





This report has attempted to analyze information collected through the VALUE baseline survey on the socio-economic and livelihood status of the households, and communities and environment in the areas targeted by the VALUE Program. Specifically, it has provided baseline values for indicators in a wide range of areas, including: livelihood activities, socio-traditional issues, gender, children and climate that will be used as the benchmark against which progress made by GMSL in the target communities can be established.

Baseline Report

Vanni Agricultural Livelihoods Upscaling and Enhancement (VALUE) project

The Green Movement of Sri Lanka

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LIST OF ABBREVIATIONS

VALUE	Vanni Agricultural Livelihoods Upscaling and Enhancement Project
GMSL	Green Movement of Sri Lanka Inc.
USAID	United States Agency for International Development
НН	Households
PWD	Persons With Disabilities
HG	Home Garden
OU	Other Uplands
PIRS	Performance Indicator Reference Table
M&E	Monitoring & Evaluation
ECCD	Early Childhood Care and Development
AOR	Approval Officer's Representative
KPI	Key Person Interview
FCI	Focus Group Interview
MS	Microsoft
GN	Grama Niladhari
CSO	Civil Society Organization

1. EXECUTIVE SUMMARY

Overview:

The baseline survey was conducted by the Green Movement of Sri Lanka Inc. (GMSL), its partner organizations and staff over the months of May and June 2014. Given the peculiarities of the socioeconomic, political, socio-cultural backgrounds of typical conflict emergent societies coupled with significant trauma that resulted from it, obtaining accurate information proved either resistive or difficult. In many instances, a significant learning bias was noted while in others, reluctance and recalcitrance was noted among the target respondents. Critically, triangulation was made difficult as a result of even those third parties and external agents and agencies that could affirm or reject findings were also found to be significantly biased with political alignment and personal agendas¹ coloring their responses (or the lack thereof).

Further confusing matters was the fact that indicator lists and results frameworks filed previously as part of the approvals process of the United States Agency for International Development (USAID) underwent significant changes and earlier questionnaires that had committed to obtaining information relative to original framework documents were relatively ineffectual in obtaining data that was required with each subsequent change. While the GMSL attempted to respond to these changes as best as it could given funding already committed, and despite it having to increase its own budget to expand the scope of the baseline survey exercise to mitigate errors and ensure data quality, there were some gaps that could not be filled. However, as a workaround, the GMSL had already implemented processes through which these gaps could be filled at the time of the interventions without compromising data quality.

For the purposes of the survey, a questionnaire was formulated and the primary unit polled through responses to this questionnaire was the household (HH) and either a male or a female member of the considered a respondent who responded on behalf of the HH. In the three districts surveyed, 1029 respondents (42%) were female and 1419 (58%) were male.

Key findings:

- The average number of family members per household was 2.19 with a majority of HH with one or two members and the average number of children per HH was 1.24. The majority of families living in dwellings less than 600 sq.ft. and the primary livelihood of over 81.49% of the respondents was agriculture.
- While traditional caste systems have returned in the post-conflict era and with it the patriarchy
 on which it is based, a significant percentage of women (between 11.29% and 21.77%) were
 deemed to report that they were married as a survival mechanism despite evidence to the
 contrary. This made in difficult to identify the primary demographic of VALUE, namely, single
 female headed households.

¹ Seneviratne, Arjuna: "Fear corrupts, absolute fear corrupts absolutely": How enabled are the IDBs to engage effectively in conflict emergent areas and areas where the potential for situational conflict exist in a belligerent and confrontational regime, International Alert:2012

- The average expenditure of households was Rs.10,041.18 and is higher than state identified poverty lines for the Vanni region indicating that despite trials and tribulations, they had three times the spending capacity of those living under conditions of paucity.
- Many individuals were found to underreport their income in order to obtain Samurdhi benefits although the mean of receipts was Rs.1,000 and only 1/10 their expenditure. On average, 62% of the respondents spent below the average expenditure for the region.
- Over half the respondents reported indebtedness with the median for Mullaittivu being Rs.50,000, that for Kilinochchi beings Rs.100,000 and that for Vavuniya being Rs.10,000. Aprroximately 50% of the respondents were in debt to over Rs.15,000 and deemed highly exposed. While the VALUE project target is to increase income by Rs.15,000 per HH, it is noted that for at least 50% of the beneficiaries, a period of debt servicing will occur (surmised to be 4-8 months depending on spending patterns) and will not translate into immediately visible enhancement of the economic status of the HH.
- Only a negligible number of respondents report receiving aid from Civil Society Organizations (CSOs), microfinance institutes etc. However, Key Person Interviews (KPIs) indicate reluctance bias in reporting actual assistance from external sources.
- The post-conflict birth spike is seen to have dropped off. However, 27% of the children were found to not attend school and of those, a full 71% were children under the age of five. It was found that there was significant resistance to sending young children to daycare or Early Childhood Care and Education facilities with approximately 77% of the respondents choosing stay at home parenting as the viable alternative.
- Land was abundantly available to the respondents with 77.66% of the beneficiaries owning at least a ¼ acre home garden. However, the situation is opposite with respect to water availability with 68.67% of the respondents not having sufficiently secure water sources to engage in yearround agriculture.
- Lack of market access and lack of seeds were cited by most beneficiaries as the key resistive factors to improvement of agricultural livelihoods.
- Agrochemical use was relatively high in these areas. However, there were indications of parallel use of natural agriculture as well yielding a more receptive populace to VALUE's natural agriculture initiatives.
- Agricultural tools were mostly available and only case-by-case treatment required in this respect.
- Many cash crops are in cultivation. However, exact yield figures were found to be too erroneous to be useful for analysis.
- Significant threats from primates, rodents and birds for all respondents were identified.
 Additionally, in Mullaittivu, there were significant threats from elephants.

2. INTRODUCTION

The Vanni Agricultural Livelihoods Upscaling and Enhancement (VALUE) project is a three year initiative with 4,5000 selected rural farming households in the conflict emergent northern provincial Vavuniya, Kilinochchi and Mullaittivu districts of Sri Lanka and is aimed at strengthening market linkages while increasing agricultural productivity, specifically for small scale home gardens (HG) and Other Uplands (OU). The project is funded by the United States Agency for International Development (USAID) and implemented by the Green Movement of Sri Lanka Inc. (GMSL). It was designed to sustainably, securely and efficiently implement a social agribusiness model and child security component that is aimed at enlarging people's choices towards bringing dignity to the primary livelihood of agriculture while ensuring a decent standard of living, increase in wellbeing and the enjoyment self-respect while being recognized as worthy citizens of Sri Lanka.

