	2.05	0.18	23.41	1.856	0.500
<i>AGRCILUTRAL ORGANIZATION</i>	21	20	47%	44%	2%	1.09	0.48	2.51	1.084	0.500
<i>NEIGHBORS</i>	17	15	38%	33%	4%	1.21	0.51	2.88	1.190	0.413
9. ACCESS - HOW DIFFICULT IS IT TO GET WHAT YOU GET WHAT YOU NEED TO DO THE BEHAVIOR?										
VERY DIFFICULT	24	8	53%	18%	36%	5.29	2.02	13.84	4.214	0.000
SOMEWHAT DIFFICULT	0	0	0%	0%	0%					1.000
NOT DIFFICULT AT ALL	43	42	96%	93%	2%	1.54	0.24	9.66	1.481	0.500
			0%	0%	0%					1.000
NOT DIFFICULT AT ALL	43	42	96%	93%	2%	1.54	0.24	9.66	1.481	0.500
11. RISK- HOW LIKELY TO GET THE PROBLEM?										
VERY LIKELY	43	38	96%	84%	11%	3.96	0.78	20.23	3.630	0.079

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SOMEWHAT LIKELY	1	2	2%	4%	-2%	0.49	0.04	5.59	0.516	0.500
12. SEVERITY - HOW SERIOUS IS THE PROBLEM?			0%	0%	0%					1.000
VERY SERIOUS	18	5	40%	11%	29%	5.33	1.77	16.10	4.095	0.002
SOMEWHAT SERIOUS	6	5	13%	11%	2%	1.23	0.35	4.37	1.204	0.500
NOT SERIOUS AT ALL	20	35	44%	78%	-33%	0.23	0.09	0.57	0.275	0.001
13. ACTION EFFICACY - WILL DOING THE BEHAVIOR PREVENT THE PROBLEM?										
VERY LIKELY	42	45		100%	-100%	0.00			0.094	0.121
14. DIVINE WILL - DOES GOD APPROVE OF YOU DOING THE BEHAVIOR?										
YES	43	39	96%	87%	9%	3.31	0.63	17.36	3.056	0.133
NO	0	0	0%	0%	0%					1.000
15. POLICY - ANY COMMUNITY LAWS/REGULATIONS THAT MAKE IS LESS LIKELY YOU WILL DO THE BEHAVIOR?										
YES			0%	0%	0%					1.000

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NO	43	0	96%	0%	96%				203.500	0.000
16. CULTURE - ANY CULTURAL RULES/TABOOS AGAINST THE BEHAVIOR?			0%	0%	0%					1.000
YES	0	0	0%	0%	0%					1.000
NO	43	41	96%	91%	4%	2.10	0.36	12.08	1.983	0.338

Table 14. Determinant Interpretation Table

Behavior Determinants	HHs cultivation of 3 to 4 nutritious crops and vegetables in each of their home garden
Self-Efficacy (Can you Do it?)	Almost Doer faced the obstacles.
Self-Efficacy (What make it easier?)	No Significant
Self-Efficacy (What makes it difficult?)	Most Doers mentioned that no having a fencing for home garden and having no seed make it difficult for doing the behavior.
Positive Consequenes (What are advantages?)	More doers perceived that they got more energy and got a good brain for doing a behavior.
Negetative Consequence (What are disadvanges?)	No Significant
Social Norms (Who approves?) INFLUENCING GROUPS	No significant
Social Norms (Who disapproved?) INFLUENCING GROUPS	No Significant
Access (How diffiucult is it to do the behavior?)	Most doer mentioned that it is very difficult to get some necessary materials and equipment for doing the behavior.
Cue for Action (How difficcult to remnber?)	No Significant
Divine Will (Does GOD control or approve?)	No significant
Policies (Are there policies?)	No significant
Culture (Any Cultural Taboos?)	No Significant
Susceptibility (Could you have this problem?)	No Significant
Severity (How seriouse is the problem?)	No significant
Action Efficacy (Will doing the behavior prevent the problem)	No significant

b) Home Garden Cultivation of 3 to 4 Nutritious crops/vegetables

In line with the response coding and tabulation sheet, the perception of Doer and Non-Doers in HHs cultivation differed in response to 5 out of the 12 determinants investigating the survey including perceived self-efficacy, Positive Consequences, perceived access, perceived Risk and perceived severity. Most of the responses are identified as significantly different by both of the two methods in the following session.

The study has significantly released that 38 % of Non-Doers perceived that having home garden makes it easy for doing the behavior while 18 % of Doers mentioned this. About 64 % of Doers mentioned that having water access makes it easy for doing the behavior. About 67 % of Non-Doer mentioned that having home garden not fenced will make it difficult for doing the behavior. About 44 % of Non-Doers mentioned that having no water will make it difficult for doing the behavior. About 78 % of Doers mentioned that they got some good income and save some money for doing the behavior whereas 47 % of Non-Doers mentioned. About 62 % of Non-Doers mentioned that it is very difficult to get the necessary materials and supports for doing the behaviors while 11 % of Doers mentioned this. About 42 % of Non-Doers mentioned that it is very likely to get sick in the next 1 or two months. About 62 % of Non-Doers mentioned that it will be very serious if be getting sickness and illness.