VALUE has the following key goals and objectives:

Goal: Increase sustained economic growth and socioeconomic independence among 4,500 families in the districts of Kilinochchi, Vavuniya and Mullaitivu in the Northern Province by building resilience and up scaling rural agricultural livelihoods and supporting working women in agriculture and other livelihoods by assuring the security of children through formalized early childhood caregiving.

Objectives:

- 1. The target communities will have access to in-situ tools and training in modern, climate smart, organic agriculture; have access to agriculture resources and knowledge through established project infrastructure and access to markets through connectivity to private sector retail agribusinesses towards enhancing the economic vitality of agricultural micro-enterprises. (Addresses challenge (a) and opportunity (1) of the situation analysis with an innovative, climate smart approach where small community outgrow farmers are optimally empowered, their agrarian resources are secure and education and economic reward is maximized. It ties into USAID mission priority (1) and (2) by increasing employment and economic opportunities for persons with disabilities (PWDs) and increasing market structure, partnerships and citizen-local government tie-ins towards optimizing livelihoods.)
- 2. Selected individuals within the target communities have an opportunity to engage in providing security for children through the proposed day-care centers. This addresses challenge (a) and opportunity (2) of the situation analysis. (Addresses concerns of the target groups on the safety, security of their children and frees parents to engage in quality livelihood activities. This is ideal to remove existing socio-cultural barriers to women working on rewarding livelihoods and addresses challenge (1) and opportunity (2) of the situation analysis. It ties into USAID mission priority (1) by fostering mainstreaming of children with disabilities as well as increasing the ability of women with children engage in work without familial and cultural)

This report summarizes the findings of a baseline survey conducted by GMSL prior to the start of interventions². The baseline served to assess the conditions prevalent in target areas before the start of interventions so that progress made throughout the project with respect to its targeted outcomes could be reliably measured. If appropriately implemented, a baseline survey can also help adjust the program's implementation design to the reality on the ground.

3. BASELINE AIMS AND OBJECTIVES

The purpose of the LEAD Baseline was to take a first measurement of the major long-term indicators for success of the LEAD program. The specific objectives of the evaluation were:

- 1. To serve as the first measure of all main program indicators as per the Performance Indicator Reference Table (PIRS), thus establishing the foundation for the program's monitoring and evaluation (M&E) system (the assessed conditions as of the start of interventions).
- 2. To gather data that will inform the grass-roots project teams on the ground reality and actual situation at the commencement of VALUE.

4. SAMPLING METHODOLOGY, ANALYTICS AND DATA COLLECTION METHODS

4.1. Sampling methodology

Since there were significant socio-economic and geophysical differences in the three districts that were earmarked for the intervention, namely, Vavuniya, Kilinochchi and Mullaittivu, a stratified sampling was done for each of the three districts. Clusters were not allocated using a Population Proportion to Size (PPS), as the geographical distribution of VALUE activities were done purposively and not on the basis of population.

At the inception of VALUE, a total of 21 villages (7 from each target district) were selected to be clustered in such a way as to facilitate collectivization. However, two factors impinged upon this initial selection:

- a) The drought conditions and
- b) The insistence on the part of the department of Agriculture (Northern Province) that the GMSL works in specific areas.

Couple both of these together, the GMSL was forced to look wider than it had planned, selecting 54 villages. Of these, all of those who had a minimal of ¼ acre of land or perennial water source such as a well or a stream were targeted as initial beneficiaries. Since these were relatively lower (the largest such group among the target villages was 25% in the Mullaittivu district), the GMSL decided to do an exhaustive survey of these potentials and therefore, a total of 2542 households were surveyed for the baselines.

² The data was collected in early March 2014 (Soil and Water samples) and in May and June 2014 (Socio-economic and agricultural livelihood data). Due to delays in obtaining the results of physical and chemical tests – August 2014) the analysis was delayed although the raw data was available to the ground staff at commencement of implementation in September 2014

4.1.1. Addressing learning bias

The households targeted were those that had adequate water and land resources. While at the pilot stage of the questionnaire, the GMSL had determined that it would take a statistically valid sample of the total number of those who fit the above criteria in the specific area selected, in its initial surveys conducted in May 2014, it was realized that there was a very high level of learning bias. In a Key Person Interview (KPI), the following was stated *"Surveying a body of literature that has been built up since the end of the armed conflict, it is seen that state and civil agencies conducted a large number of surveys among the various conflict emergent populations creating a very significant learning bias. These people know exactly who is coming, and what to say to each of them. They had 30 years to learn this technique of survival. Please don't make the mistake of giving the same people more than they need³"*

Example Case – agrochemical usage: In determining the target beneficiaries' use of agrochemicals. While approximately 78% of the respondents to the initial questionnaire responded that they used organic techniques. However, key persons such as area Agricultural Inspectors (AIs) and academics from the University of Jaffna confirmed that there was substantive use of agrochemicals in the region. Therefore, the GMSL modified its questions, and instead of directly asking them about their organic or chemical use, asked about their fertilizer subsidies. Then, approximately 50% of the same group also responded that they received a government fertilizer subsidy. The GMSL surmised that the larger majority actually used large amounts of agrochemicals but since the VALUE project was for organic agriculture, they responded in the way they did. *The overall conclusion was that assuring a paradigm shift from high input, reductionist agriculture to low input, multifarious agriculture would be a challenge with these communities*. There were some delays that resulted from this learning bias since the final question sets had to be completely reworked to cater to the problem.

4.2. Analytical methods used

4.2.1. Vertical analysis

This determined the trends for a specific attribute that was polled and in most cases; the count of a value ("number of respondents who polled within a pre-assigned value) was used to understand the trends if specific values such as "Yes". "No" etc. were assigned as responses to a given question for a given attribute or if there was a specific stratification such as <5000, 500<x<1000 etc. If there were widely varying figures for a particular attribute, the min-max method was used to determine the stratification.

³ Professor Mikundan, Senior Lecturer and ex-Dean, Department of Agriculture, Jaffna University, KPI - May 2014.

4.2.2. Horizontal analysis

The GMSL also assigned a weight (from 0 through 5) for each of the key attributes polled. These are provided below:

	TABLE 1: WEIGHTING MECHANISM											
Attribute	Value	Weight	Weighting rationale									
The age of the	18≤x<30	5	The younger the treated individual,									
primary respondent	30≤x<40	4	the greater the chance of long term									
	40≤x<50	3	benefit to the community									
	≥50	1										
Social situation of	Single, Female, self-reliant	1	Greater vulnerability and primary									
primary respondent	Married	0	demographic of GDP									
Family expenditure	<rs.10,000< td=""><td>5</td><td>Lower the income, greater the</td></rs.10,000<>	5	Lower the income, greater the									
	Rs.10,000≤x <rs.15,000< td=""><td>4</td><td>vulnerability</td></rs.15,000<>	4	vulnerability									
	≥Rs.15,000	3										
Indebtedness of	>Rs.15,000	5	Greater the loan amounts, greater									
primary respondent	≤Rs.15,000	3	the vulnerability									
Water availability*	Well present, perennial source present	5	The greater the water availability									
,	Well present, perennial source not present	4	the better the respondent can									
	Well not present, perennial source present	1	engage in agriculture									
	Well not present, perennial source not present	0										
Land availability*	≥ ¼ acre HG available, ≥¼ acre OU available	5	Greater the upland available, the									
	≥ ¼ acre HG available, ≥¼ acre OU not available	4	greater the agricultural productivity									
	≥ ¼ acre HG not available, ≥¼ acre OU available	3										
	≥ ¼ acre HG not available, ≥¼ acre not OU available	0										
Fertilizer use	<rs.176< td=""><td>5</td><td>Lesser the fertilizer used, better the</td></rs.176<>	5	Lesser the fertilizer used, better the									
	Rs.176≤x <rs.375< td=""><td>4</td><td>soil heath, greater the commitment</td></rs.375<>	4	soil heath, greater the commitment									
	Rs. 375≤x <rs.528< td=""><td>3</td><td>to organic agriculture (cut-off of</td></rs.528<>	3	to organic agriculture (cut-off of									
	Rs. 528≤x <rs.704< td=""><td>2</td><td>tiers determined by min-max</td></rs.704<>	2	tiers determined by min-max									
	≥704	1	method)									
Pesticide use	(same as for fertilizer use)		Same rationale									

*These are determining factors. If either of them are zero, then the respondent would not be considered for treatment via VALUE

Other areas polled such as extent of market connectivity, young children, reasons for child insecurity, ECCD requirements, animal threats, size of dwellings, availability of manual or motorized transportation were determined not be key weighting factors since there was uniformity among the respondents with respect to these. However, these were analyzed to give a better understanding of the nature of the societies that VALUE would be working with.

The horizontal analysis determined the grades of each of the respondents based on the weights for specific attributes. The final grade was determined according to the following sum of multiples formula:

 $Grade^{4} = \alpha Xa(Xa \neq 0) + \beta Xb(Xb \neq 0) + \gamma Xc + \delta Xd + \varepsilon Xe + \mu Xf)$

⁴ Xa=Water availability weight, Xb=Land availability weight, Xc=Age weight, Xd=Indebtedness weight, Xe=Fertilizer use weight, Xf=Pesticide use weight. A, β , γ , δ , ε , μ are weighting factors. For the purpose of this study, these were considered to be equal. If Either Xa or Xb was zero, then the exception rule applies and the respondent given a zero grade indicating inoperability with respect to VALUE project goals

4.3. Data collection methods and tools used

Primary data was gathered using a 12 page questionnaire with 65 questions under five main sections, namely, a) characteristics of respondents b) family socio-economics c) children related information d) agricultural infrastructure e) crops and livestock information. A sixth section that was gender related was removed after the pilot questionnaire revealed that the questions were either not answered or had the effect of antagonizing the respondents.

Secondary data on agricultural practices that was district specific was gathered through desk study of existing documentation from state sources but these were later found to be of relatively low value as indicated by a key person interview with an ex-state employee and the present AOR of the GMSL-VALUE project⁵.

Triangulation was obtained for some components through KPIs or through Focus Group Meetings (FCIs) with local headmen.

Transcription of the data was to a custom built piece of online software. However, due to large amounts of data, the system was discontinued after the initial set and the data transcribed to MS-Excel instead for reasons outlined in 3.2.4 (limitations) below.

4.4. Selection and training of enumerators

The questionnaire was piloted among a group of young rural farmers who timed the duration it took for them to fill it up. Based on this, the GMSL decided that an enumerator could reasonably fill up approximately 30-40 questionnaires in the eight weeks provided for the same and determined that it would require 70 trained enumerators to cover all of the districts and all of the targeted GN's within them.

The GMSL leveraged its penetration of local Civil Society Organizations (CSOs) to obtain enumerators and a total of 70 of these were selected based on their experience in conducting such surveys at the grass-roots level. The enumerators were given an overview of VALUE and the Project Manager went through the questionnaire and outlined best practices in obtaining answers to the questions.

In the case of Kilinochchi, a supporting parter CSO of the GMSL, namely, CIRCLE, conducted the surveys on behalf of the GMSL deploying 30 enumerators of their own.