Barrier Analysis Reports on 'Diet Diversity': HHs consumption of Nutritious crops and HHs Cultivation of Nutritious Crops, June 2017 to November, 2017

Table 15. Determinants that were significantly different between doers and no-doers, either based on the 15 % difference rule or the p value of the odds ratio, or both. (HHs Cultivation)

DETERMINANTS	DOERS: +EXP. (A)	NON- DOERS: +EXP. (B)	DOERS %	NON- DOERS %	DIFF.	ODDS RATIO	CONFIDENCE INTERVAL		ESTIM. RELATIVE RISK	P-VALUE
							Lower Limit	Upper Limit		
	Formula Adjusted Accordingly									
1. SELF-EFFICACY: CAN YOU DO THE BEHAVIOR?										
YES	41	39	91%	87%	4%	1.58	0.41	6.02	1.52	0.370
POSSIBLY	0	4	0%	9%	-9%	0.00			0.00	0.058
2. SELF - EFFICACY: WHAT MAKES IT EASIER?										1.000
HOME GARDEN	8	17	18%	38%	-20%	0.36	0.13	0.94	0.388	0.029
WATER ACCESS	29	12	64%	27%	38%	4.98	2.03	12.25	4.141	0.000
FERTILIZER	1	1	2%	2%	0%	1.00	0.06	16.50	1.000	0.753
HAVE SEED	4	1	9%	2%	7%	4.29	0.46	40.01	3.280	0.180
3. SELF - EFFICACY: MAKES IT DIFFICULT:										
PEST AND DISEASE	10	9	22%	20%	2%	1.14	0.41	3.15	1.127	0.500
NO FERTILIZER	7	8	16%	18%	-2%	0.85	0.28	2.59	0.865	0.500

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<i>NO FENCING</i>	10	30	22%	67%	-44%	0.14	0.06	0.36	0.173	0.000
<i>WATER</i>	8	20	18%	44%	-27%	0.27	0.10	0.71	0.301	0.006
4. POSITIVE CONSEQUENCES: WHAT ARE THE ADVANTAGES?										
<i>GOOD HEALTH</i>	22	23	49%	51%	-2%	0.91	0.40	2.09	0.923	0.500
<i>GOOD INCOME AND SAVE MONEY</i>	35	21	78%	47%	31%	4.00	1.60	9.99	3.531	0.002
<i>MORE ENERGY AND STRENGTH</i>	8	8	18%	18%	0%	1.00	0.34	2.95	1.000	0.608
<i>GETTING MORE VEGETABLES</i>	0	18	0%	40%	-40%	0.00			0.000	0.000
6. SOCIAL NORMS: DO MOST PEOPLE APPROVE?										
<i>YES</i>	42	39		87%	-87%	2.15	0.50	9.21	2.031	0.242
<i>POSSIBLY</i>	4	0	9%	0%	9%				10.878	0.058
7. SOCIAL NORMS: WHO APPROVES?										
<i>RELATIVE</i>	23	16	51%	36%	16%	1.89	0.81	4.41	1.772	0.101
<i>VILLAGERS</i>	18	26	40%	58%	-18%	0.49	0.21	1.13	0.524	0.070
<i>NEIGHBORS</i>	24	17	53%	38%	16%	1.88	0.81	4.36	1.763	0.102
9. ACCESS - HOW DIFFICULT IS IT TO GET WHAT YOU GET WHAT YOU NEED TO DO THE BEHAVIOR?										1.000
<i>VERY DIFFICULT</i>	5	28	11%	62%	-51%	0.08	0.03	0.23	0.094	0.000
<i>SOMEWHAT DIFFICULT</i>	5	1	11%	2%	9%	5.50	0.62	49.11	3.893	0.101



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NOT DIFFICULT AT ALL	23	14	51%	31%	20%	2.31	0.98	5.47	2.112	0.043
10. REMINDERS - HOW DIFFICULT IS IT TO REMEMBER?										
NOT DIFFICULT AT ALL	43	43	96%	96%	0%	1.00	0.13	7.43	1.000	0.692
11. RISK- HOW LIKELY TO GET THE PROBLEM?										
VERY LIKELY	7	19	16%	42%	-27%	0.25	0.09	0.69	0.281	0.005
SOMEWHAT LIKELY	16	17	36%	38%	-2%	0.91	0.39	2.14	0.917	0.500
NOT LIKELY AT ALL	19	14	42%	31%	11%	1.62	0.68	3.84	1.537	0.191
12. SEVERITY - HOW SERIOUS IS THE PROBLEM?			0%	0%	0%					1.000
VERY SERIOUS	11	28	24%	62%	-38%	0.20	0.08	0.49	0.230	0.000
SOMEWHAT SERIOUS	6	1	13%	2%	11%	6.77	0.78	58.73	4.462	0.055
13. ACTION EFFICACY - WILL DOING THE BEHAVIOR PREVENT THE PROBLEM?										
VERY LIKELY	43	43	96%	96%	0%	1.00	0.13	7.43	1.000	0.692
14. DIVINE WILL - DOES GOD APPROVE OF YOU DOING THE BEHAVIOR?										

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YES	43	38	96%	84%	11%	3.96	0.78	20.23	3.630	0.079
NO			0%	0%	0%					1.000
15. POLICY - ANY COMMUNITY LAWS/REGULATIONS THAT MAKE IS LESS LIKELY YOU WILL DO THE BEHAVIOR?										
YES	43	43	96%	96%	0%	1.00	0.13	7.43	1.000	0.692
NO			0%	0%	0%					1.000
16. CULTURE - ANY CULTURAL RULES/TABOOS AGAINST THE BEHAVIOR?										
YES	43	43	96%	96%	0%	1.00	0.13	7.43	1.000	0.692
NO			0%	0%	0%					1.000