⁵ Bandula Nissanka:KPI, March 2014, "The data that is published by the department of agriculture is highly erroneous since grass-roots AI's routinely report ad-hoc figures that have no supportive evidence"

TABLE 2: DETAILS OF ALL ENUMERATORS WHO TOOK PART IN THE SURVEY										
Updated Date	District	Team Leader's Name	Filled # of Questionnaires	# of Enumerators per Team	Average # of questionnaires per Enumerator					
15th May 2014		Ms. Mathy	185	8	50					
23rd May 2014		Ms. Mathy	214							
15th May 2014		Ms. Sankeetha	73	7	27					
23rd May 2014	Mullaittivu	Ms. Sankeetha	113							
24th May 2014		Ms. Manchula	30	1	30					
24th May 2014		Mr. Indirarasa	78	2	39					
Mul	laiththivu - S	ub Total	693	18	39					
23rd May 2014 Kilinochchi CIRCLE -Loc		CIRCLE -Local NGO	533	30	18					
Kil	linochchi -Sul	o Total	533	30	18					
24th May 2014	Vavuniya	Ms. Rasika	118	3	39					
24th May 2014		Ms. Partheepan	227	9	25					
V	avuniya - Sub	Total	345	12	29					
TOTAL(03 districts) conducted b	y normal enumerators	1571	60	26					
		Other Enumera	ators/Team							
20 th June 2014	Kilinochchi	Paranthan- 662 Camp	299	10	97					
09 th June 2014	Vavuniya	Bogaswewa Camp	672							
Other	Enumerators	- Sub Total	971	10	97					
тс	DTAL - All Di	stricts	2542	70						

4.5. Limitations, challenges and delays of baseline exercise

While the GMSL made every effort to ensure that data quality was excellent, the learning bias of respondents as well as difficulties in triangulating, understood by the realization that even triangulation targets such as local headmen, local government officials and department of agriculture officials was biased.

Challenges were found as a result of the above with respect to finalizing the question sets resulting in some significant delays. The GMSL, understanding the importance of baselines, decided to utilize extra time to ensure that this does not become a purely academic exercise and expanded the data that was gathered to mitigate the problem through greater numbers. This resulted in a marginal improvement of the quality.

Additionally, some of the key gender questions could not be asked since they were either ignored or created resistance among the respondents. The GMSL therefore removed this entire section from its question sets but decided to obtain this information during the course of its intervention in environs where the respondents would be less resistive.

Initially, the data was to have been keyed in directly to the custom built, online software at the field level but this was later determined to be too expensive. Therefore, the data entry was done manually by a company hired by the GMSL. In the initial data that was obtained, many transcription errors were noted. The reason cited by the data entry contractor was that it took time to enter the data into the online system. Delays occurred at this point as a result of the GMSL being forced to port the online data to Microsoft Excel and have approximately 1300 questionnaires reentered. The remaining data was entered directly into excel sheets. Given the amount of data that was present (approximately 500,000 individual data items from approximately 2500 questionnaires with approximately 200 individual items per questionnaire), the cleanup of the data took a considerable period of time for the M&E focal point.

Physical and chemical testing of soil and water samples proved the most challenging since the samples collected by the GMSL and given to government laboratories for analysis were not studied for an extended length of time and the analysis was finally made available to the GMSL for a very limited number of samples only in late August 2014. Therefore, the weight that can be assigned to these findings is limited.

5. SURVEY FINDINGS

5.1. General description of population surveyed

A total of 2542 households were polled and of these, data for 2448 households were input into the databases. Of these, 666 were from Mullaittivu district, 762 were from Kilinochchi district and 1020 from Vavuniya district respectively.

Marital status: The percentages of male and female individuals who responded to the survey are comparable in Mullaittivu whereas more males responded to the polls from Kilinochchi and Vavuniya. From all three districts, approximately half of the male respondents state they are married while the figure is approximately 30% for females. A negligible percentage of respondents have chosen not to respond.

TABLE 3: GENDER BREAKDOWN OF RESPONDENTS POLLED											
	Female	%Female	Male	%Male							
					Total						
Mullaittivu	341	51.20	325	48.80	666						
MARRIED	244	36.64	314	47.15							
SINGLE, DIVORCED, SEPARATED	97	14.56	11	1.65							
Kilinochchi	313	41.08	449	58.92	762						
MARRIED	222	29.13	433	56.82							
SINGLE, DIVORCED, SEPARATED	90	11.81	12	1.57							
NO RESPONSE	1	0.13	4	0.52							
Vavuniya	375	36.76	645	63.24	1020						
MARRIED	284	27.84	580	56.86							
SINGLE	85	8.33	45	4.41							
NO RESPONSE	6	0.59	20	1.96							
Total respondents	1683		2193		2448						

Family members: A majority of families have either one or two members. The exact spread has not been determined with respect to whether or not this is a couple, a single parent with a child etc.

TABLE 4: NUMBER OF FAMILY MEMBERS PER HOUSEHOLD											
Mullaittivu											
Number of family members per HH	0	1	2	3	4	5	6	7	8	Unknown	Average family members per HH
Number of HHs	32	189	281	77	54	24	7	1	1	0	2.06

Kilinochchi											
	0	1	2	3	4	5	6	7	8	Unknown	Average family members per HH
Number of HHs	18	81	335	116	82	38	4	4	0	84	2.30
Vavuniya											
	0	1	2	3	4	5	6	7	8	Unknown	Average family members per HH
Number of HHs	28	163	401	150	93	44	18	5	0	118	2.22

Children: With respect to children, the number of childless households of the total surveyed from Mullaittivu, Kilinochchi and Vavuniya was 34.83%, 37.80% and 48.63% respectively. Most households had either one child or two. The implication of this to VALUE was that issues related to children would exist for a somewhat lower percentage than earlier anticipated since many households did not have children. The figures for each of the districts are given below:

TABLE 5: CHILDREN PER FAMILY											
Mullaittivu											
Number of children per HH	0	1	2	3	4	5	6	7	8	Average children per HH	%of childless HHs
Number of HHs	232	140	170	78	34	11	1	0	0	1.37	34.83
Kilinochchi											
Number of children per HH	0	1	2	3	4	5	6	7	8	Average children per HH	%of childless HHs
Number of HHs	288	138	158	115	46	12	3	1	1	1.41	37.80
Vavuniya											
Number of children per HH	0	1	2	3	4	5	6	7	8	Average children per HH	%of childless HHs
Number of HHs	496	221	186	86	27	3	1	0	0	0.96	48.63

Primary livelihoods: Agriculture was the most prevalent livelihood amongst the survey group with 95.64%, 78.35% and 70.49% involved in it from Mullaittivu, Kilinochchi and Vavuniya respectively. These figures indicate an overwhelming prevalence of agriculture among the target beneficiaries, indicating a sound choice on the part of the GMSL in identifying farming

communities for the intervention via VALUE. Negligible numbers are involved in entrepreneurship and agriculture related government jobs.