Table 17. Determinant Interpretation Table

Behavior  Determinants 	HHs cultivation of 3 to 4 nutritious crops and vegetables in each of their home garden
Self-Efficacy (Can you Do it?)	No Significant
Self-Efficacy (What make it easier?)	No Significant
Self-Efficacy (What makes it difficult?)	Most Non-Doers mentioned that no having a fencing for home garden and having no water sources make it difficult for doing the behavior. Some Doers mentioned that having home garden and water access make it easy for doing the behavior.
Positive Consequenes (What are advantages?)	More doers perceived that they got more income and save money for doing the behavior.
Negetative Consequence (What are disadvanges?)	No Significant
Social Norms (Who approves?) INFLUENCING GROUPS	No significant
Social Norms (Who disapproved?) INFLUENCING GROUPS	No Significant
Access (How diffiucult is it to do the behavior?)	Most Non-Doer mentioned that it is very difficult to get some necessary materials and equipment for doing the behavior.
Cue for Action (How difficcult to remnber?)	No Significant
Divine Will (Does GOD control or approve?)	No significant
Policies (Are there policies?)	No significant
Culture (Any Cultural Taboos?)	No Significant
Susceptibility (Could you have this problem?)	More Non-Doers mentioned that it is very likely to get sick or illness in the next 1 or two months.
Severity (How seriouse is the problem?)	No significant
Action Efficacy (Will doing the behavior prevent the problem)	No significant

3.5. TONZANG TOWNSHIP

a) HHs Consumption of Nutritious Crops/vegetables:

In line with the response coding and tabulation sheet, the perception of Doer and Non-Doers in HHs consumption differed in response to 4 out of the 12 determinants investigating the survey including perceived self-efficacy, perceived access, perceived severity and Perceived Policy. Most of the responses are identified as significantly different by both of the two methods in the following session.

The study significantly revealed that 24 % of Doers mentioned that it is very difficult to do the behavior because of bad weather, and about 76 % of Non-Doers perceived that it will be very difficult to do the behavior because of seasonal difference for crops cultivation. About 64 % of Non-Doers mentioned that having no water access make it difficult for doing the behavior while 53 % of Doers mentioned this. About 38 % of Non-Doers mentioned that having no market make it difficult for doing the behaviors. About 53 % of Doers mentioned that it is very difficult to get some materials and supports for doing the behaviors. About 71 % of Non-Doers mentioned that it will not be difficult at all to get the necessary materials and supports for doing the behavior while 31 % of Doers only mentioned this. About 40 % of Doers mentioned that it will be getting very serious if be fallen into sickness and illness while 11 % of Non-Doers mentioned this. About 78 % of Non-Doers mentioned that it will not be serious at all if be fallen into sickness or illness while 44 % of Doers mentioned only this. About 96 % of Doers mentioned that there is no such things as a policy, rule and regulation that is likely against doing the behavior.

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Table 18. *Determinants that were significantly different between doers and no-doers, either based on the 15 % difference rule or the p value of the odds ratio, or both. (HHs Consumption)*

DETERMINANTS	DOERS: +EXP. (A)	NON- DOERS: +EXP. (B)	DOERS %	NON- DOERS %	DIFF.	ODDS RATIO	CONFIDENCE INTERVAL		ESTIM. RELATIVE RISK	P-VALUE
			Formula Adjusted Accordingly				Lower Limit	Upper Limit		
3. SELF - EFFICACY: MAKES IT DIFFICULT:										
BAD WEATHER	11	0	24%	0%	24%				12.912	0.000
NO CULTIVATION DUE TO DIFFERENT SEASON	16	34	36%	76%	-40%	0.18	0.07	0.45	0.219	0.000
NO WATER SOURCES	24	29	53%	64%	-11%	0.63	0.27	1.47	0.662	0.196
NO MARKET	3	17	7%	38%	-31%	0.12	0.03	0.44	0.135	0.000
9. ACCESS - HOW DIFFICULT IS IT TO GET WHAT YOU GET WHAT YOU NEED TO DO THE BEHAVIOR?										
VERY DIFFICULT	24	8	53%	18%	36%	5.29	2.02	13.84	4.214	0.000
SOMEWHAT DIFFICULT	3	3	7%	7%	0%	1.00	0.19	5.24	1.000	0.662

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NOT DIFFICULT AT ALL	14	32	31%	71%	-40%	0.18	0.07	0.45	0.221	0.000
11. RISK- HOW LIKELY TO GET THE PROBLEM?										
VERY LIKELY	43	38	96%	84%	11%	3.96	0.78	20.23	3.630	0.079
SOMEWHAT LIKELY	1	2	2%	4%	-2%	0.49	0.04	5.59	0.516	0.500
12. SEVERITY - HOW SERIOUS IS THE PROBLEM?			0%	0%	0%					1.000
VERY SERIOUS	18	5	40%	11%	29%	5.33	1.77	16.10	4.095	0.002
SOMEWHAT SERIOUS	6	5	13%	11%	2%	1.23	0.35	4.37	1.204	0.500
NOT SERIOUS AT ALL	20	35	44%	78%	-33%	0.23	0.09	0.57	0.275	0.001
15. POLICY - ANY COMMUNITY LAWS/REGULATIONS THAT MAKE IS LESS LIKELY YOU WILL DO THE BEHAVIOR?										
NO	43	0	96%	0%	96%				203.500	0.000

Table 19. Determinant Interpretation Table

Behavior Determinants	HHs Consumption of 3 to 4 nutritious crops and vegetables in each of their home garden
Self-Efficacy (Can you Do it?)	No Significant
Self-Efficacy (What make it easier?)	No Significant
Self-Efficacy (What makes it difficult?)	Most Non-Doers mentioned that no having cultivated in the whole season due to seasonal difference and having no water sources make it difficult for doing the behavior. Some Doers mentioned that having a bad weather make it difficult for doing the behaviors.
Positive Consequenes (What are advantages?)	No Significant
Negetative Consequence (What are disadvanges?)	No Significant
Social Norms (Who approves?) INFLUENCING GROUPS	No significant
Social Norms (Who disapproved?) INFLUENCING GROUPS	No Significant
Access (How diffiucult is it to do the behavior?)	Most Non-Doer mentioned that it is very difficult to get some necessary materials and equipment for doing the behavior. Some Doers also mentioned that it is very difficult for doing the behaviors.
Cue for Action (How diffiucult to remnber?)	No Significant
Divine Will (Does GOD control or approve?)	No significant
Policies (Are there policies?)	Most Doers mentioned that there is no such things as policies, rule and regulation in the communities that is likely against doing the behaviors.
Culture (Any Cultural Taboos?)	No Significant
Susceptibility (Could you have this problem?)	No Significant
Severity (How seriouse is the problem?)	Most Doers mentioned that it will be getting very serious if be fallen into sickness and illness.
Action Efficacy	No significant