Dwellings: A majority of respondents from Mullaitivu (83.78%) and Kilinochchi (75.72%) had permanent dwellings. The figure for Vavunia was slightly lower with only 64.51% having a permanent dwelling. The reason for the comparatively higher number of temporary dwellings mentioned from Vavuniya even though it was the most developed of the three districts was clarified by the DS office when they said that a significant number of families resettled in Vavuniya during the course of the war and built permanent dwellings but still insist that their actual dwellings are in other areas even though access to these have been difficult due to government regulations.

The size of dwellings in the majority was less than 600 Sq.ft. However, many of the questionnaires did not have this information filled in. The data is left as is but this is considered a gap that will need to be rectified when intervention commences. Since the only reliable data is from Mullaittivu, taking these into consideration it seems as if some of the unknowns could be in the >1000 Sq.ft. range and this may mean that the respondents were reluctant to reveal the fact since it might have been construed by VALUE as an indicator of wealth.

TABLE 6: DWELLING SIZES												
	<300 Sq.ft.	Between 300- 600 Sq.ft	Between 600- 1000 Sq.ft.	Greater than 1000 Sq.ft	Unknown							
Mullaittivu	28.23%	39.94%	31.08%	0.75%	0%							
Kilinochchi	28.39%	36.84%	12.88%	0.69%	21.19%							
Vavuniya	20.87%	35.14%	16.93%	2.76%	24.31%							

5.2. Women, gender and patriarchal traditions

During the conflict, traditional Tamil gender relations shifted dramatically. Within Tamil society, women were historically valued as the bearers of culture, responsible primarily for maintaining the home. Parents carefully "protected" or controlled women from childhood until marriage, when authority over them would transfer to their husbands. Due to the fact that women's domains did not typically extend beyond their households, they were generally excluded from the political process⁶. The greater emancipation of women during the war was short-lived. With the ending of the conflict, the hitherto patriarchal dominance and the system of caste within which it operated bounced back to the surface. *"In all cases, the finances of a family are controlled by the men. Even when an older matriarch is present, it is a younger male who is charged with managing family funds"*⁷.

⁶ Manoranjan, Tasha: Beaten but not Broken: Tamil Women Struggle through Conflict and 'Peace' in Sri Lanka, The Georgetown Journal of International Affairs, September 2010

⁷ Dhanapalaraj, Grama Sevaka, Olamadu, Mullaittivu, KPI, June 2014

However, as Table 5 below shows, 21.77% of married women from Mullaittivu reported that they controlled the finances of the household. The percentage is 11.29% for Kilinochchi and 17.94% for Vavuniya. In a patriarchal society, these percentages are questionable. The answer to the riddle was provided by Mr. Danapalaraj in the KPI referenced above when he said "*We have a significant loss of lives among males due to conflict and the percentage of women are relatively higher. Either they are widowed or unable to find partners easily. In either case, they are highly vulnerable and they pretend to be married, with all of the trappings including the markings on the forehead. This is purely a matter of survival and they will never openly tell you they are unmarried or widowed"*

Clearly therefore, the triangulation gave the GMSL an unlooked for insight into the workings of the female population of rural conflict emergent communities in the Vanni region. As a result of this, although the responses were clearly fabrications, the GMSL decided to ignore these as being greater issues that were beyond the scope of VALUE to solve. In terms of the GDP's call to assist *single, female headed households*, identifying this demographic was deemed to be "resistive". Therefore, all households within its target zones were equally considered and the demographic was <u>excluded</u> in the horizontal analysis of the data for grading purposes.

TABLE 7: SELF-RELIANCE OF MARRIED WOMEN				
Mullaittivu	Count			
Married female, dependent	521			
Married, female independent	145			
Percentage independent	21.77			
Kilinochchi	Count			
Married female, dependent	676			
Married, female independent	86			
Percentage independent	11.29			
Vavuniya	Count			
Married female, dependent	837			
Married, female independent	183			
Percentage independent	17.94			

5.3. Trends in income and financial pressure

The income of these communities was difficult to gauge with any level of accuracy since learning bias has created a situation where they severely under-report their actual income levels.

However, a fairly accurate estimate of economic strength may be gauged by inquiring on household expenditure and debt. Expenditure on food, transport, clothes, head, education, recreation and livelihood were obtained from the respondents. Additionally, the respondents were happy to provide details of their indebtedness to the enumerators.

Household expenditure: As seen by Table 6 below, the average monthly average income per household, if expenditure is assumed to be comparable to the income, is consistent with pre-implementation estimates which determined that the average was approximately Rs.10,000.00 per month. However, analysis indicates that the additional burden of indebtedness is a key factor among these communities.

TABLE 8: EXPENDITURE AVERAGES										
		Food	Transport	Clothes	Health	Education	Recreation	Livelihoods	Other	Total
	Average	4181.34	720.54	928.39	479.98	990.26	561.97	1985.29	624.8	10,058.54
Mullaittivu	Maximum	15000	10000	7000	15000	6000	30000	58333	25000	66833
	Minimum	260	100	100	100	100	100	200	100	2550
Kilinochchi	Average	5966.03	812.75	1390.58	609.99	1378.72	477.26	2099.89	792.79	12,133.91
	Maximum	30000	20000	15000	6000	15800	5000	21000	5000	52000
	Minimum	300	50	100	50	100	50	100	50	2400
Vavuniya	Average	4032.4	678.95	911.45	562.98	1017.55	523.46	579.92	623.49	7,931.08
	Maximum	36000	20000	30000	20000	25000	5000	39300	5000	96000
	Minimum	300	50	50	50	100	50	50	70	1033

Samurdhi assistance is received by 43.70% of Mullattivu respondents, 41.08% of Kilinochchi respondents and 31.96% of Vavuniya respondents. These figures are consistent with existing poverty and Samurdhi data indicating that poverty figures are congruent. However, the GMSL realizes that given the expenditure of many Samurdhi recipients, they have understated their income to both the civil and the state sector. The income level of these recipients (as shown in the averages above) is far in excess of the poverty line indicating that their eligibility as Samurdhi recipients is questionable.