(Will doing the behavior prevent the problem)	
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b) Home Garden Cultivation of 3 to 4 Nutritious Crops/vegetables

In line with the response coding and tabulation sheet, the perception of Doer and Non-Doers in HHs cultivation differed in response to 4 out of the 12 determinants investigating the survey including perceived self-efficacy, perceived access, perceived Risk and perceived severity. Most of the responses are identified as significantly different by both of the two methods in the following session.

The study significantly revealed that 38 % of Non-Doers perceived that having a home garden will make it easy for doing the behavior while 18 % of Doers mentioned this. About 64 % of Doers mentioned that having a water source or access make it easy for doing the behaviors while 27 % of Non-Doer mentioned this. About 67 % of Non-Doers mentioned that not having home garden fenced makes it difficult for doing the behaviors while 22 % of Doers mentioned this. About 44 % of Non-Doers mentioned that having no water make it difficult for doing the behaviors while only 18 % of Doer mentioned this. About 62 % of Non-Doers mentioned that it is very difficult to get more materials and necessary resources for doing the behaviors while 51 % of Doers mentioned that it will be difficult at to do so for doing the behaviors. About 62 % of Non-Doers mentioned that it will be very serious if be fallen into sickness or some sorts of problems while 24 % of Doers mentioned this.

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Table 20. *Determinants that were significantly different between doers and no-doers, either based on the 15 % difference rule or the p value of the odds ratio, or both. (HHs Cultivation)*

DETERMINANTS	DOERS: +EXP. (A)	NON- DOERS: +EXP. (B)	DOERS %	NON- DOERS %	DIFF.	ODDS RATIO	CONFIDENCE INTERVAL		ESTIM. RELATIVE RISK	P-VALUE
							Lower Limit	Upper Limit		
2. SELF - EFFICACY: WHAT MAKES IT EASIER?			0%	0%	0%					1.000
HOME GARDEN	8	17	18%	38%	-20%	0.36	0.13	0.94	0.388	0.029
SOME WATER SOURCES	29	12	64%	27%	38%	4.98	2.03	12.25	4.141	0.000
3. SELF - EFFICACY: MAKES IT DIFFICULT:										
NO FENCING	10	30	22%	67%	-44%	0.14	0.06	0.36	0.173	0.000
WATER	8	20	18%	44%	-27%	0.27	0.10	0.71	0.301	0.006
9. ACCESS - HOW DIFFICULT IS IT TO GET WHAT YOU GET WHAT YOU NEED TO DO THE BEHAVIOR?										
VERY DIFFICULT	5	28	11%	62%	-51%	0.08	0.03	0.23	0.094	0.000
SOMEWHAT DIFFICULT	5	1	11%	2%	9%	5.50	0.62	49.11	3.893	0.101

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NOT DIFFICULT AT ALL	23	14	51%	31%	20%	2.31	0.98	5.47	2.112	0.043
11. RISK- HOW LIKELY TO GET THE PROBLEM?										
VERY LIKELY	7	19	16%	42%	-27%	0.25	0.09	0.69	0.281	0.005
SOMEWHAT LIKELY	16	17	36%	38%	-2%	0.91	0.39	2.14	0.917	0.500
NOT LIKELY AT ALL	19	14	42%	31%	11%	1.62	0.68	3.84	1.537	0.191
12. SEVERITY - HOW SERIOUS IS THE PROBLEM?										
VERY SERIOUS	11	28	24%	62%	-38%	0.20	0.08	0.49	0.230	0.000
SOMEWHAT SERIOUS	6	1	13%	2%	11%	6.77	0.78	58.73	4.462	0.055
13. ACTION EFFICACY - WILL DOING THE BEHAVIOR PREVENT THE PROBLEM?										
VERY LIKELY	43	43	96%	96%	0%	1.00	0.13	7.43	1.000	0.692

Table 21. Determinant Interpretation Table

Behavior Determinants	HHs Consumption of 3 to 4 nutritious crops and vegetables in each of their home garden
Self-Efficacy (Can you Do it?)	No Significant
Self-Efficacy (What make it easier?)	More Non-Doers mentioned that having a home garden and water access makes it easy for doing the behaviors.
Self-Efficacy (What makes it difficult?)	More Non –Doers mentioned that no having a home garden and water access makes it difficult for doing the behaviors.
Positive Consequenes (What are advantages?)	No Significant
Negetative Consequence (What are disadvanges?)	No Significant
Social Norms (Who approves?) INFLUENCING GROUPS	No significant
Social Norms (Who disapproved?) INFLUENCING GROUPS	No Significant
Access (How diffiucult is it to do the behavior?)	Most Non-Doer mentioned that it is very difficult to get some necessary materials and equipment for doing the behavior.
Cue for Action (How difficcult to remnber?)	No Significant
Divine Will (Does GOD control or approve?)	No significant
Policies (Are there policies?)	No significant
Culture (Any Cultural Taboos?)	No Significant
Susceptibility (Could you have this problem?)	No Significant
Severity (How seriouse is the problem?)	Most Non-Doers mentioned that it will be getting very serious if be fallen into sickness and illness.
Action Efficacy (Will doing the behavior prevent the problem)	No significant

4. RECOMMENDED ACTIVITIES

In its realistic estimation, the recommended activities are needed to be taken into consideration that it will be significantly needed to do more nutrition awareness and training in the targeted villages as a whole. It will be good for doing some additional nutrition awareness while doing other agriculture extension activities during the field visit. It is generally figured out that more nutrition education and awareness should be given to the targeted communities. Based on the findings and within the parameters of the project stage described above, the following key activities/messages are recommended (see **Table 22**)

Table 22. Recommended Activities by (significant) determinant in order to accelerate the promotion of diet diversity of nutritious crops/vegetables in their daily meal or home garden cultivation.