Weightage of expenditure: For the purposes of VALUE, a weightage was given to the expenditure level of respondents to identify greatest eligibility. Those with an expenditure of less than 1000 were given a weight of 5, those between 10,000 and 15,000 given a weight of 4 and those above 15,000 a weight of 3, the rationale being that in general, the lower the expenditure, the lower the income. Considering the charts (1 through 3) below, one can see that in Mullaittivu, 65% of the respondents our low expenditure (income) households and the reciprocal figures for Kilinochchi and Vavuniya are 41% and 80% respectively. From a "spending power" perspective, it is therefore seen that the majority of respondents in Vavuniya are closer to the poverty demographic that VALUE aims to treat.

However, although expenditure does indicate status of household economics, learning bias is significantly high⁸ and therefore, these measures were <u>excluded</u> in the horizontal analysis of the data for grading purposes.

⁸ Mr. Dhanapala Raja, Prof. Mikundan et al: KPIs, May, June 2014



Indebtedness: Significant debt was seen among the respondents with 58.10% in debt in Mullaittivu, 51.97% in debt in Kilinochchi and 59.22% in debt in Vavuniya. The medians for each of the districts is Rs.50,000, Rs.100,000 and Rs.50,000 respectively for Mullaittivu, Kilinochchi and Vavuniya. A weightage was assigned to the indebtedness with those who were less than Rs.15,000 in debt assigned a value of 3 and those above assigned a value of 5. The rationale was that the greater the debt, the greater the vulnerability. Those assigned 5 were considered highly exposed through debt while those who were assigned 5 were considered to be less exposed through debt. Accordingly, 51.20% of respondents from Mullaittivu were highly exposed whereas the corresponding values for Kilinochchi and Vavuniya are 46.46% and 52.22%. In general, it can be surmised that at least half of the respondents were highly vulnerable due to indebtedness. The implication of these indicates to VALUE that although it targeted improving the monthly income levels by Rs.15,000 per household, in actuality, for approximately 50% of the project's beneficiaries, the improvement in income may not translate immediately into useable funds but rather, go towards debt servicing. The exact duration for which this situation will continue is difficult to chart. However, given the median figures for debt, that period where debt servicing will occur as a result of increased income is surmised to be 4-8 months.

Other forms of assistance: The respondents were polled on whether they had received assistance from microfinance institutes such as SANASA and Grameen. However, according to data gathered, support from these institutions to the respondents has been marginal. The local revolving loan system (SEETTU) was seen to be slightly more active but the numbers provided for these were also comparatively negligible. However, Local Government (LG) sources and GMSL's own experience of these issues indicate that respondents show a reluctance-bias towards revealing other forms of assistance since they fear they will be excluded as a result. Indeed, as Professor Mikundan stated in an interview in March 2014, it is difficult not to keep assisting the same individuals many times over because they have become experts in saying exactly what the intervening agency wants to hear.

5.4. Child education and security

Post-conflict birth spike over: A total of 1152 children were recorded among the households polled. Approximately 1/5th of the children are between the ages of 1 and 5 indicating congruence with the observation that there was a birth spike in the immediate post-war era in the Vanni region⁹. However, the number of infants between 1 and 12 months was found to be just 1.73% of the total child population among the households that were surveyed. This is indicative of the trend dropping off and a more sober assessment of futures by the respondents. The highest incidence was of primary school children. The figures are given in **chart 4** below:



Trends in school attendance: Despite the fact that schooling is considered of primary importance by these communities, 27% of the children did not attend school. However, primary and secondary school goers constitute 29.72% and 27.21% respectively. Of significance is the fact that only 3.81% of the children were sitting the G.C.E. Ordinary Level examination despite attending secondary school. Only 5.55% attended high school but it seems that a relatively comparable amount of these (4.33% of the total demographic) sat the Advanced Level examination. The trend indicates that those in high school are more likely to have decided to attend in order to further themselves academically while those who attended secondary school did not in the majority make such a choice. The indication here, given the tradition of education in the Northern Province is that poverty could be one of the factors telling on these choices. Only 0.43% of the respondent's children were in high education. These figures (**chart 5**) are consistent with the fact that many of the older children grew up during the war and were deprived of a continuous and quality education.

⁹ Vimalan, T.A.S.: "Impact of the withdrawal of NGO support for the ECED sector in the Vavuniya division of the Vavuniya District of the Northern Province of Sri Lanka": PP42:New birth patterns test the system



Preschoolers: A more alarming trend is that of the children who did not attend school, an overwhelming percentage (71%) belonged to the 1-5 year demographic (**chart 6**).



The immediate implication of this is that Early Childhood Care and Education, now globally recognized as critically important for the development of a child's cognitive capabilities, was an unheard of concept among the surveyed households.

Child security is the key: However, in drilling deeper, the GMSL understood that child security was a key factor that prevented these children from getting quality ECCD inputs during their formative years. When asked for ways of increasing child security, an overwhelming number of parents believed that stay at home parenting was far more secure than sending the child to day care or placing the child in the custody of a guardian. This is seen clearly in table 7 below:

TABLE 9: STAY AT HOME PARENTING VS CHILDCARE CENTER				
Mullaittivu	%			
Send to daycare	4.20			
Stay at home parenting	77.48			
Kilinochchi	%			
Send to daycare	6.30			
Stay at home parenting	77.56			
Vavuniya	%			
Send to daycare	4.90			
Stay at home parenting	78.82			

Child security over economic security: When asked specifically if they preferred economic strength over child security, the results were overwhelming in favor of both, indicating that both were necessary and crucial components of the lives of the respondents. However, significantly, where the respondents had chosen either child security or economic security, the greater number were in favor of child security indicating that they would eschew opportunities to improve themselves financially if it compromised their children. This evidence supports the fact that there is a high level of attrition among blue collar workers in new factories that have been set up and also supports original program hypothesis of the GMSL related to risk of the intervention.

Traditions over modernity: A further factor that arose from interviews conducted with 5 prospective teachers and 22 working mothers at the MAS-Active factory in Vaanavil was that there was a culture among rural communities that believed that either the parents or the grandparents should be the first instructors of the children.

Unclear future directives in child interventions in agricultural households: However, the way forward is not clear. The specific question to which these responses were elicited was "What are your ideas for improving child security" and despite the clear requirement for day care centers with this sector lagging far behind and the fact that "stay at home parenting" would necessarily fall to the women which would prevent them from getting equal opportunities in the workplace, talking the our partner "Child Development Lanka" and other CSOs, and factoring in the above data, four significant issues arose:

- a. Significant evidence of a) neglect by teachers b) abuse (manipulative censure/scolding/punishment) c) a few incidents of sexual abuse that were highly significant in creating mass hysteria d) unqualified caregivers
- b. Significant evidence of a culture class between parental "instruction" and institutionalized instruction with amma, ammamma, appappa preferred over a nameless entity known as a "caregiver"
- c. Ignorance of the importance of engaging in formal cognitive enhancement that can prepare children better for the modern world over the type of instruction that more traditional sources could offer and
- d. Child safety taking precedence over child development.

5.5. Small-scale agricultural livelihoods

5.5.1. Land availability

The respondents were polled whether they had a) Home Garden (HG) land and b) Other Upland (OU). The ownership of paddy land was not considered since VALUE was not intervening in paddy cultivation. Each of the respondents was given a score of 5 If the household owned both HG and OU, 4 if they owned HG but not OU and 3 if they owned OU but not HG. If they did not own either HG or OU, then the respondent fell under the exception rule of weighting (outlined in *Sampling Methodology Section* above) and would not be considered for treatment via VALUE.



The **charts (7 through 9)** show that the majority of the respondents fit the primary criteria for land availability and those that do not fit the criteria would subsequently become the control group for measuring program effectiveness. This factor was considered therefore as a determining one that would inform VALUE on who could be treated and who could not.

Additionally, a total of 243.25 acres of fallow land was identified among the respondents in Mullaittivu, 92.67 acres in Kilinochchi and 30 acres in Vavuniya. These are potential areas that may be developed through the VALUE project intervention.



5.5.2. Water availability

With the drought being severe at the commencement of VALUE, water availability was given serious consideration. The respondents were polled whether they had a)A well (W)and b) A perennial water source PW. Each of the respondents was given a score of 5 If the household owned both W and PW, 4 if they owned W but not PW and 3 if they owned PW but not W. If they did not own either W or PW, then the respondent fell under the exception rule of weighting (outlined in pp: 05 above) and would not be considered for treatment via VALUE.





The data clearly shows that a large majority of the farmers did not fall into the treatment group of the project. The data here is consistent with drought and water source related data and indicates the severe challenges that VALUE will face and the care with which it needs to move on the ground to ensure that the project is a high impact intervention. As a case in point, it should be noted that these areas, given the climate instability, are well in the red zone with respect to both.

Due to our work as environmentalists and resource managers on the one side and livelihood enhancers on the other who's exercises, activities and projects are generally overarched by our work as governance strategists and policy advocates, we tend to take a holistic overview of resource related interventions.

It is not quite common knowledge that climate impacts on Sri Lanka have made wet zones wetter and dry zones drier while our intermediate zone has all but disappeared with just three true intermediate pockets left in the Kurunegala, Matale and Maragala areas.

With respect to the Northern Province, although concrete data is relatively sparse, we are seeing two quite significant climate shifts. One is a systemic trend towards aridity and the other is an expansion of the temperature differential between night and day. The former is an indicator of water vulnerability trending upwards and the later, far more dangerous phenomenon is an indicator that the fine balance of temperature differentials that is so conducive to dry zone cultivation is being compromised leading to a much narrower spectrum of crops perhaps necessitating changes in types and cropping patterns and a loss in potential for economic stability of primarily farming families.

While climate related phenomena are generally negative, we need to clearly understand how negative these are with respect to specific geographies. These come in terms of threats / exposure to specific negatives and how sensitive a populace or its livelihood is to a specific set of events. In a 2010 study, the International Water Management Institute (IWMI) created the map (chart 13)



on drought and multi-hazard exposure for Sri Lanka. Most of the north is in the yellow zone or higher.

Unfortunately we do not have data on sensitivity of people and livelihoods to the impacts of these types of water / climate related threats for the Northern Province. The data is available for the rest of the country and we present it as follows to get an idea of the sensitivity indices specific to rural



agrarian communities as seen Chart 14 above.

Sensitivity is defined as "the degree to which a system is affected, either adversely or beneficially, by climate-related stimuli" (IPCC 2001). We surmise that the human sensitivity in the Vanni areas would be in the green-light green zone given the relative sparseness of population, the smaller number of concentrations and the lesser densities of such concentrations and probably in the orange-red zone for the Jaffna peninsula. On livelihoods, we surmise that the sensitivity would be in the Green-light green zone for Vavuniya, Green for Jaffna and yellow-orange for the Kilinochchi and Mullaitivu belt.

We therefore believe that any water related interventions that are planned should take these overarching conditions into consideration and drill deeper at the level of districts and micro-geographies before recommendations and strategies are planned.

5.5.3. Resistive factors to improving agricultural livelihoods

The respondents were polled on various factors that impinge upon their primary livelihood including lack of market access, insufficient demand, market flooding, lack of tools, seeds, land or water, infertile soil. The results are given in **table 8** below:

TABLE 10: RESISTIVE FACTORS TO IMPROVING AGRICULTURAL LIVELIHOODS (% OF RESPONDENTS								
			AFFIRM	ING)				
	Lack of market	Insufficient	Market	lack of	Lack of	Lack of	Lack of	infertile
	access	demand	flooding	tools	seeds	land	water	soil
Mullaittivu	65.47	19.82	29.88	22.07	37.84	2.85	1.50	0.30
Kilinochchi	22.31	37.27	30.18	42.78	33.46	2.76	5.25	1.05
Vavuniya	59.61	47.65	30.10	51.86	36.96	5.49	21.37	0.39

The respondents from Mullaittivu and Kilinochchi cite lack of market access as being significant. The finding clearly identifies critical requirements in improving the value chain and validates the primary goal of VALUE in this respect.

Interestingly, only a very small proportion of those living in areas known for severe water pressure (Kilinochchi and Mullaittivu) cite water scarcity as an issue whereas 1/5th of those living in the wettest of the three districts cite it as a problem. At present, GMSL reports "as is" on this issue but offers no clear resolution until further drill downs is possible during the intervention.

Lack of land is generally not reported as a significant issue although those in Vavuniya poll marginally higher. This is congruent with the population levels being comparatively higher in Vavuniya validating the reduction of the amount of land available per household.

More than 1/3rd of those polled from all three districts also cite lack of seeds as being an issue. The GMSL's initiatives with the private sector to obtain seeds as well as its design stage decision to create individual seed banks for the people are also validated by this data.