Determinants	Recommended Activities
Self-efficacy	<ul style="list-style-type: none"> • Give more awareness and nutrition training in the targeted community by using more IEC Materials and Pamphlets. • Promote the technical assistance to the farmer group members/community in terms of producing the good fertilizers. • Promote more home garden or space for crops or vegetables cultivation in the targeted community • Promote more seasonal crops/vegetables in the targeted communities. • Provide the small scale investment or financial supports for doing a fencing (home garden) and irrigation for getting a water access.
Positive Consequences	<ul style="list-style-type: none"> • Talk and spend more time with the targeted communities to make sure doing a habit will bring more positive results in their lives. Their level of the positive perception should be increased or level up so that the behavior is constantly done.
Social Norms	<ul style="list-style-type: none"> • Emphasize importance of home garden cultivation because it can be only the way for the rural communities to get access to diet diversity for lactating mothers and pregnant women during the awareness session of local and religious leaders and other health department as well. • Work with other NGO/INGO in terms of finding the best possible way to promote the further dissemination of nutrition messages in the communities. • Invite some pastors and health workers in the local communities during a nutrition awareness and feeding session in the villages. • Invite some neighbors and relative to make sure that they are also well informed about the key nutrition messages during the event of the nutrition program or during doing a pamphlet distribution.

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Access	<ul style="list-style-type: none"> • Emphasize importance of having a sufficient materials and supports for doing a behavior. • Highlight to all change agents* that it requires time to promote the behavior of taking 3 to 4 vegetables in their daily meal and cultivating 3 to 4 vegetables crops in their respective home garden that they all needs supports from others within their family or neighborhood.
Cue for Action	<ul style="list-style-type: none"> • Produce more visibility charts on nutrition topic and subjects to be pasted in their visible wall as the reminders.
Susceptibility/Risk	<ul style="list-style-type: none"> • Ensure that concerned staffs highlight during the nutrition awareness sessions the following points: <ul style="list-style-type: none"> ❖ Malnutrition and diarrhea are serious conditions, and very much so when not treated. ❖ Almost all HHs are at risk of being fallen into sick in the coming day. ❖ Encourage more farmers groups or community for doing a behavior as the cultivation of nutritious crops/vegetables are the potential way of improving the diet diversity of HHs in the community. ❖ Encourage the farmer groups/community to add more nutritious crops/vegetables in their daily meal ensuring that they are not fallen into sickness or illness by getting malnutrition. ❖ Increase their perception that adding a variety of foods and vegetables in a daily meal is vital for a healthy/happy lives. ❖ Eating a variety of nutritious crops/vegetables is one way of reducing the risk of an infant, pregnant women in terms of malnutrition and illness.
Severity	
Action efficacy	

***Change agents** include lead mothers, health promoters, HHs head, family members, peer mothers, health educators, the local and religious leaders who are sensitized by the project and everybody else who is able to promote the desired behavior.

5. LESSON LEARNED

As far as the key observation on the whole process of BA research is concerned, the overall process went very smoothly, also due to the well experienced data collectors. There is, however always room for improvement and a number of lessons learned are listed in the following. These also included suggestions by the enumerators at the end of data collection week.

- Have a good screening questions that are really easy to apply
- First time of doing a research, no fully satisfied in terms of preparation and programing. Need to be improved in the future.
- Need to consider the budget allocation for doing this research so that it is completed on time and more systematic technically.
- Difficult to find Doers as the respondents were not well informed in terms of Nutrition Awareness.
- Take more time for Coding and Data analysis as it is done by a single person in the regional office.
- In relation to the 'Policy', it would be good to not only ask for whether or not law exist but to also record what they are.
- Interviewers should be aware of "Text Book" answers vs real practice and understand how to probe well. The skill for interviewers is vital for getting the answers or responses from the respondents.
- In relation to 'Social norms' and the choice of the word 'approves' it is useful to clarify ahead of the data collection what to do if somebody answers 'nobody' or 'me'.

ANNEX 1. Survey and Training Schedules

Survey Schedule:

Date	Activities
March and June 1 First week	Survey Preparation: Questionnaires (Design, Initial Translation)
5 th to 6 th June 2017	Training of EAs and Mock Survey in Falam Township
7 th to 23 rd June 2017	Data Collection in Falam Township
7 th to 8 th June 2017	Training of EAs and Mock Survey in Tedim Township
9 th to 23 rd June 2017	Data Collection in Tedim township
6 th to 7 th June 2017	Training of EA and Mock Survey in Tonzang Township
8 th to 20 th July 2017	Data Collection in Tonzang Township
5 th to 6 th July 2017	Training of EAs and Mock Survey in Hakha Township
7 th to 22 th July 2017	Data Collection in Hakha Township
5 th to 6 th September 2017	Training of EAs in Thantlang Township
7 th to 23 rd September 2017	Data Collection in Thantlang Township
1 Week October 2017 to February 2018	Coding and Data Analysis/Data interpretation in MS excel and DBC Framework for Result Interpretation of 5 Township Data in regional office.
March 2018 and April 1 st Week 2018	A final Synthesis of 5 Township Results and a final report on “Barrier Analysis survey of CORAD’s program’.

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ANNEX 2: MOCK SURVEY SCHEDULE

Venue: Each Township Office

Participant: 14 EAs in par Township

Note: Due to much time required to prepare and translate and finalize the questionnaires than anticipated and the limitation of budget allocation, an actual pilot test could not be done in one place for all EA staffs. The NMC followed EAs during doing the pilot test or mock survey in the villages. 1 villagers per-township was selected for doing a mock survey. The mock survey session was originally planned as follows:

<p>Half-Day</p>	<p>Visit to One Pilot Village in each Township</p> <ul style="list-style-type: none"> • Explain the procedure • Handout Questionnaires and Pens • Revised the questionnaires one by one • Divide up into two groups • Go to the area and distribute across • Every group does 8 surveys (4 for HHs Consumption and 4 for HHs cultivation) • Go back to office/Training Room for feedback session and further recommendation for the actual data collection process and Refreshment Break 	<ul style="list-style-type: none"> - Flip Chart: Nearby, Everybody does 4 Interviews or until (TIME) - Two Groups: Two EAs and I EAs with NMC
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ANNEX 3.Survey Questionnaire

Group: Doer Non-Doer

Barrier Analysis Questionnaire on
The cultivation of Nutritious Crops/vegetables in their respective home garden by the household family

Behavioral Statement:
The household family has cultivated at least 3 nutritious crops/vegetables in their respective home garden.

<p>Demographic Data</p> <p>Interviewer's Name: _____ Questionnaire No: _____ Org: _____</p> <p>Date: ___/___/___/ Township (Circle one): Hakha Thantlang Tedim Falam</p>
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Script Introduction

Hello, my name is _____ and I am part of a study team from CORAD looking into the things people do to improve their nutritional status, especially on the cultivation of nutritious crops/vegetables by the household family in their respective home garden. The interview will take only about 15 minutes and your answer will be totally confident. They won't be shared with anybody else. If you decided to talk with me, you won't receive any gifts or services, nor will any services be withheld if you decided not to participate. I am interested in hearing your views on this topic. Would you like to participate in the study?

Section A: Doer and Non-doer Screening Questions

1. Do you any children?
 - a. Yes
 - b. No (*End the interview and look for another respondent*)
 - c. Don't know or Won't say (*End the interview and look for another respondent*)
2. Do you have a home garden?
 - a. Yes
 - b. No (*End the interview and look for another respondent*)
 - c. Don't know or Won't say. (*End the interview and look for another respondent*)

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3. Have you ever heard about 3 foods group in health or nutrition subject? If you do so, what are they? Please List just 1 or 2 from each foods group?
 - a. Yes, _____
 - b. No (*Marked as Non-doer and skip to question B#1*)
 - c. Won't say (*End the interview and look for another respondent*)
4. Do you cultivate at least 3 nutritious crops/vegetable in your home garden now or before?
 - a. Yes
 - b. No (*Marked as Non-doer and skip to question B#2*)
 - c. Don't know or Won't say (*End the interview and look for another respondent*)

DOER AND NON-DOER CLASSIFICATION TABLE

Doer (All of the following)	Non-doer (Any of the following)	Don't interview (Any of the following)
Question-1 =A	Question-3 = B	Question-1 = B, C
Question-2 = A	Question-4 = B	Question-2 = B, C
Question-3 = A		Question-3 = B, C
Question-4 = A		Question-4 = B, C

GROUP:

- Doer
- Non-doer

Behavior Explanation

[Show the family the picture of 3 food groups and place it where they can see it during the entire interview]

In the following question I am going to be talking about the cultivation of nutrition crops/vegetable in your respective home garden. When I mention the food groups I am talking about foods in these groups. Make sure that the picture of 3 food groups is shown to whomever is interviewed.

Section B: Researched Questions

(Perceived Self-Efficacy/Skill)

1. *Doer and Non-doer*: With your present knowledge, resources and skills do you think you could cultivate at least 4 nutritious crops/vegetables in your home garden?
 - a. Yes
 - b. Possibly
 - c. No
 - d. Don't know

(Perceived Self-efficacy)

2. a. *Doer*: What make it easy for you to cultivate at least 4 nutritious crops/vegetable in your home garden?
b. *Non-Doer*: What would make easy for you to cultivate at least 4 nutritious crops/vegetable in your home garden?
[Write all responses below. Probe with "What else"?
Near water sources.

(Perceived Self-efficacy)

3. a. *Doer*: What makes it difficult for you to cultivate at least 4 nutritious crops/vegetable in your home garden?
b. *Non-doer*: What would make it difficult for you to cultivate at least 4 nutritious crops/vegetables in your home garden?
[Write all responses below. Probe with "What else"?

(Perceived Positive Consequences)

4. a. *Doer*: What are the *advantages* of cultivating at least 4 nutritious crops/vegetable in your home garden?
b. *Non-doer*: What would be the *advantage* of cultivating at least 4 nutritious crops/vegetable in your home garden?
(Write all responses below. Probe with "What else"?
Need not to buy

(Perceived Negative Consequences)

5. a. *Doer*: What are the *disadvantage* of cultivating at least 4 nutritious crops/vegetable in your home garden?
b. *Non-Doer*: What would be the *disadvantage* of cultivating at least 4 nutritious crops/vegetable in your home garden?

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[Write all responses below. Probe with “What else?”]

(Perceived Social Norms)

6. *a. Doer:* Do most of people that you know *approve* of your cultivating at least 4 nutritious crops/vegetable in your garden?

b. Non-doer: Would most of the people that you know *approve* of your cultivating at least 4 nutritious crops/vegetables in your garden?

- A. Yes
- B. Possibly
- C. No
- Don't know/won't say

(Perceived Social Norms)

7. *a. Doer:* Who are the people that *approve* of your behavior: cultivating at least 4 nutritious crops/vegetables in home garden?

b. Non-doer: Who are all the people that will *approve* of your behavior: cultivating at least 4 nutritious crops/vegetables in your home garden?

[Write all responses below. Probe with “Who else”? “Any one in particular?”]

Family and relative: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12,13, 14, 15, 16, 17, 18, 19, 20,21, 22, 23, 24, 25, 26,

(Perceived Social Norms)

8. *a. Doer:* Who are the people that *disapprove* of your behavior: cultivating at least 4 nutritious crops/vegetables in home garden?

b. Non-doer: Who are all the people that will *disapprove* of your behavior: cultivating at least 4 nutritious crops/vegetables in your home garden?

[Write all response below. Probe with “Who else”? “Anyone else in particular?”]

(Perceived Access)

9. *a. Doer:* How difficult is it to get the **materials and services** you need to cultivate at least 4 nutritious crops/vegetables in home garden?

b. Non-doer: How difficult would it be to get the materials and services you need to cultivate at least 4 nutritious crops/vegetables in home garden?

- A. very difficult
- B. somewhat difficult
- C. Not difficult at all

(Perceived Cues for Action/Reminders)

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10. *a. Doer:* How difficult is it to *remember* to cultivate at least 4 nutritious crops/vegetables in home garden?

b. Non-doe: How difficult do you think it would be to *remember* to cultivate at least 4 nutritious crops/vegetables in home garden?

- a. Very difficult
- b. Somewhat difficult
- c. Not difficult at all

(Perceived Susceptibility/Perceived Risk)

11. *a. Doer:* How likely is it that you and your family could get any disease or malnutrition in the next one month?

b. Non-Doer: How likely is it that you and your family could get any disease or malnutrition in the next one month?

- A. Very likely
- B. Somewhat Likely
- C. Not likely at all

(Perceived Severity)

12. *Doer and Non-doe:* How serious would it be if you and your family get any disease or malnutrition?

- a. Very serious
- b. Not serious
- c. Not serious at all

(Perceived Action Efficacy)

13. *Doer and Non-doe:* How likely is it that you and your family would get any disease or malnutrition if you didn't cultivate at least 4 nutritious crops/vegetables in your home garden?

- a. Very likely
- b. Somewhat likely
- c. Not likely at all

(Perceived Divine Will)

14. *a. Doer:* Do you think that God (or other gods) *approve* of your cultivating: at least 4 nutritious crops/vegetables in your home garden?

b. Non-doe: Do you think that God (or other gods) would *approve of* our cultivating: at least 4 nutritious crops/vegetables in your home garden?

- A. Yes
- B. May be

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- C. No

(Policy)

15. a. *Doer*: Are there any community laws or rules in the place that you know of that made it more likely that you cultivate at least 4 nutritious crops/vegetables in your home garden?

b. *Non-doer*: Are there any community laws or rules in the place that you know of that make it more likely that you cultivate at least 4 nutritious crops/vegetables in your home garden?

- A. Yes
- B. May be
- C. No

(Culture)

16. *Doer and Non- Doer*: Are there any cultural rules or taboos that you know of for or against cultivating at least 4 nutritious crops/vegetables in your home garden?

- A. Yes
- B. May be
- C. No

(Universal Motivator)

17. *Doer and Non-doer*: What are the things you want most in your life?
(Write all responses below)

Thank the respondent for his or her time!

Group: **Doer** **Non-Doer**

Barrier Analysis Questionnaires on

Diet Diversity of the household:

THE BEHAVIORAL STATEMENT:

The HH family adds at least 3 nutritious vegetables/Crops in their daily Meal based on three food groups.

Demographic Data

Interviewer's Name: _____ Questionnaires No: _____ Org: _CORAD-regional

Date: ____/____/____/ Township (Circle One): Hakha Falam Tedim Thantlang
Tonzang

Script Introduction

Hello, my name is _____ and I am part of a study team from CORAD looking into the things people do to improve their nutrition status, especially on the diet diversity of the family household. The interview will take only about 15 minutes and your answer will be totally confident. They won't be shared with anybody else. If you decided to talk with me, you won't receive any gifts or services, nor will any services be withheld if you decided not to participate. I am interested in hearing your views on this topic. Would you like to participate in the study?

Section A: Doer and Non-doer Screening Questions

1. Do you have any children?
 - a. Yes
 - b. No (End the interview)
 - c. Won't say (End interview and look for another household)
2. Have you ever heard about 3 food groups in regard to health and nutrition?
 - a. Yes
 - b. No. (*Marked as Non-doer and Skip to question B#1*)
 - c. Don't know or won't say (*End the interview and look for another household*)
3. In the last two days, how many vegetable do you prepare as a curry in your breakfast or dinner (evening Meal)? if yes , please, list them.
 - a. _____ 5: Potato, Mustard Leaf, etc...
 - None/didn't eat any vegetable at all.(*Marked as Non-doer and Skip to question B#1*)
4. Can you list me at least 3 vegetables which are good for Vitamin A?
 - a. _____

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- None, Don't know or won't say. *(Marked as Non-doer and Skip to question. B#1)*
- 5. Can you give me just 2 vegetables which is good for Vitamin C?
 - a. _____lemon/ Orange
 - None. Don't know or won't say *(Marked as Non-doer and Skip to question. B#1)*

DOER AND NON-DOER CLASSIFICATION TABLE

Doer (All of the following)	Non-Doer (Any of the following)	Not interview (Any of the following)
Question-1 = A, Question-2 = A, Question-3= at least 3 vegetables Question-4 = A, Question-5= A,	Question-2= B, Question-3=B, Question-4= B, Question-5 =B,	Question-1=B, C Question-2= C

GROUP:

- Doer
- Non-doer

Behavior Explanation:

[Show the family the picture of 3 food groups and place it where they can see it during the entire interview]

In the following question I am going to be talking about different food groups. When I mention the food groups I am talking about foods in these groups. Make sure that the picture of 3 food groups is shown to whomever is interviewed.

Section B: Researched Questions

(Perceived Self-Efficacy/skills)

1. a. *Doers and Non-doers:* with your present knowledge, resources, and skill do you think you could add at least 3 different vegetables in your daily meal from defined 3 foods group each day?

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- A. Yes
- B. Possibly
- C. No
- D. Don’t know

(Perceived Self-efficacy)

2. a. *Doer*: What makes it easy for you to add at least 3 different vegetables from 3 defined foods group each day?
- b. *Non-doer*: What would make it easy for you to add at least 3 different vegetables from 3 defined food groups each day? (What if “ _____ ”!!
[Write all response below. Probe with “What else?”])

(Perceived Self-efficacy)

3. a. *Doer*: What makes it difficult for you to take at least 3 different vegetables from 3 defined foods group each day?
- b. *Non-doer*: What would make it difficult for you to take at least 3 different vegetables from 3 defined foods group each day?
[Write all response below. Probe with “What else?”]

(Perceived Positive Consequences)

4. a. *Doers*: What are the *advantages* of taking at least 3 different vegetables from 3 defined food groups each day?
- b. *Non-doers*: What would be the *advantages* of taking at least 3 different vegetables from 3 defined Food groups each day?
[Write all Responses below. Probe with “what else?”]

(Perceived Negative Consequences)

5. a. *Doers*: What are the *disadvantages* of taking at least 3 different vegetables from 3 defined foods groups each day?
- b. *Non-doers*: What would be the *disadvantages* of taking at least 3 different vegetables from 3 defined foods groups each day?
[Write all response below. Probe with “What else?”]

(Perceived Social Norms)

6. a. *Doers*: Do most the people that you know *approve of* your taking at least 3 different vegetables from 3 defined foods group each day?
- b. *Non-doers*: Would most of the people that you know *approve of* your taking at least 3 different vegetables from 3 defined foods group each day?
 - A. Yes

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- B. Possibly
- C. No
- D. Don't know

(Perceived Social Norms)

7. a. *Doers*: Who are all the people that *approve of* your behavior that you are taking at least 3 different vegetables from 3 defined foods group each day?
- b. *Non-doers*: Who are all the people that *would approve of* your behavior that you are taking at least 3 different vegetables from 3 defined foods group each day?
[Write all response below. Probe with “Who else” any one in particular?]
Rural Organization and Company.

(Perceived Social Norms)

8. a. *Doers*: Who are all the people that *disapprove of* your behavior that you are taking at least 3 different vegetables from 3 defined foods group each day?
- b. *Non-doers*: Who are all the people that would *disapprove of* your behavior that you are taking at least 3 different vegetables from 3 defined foods group each day?
[Write all response below. Probe with “Who else” Any one in particular?]

(Perceived Access)

9. a. *Doers*: How difficult is it to get **materials and services** you need to add at least 3 different vegetables in your daily meal from 3 defined foods group each day?
- b. *Non-doers*: How difficult would it be to get the materials and services needed to add in your daily meal at least 3 different vegetables from 3 defined foods group each day?
- A. Very difficult
 - B. Somewhat difficult
 - C. Not difficult at all

(Perceived Cures for actions/Reminders)

10. a. *Doers*: How difficult is it to remember in order to add at least 3 different vegetables from 3 defined foods group each day?
- b. *Non-doers*: How difficult do you think it would be to remember in order to add at least 3 different vegetables at your daily meal from 3 defined foods group each day?
- A. Very difficult
 - B. Somewhat difficult
 - C. Not difficult at all

(Perceived Susceptibility/Perceived Risks)

11. a. *Doers*: How likely is it that you could get a problem or any disease to your body if you don't take a variety of vegetables (Diet Diversity) in your daily meal each day? Very likely, somewhat likely, or not likely at all.

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b. *Non-doers*: How likely is that you could get a problem or any disease to your body if you don't take a variety of vegetables (Diet Diversity) in your meal each day?

- A. Very likely
- B. Somewhat likely
- C. Not likely at all

(Perceived Severity)

12. a. *Doers and Non-doers*: How *serious* would it be if you get sick or any disease? A very serious, somewhat serious, or not serious at all.

- A. A very serious
- B. Somewhat serious
- C. Not serious at all

(Perceived Action Efficacy)

13. a. *Doers and Non-doers*: How likely is that you and your family would get malnourished if you all get sick and not taking a variety of foods/vegetables each day?

- A. Very likely
- B. Somewhat likely
- C. Not likely at all

(Perceived Divine Will)

14. a. *Doers*: Do you think that God or gods *approve* of your behavior: taking at least 3 different vegetables from 3 defined food groups each day?

b. *Non-doers*: Do you think that God or gods will *approve* of your behavior: taking at least 3 different vegetables from 3 defined foods group each day?

- A. Yes
- B. May be
- C. No

(Policy)

15. a. *Doer*: Are there any community laws or rules in a place that you know of that made it more likely that you add at least 3 different vegetables from 3 defined foods group each day?

b. *Non-doer*: Are there any community laws or rules in a place that you know of that made it more likely that you add at least 3 different vegetables from 3 defined foods group each day?

- A. Yes
- B. May be
- C. No

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(Culture)

16. a. *Doers and Non-doers*: Are there any cultural rules or taboo that you know of against taking at least 3 different vegetables from 3 defined foods group each day?

- A. Yes
- B. May be
- C. No

(Universal Motivators)

17. *Doers and Non-doers*: What are the things you want most in life?

[Write all responses below]

Thank the respondent for his or her time!