Mullaittivu farmers seem to have sufficient demand while those in Kilinochchi and Vavuniya see insufficient demand as a significant threat. However, when considered against market flooding, where all three districts are in agreement, there is a clear anomaly in these two demographics that needs to be further explored. Lastly, soil fertility is beyond question as only a very marginal proportion cites this as a problem.

5.5.4. Agrochemical usage

Agricultural chemicals seem to have been in fairly heavy use in the target zones. In analyzing the responses, the GMSL used a weight for the amount of agrochemicals used. A value of 5 was given to those who used less than 176kg of agrochemicals, 4 for those using between 176kg and 375kg, 3 for those who used between 528kg and 704kg and 1 for those using more than 704kgs. The tiring was based on a min-max method through the range of agrochemical use. Although pesticide and fertilizer use were separately polled there was a congruence of these for each household (comparable amounts of both types of agrochemicals used per household dependent on their application habits).





The data reveals that there significantly heavy use of agrochemicals in all three districts. However, of these, Vavuniya is relatively higher than the others with approximately 29% using more than the norms for the region.

Anomaly between agrochemical and organic inputs: Interestingly however, the number of households that stated that they use organic techniques is 78%. Additionally, according to

TABLE 11: NATURAL AGRICULTURE - INPUT USAGE (PERCENTAGE OF RESPONDENTS)					
	Compost Dung Other				
			organic		
Mullaittivu	39.04	48.65	1.05		
Kilinochchi	47.90	12.60	5.38		
Vavuniya	61.57	53.82	2.45		

Table 8 below, the highest amount of organic input usage seems to be from Vavuniya which is also the highest user of agrochemicals.

The implications of the data are difficult to chart. None of the KPIs indicated a solution although the common adage "people lie to please you" was regularly used. However, the problem is not that simplistic. Given the historic background of organic agrarian practice exclusively used during the period of the conflict, it is definitely a technique that most (if not all) farmers in these regions are familiar with. Therefore, usage of these techniques, despite the flooding of the northern geographies with agrochemicals in the post-war era is entirely possible although never directly admitted to by the farmers. The possibilities do exist that when money is scarce, the respondents may be reverting to organic inputs. However, the data is inconclusive on this matter. At present, for the purposes of grading the respondents, usage of organic inputs was excluded.

5.5.5. Availability of tools

As primarily farming communities, the respondents had more tools than were originally assumed by the GMSL at the commencement of program design in 2012. Of the tools that the GMSL were planning to provide, 53.93% owned a mammoty (adze), 22.28% owned an axe, 25.63% owned a water pump and 8.39% owned a sprayer. These indicated that the provision of tools needed to be on a case by case basis.

5.5.6. Availability of transport

Most households owned at least a bicycle with 89.49% from Mullaittivu owning at least one, 90.68% from Kilinochchi and 74.22% from Vavuniya. Motorcycle ownership was much lower. The figures for Mullaittivu, Kilinochchi and Vavuniya respectively are 17.57%, 20.08% and 21.18% respectively. For small scale microenterprises, this means that at least a basic mode of cost free transport was available to most of the respondents and this is significant for the collectivization of farm yields.

5.5.7. Cropping patterns

Although data was gathered on the amounts of each of the crops that were being grown and harvested, the yield data that was obtained contained significant gaps and therefore, those demographics have been excluded from the survey despite their importance. VALUE plans to revisit the target households and determine the exact yields before the interventions begin and

record these separately for the final lists of beneficiaries. For the entire target region, the following are seen to have been grown at least in small qualities, indicating a substantive crop list from which to select the required crops for the treatment groups.

TABLE 12: CROP TYPES USED BY RESPONDENTS						
Fruits						
Banana	Butter fruit	Guava	Lavulu	Mango		
Orange	Рарауа	Passion Fruit	Watermelon			
Vegetables						
Ash pumpkin	Beans	beetroot	Bitter Gourd	Brinjal		
Drumstick	Cabbage	Carrot	Cassava	Cucumber		
Ellu	Broadbeans	Capsicum	Chili	Green Leaves		
Kathurumurunga	Indari	Jackfruit	Kakiri	Kidney Beans		
Kohila	Ladies Fingers	Leeks	Long Beans	Pea Egg Plant		
Potato	Pumpkin	Radish	Rasavalli	Ridged Gourd		
Round Brinjal	Small Beans	Snake Gourd	Sweet Potato			
Winged bean	Zucchini	Tomato				
Legumes and nuts						
Areca nut	Black Gram	Cashew nuts	Chickpeas	Gram		
Green Gram	Ground Nuts	Peanuts	Undu	Lentils		
Spices and leafs						
Asamodagam	Garlic	Ginger	Gotu Kola	Karapincha		
Kochchi	Lemon	Lime	Pepper	Mustard		
Mustard	Rampe	Sesame	Spinach	Tumeric		
Other cash crops						
Aloe vera	Beetel	Coffee	Corn	Millet		
Onion	Tobacco					

5.5.8. Animal threats

Monkeys, wild squirrel, peafowl, elephants and birds were cited as the chief threats from animals. In over 95% of the cases, there was no indication that the respondents had any strategies to mitigate these threats. In particular, the threats from monkeys, peafowl and rodents are known to be severe according to agriculture department data and the personal experiences of the agricultural expert of the GMSL. The issues need to be addressed on a case-by-case basis.

6. Recommendations

With respect to agriculture

- that cropping pattern data that is held to be erroneous or gapped are re-polled at the time of intervention
- Further explore the actualities of water availability across a longer length of time to determine the real options available to beneficiaries
- Increase attention to climate phenomena since these can delay agricultural interventions and severely impact their efficacy – especially in the areas of water security in the northern province where the climate is slowly changing from semiarid to arid and from arid to semi-desert
- Only provide tools to farmers on a case-by-case basis and not as a blanket requirement as per the original design since these farmers seem to now have sufficient tools to engage in agriculture
- Specifically consider animal threats and any mitigation techniques there maybe since the farmers have unanimously responded that they do not have sufficiently robust solutions
- With respect to child education and security, consider the following:
 - Preschools required but not considered an "essential" part of child development among target communities.
 - Need for greater awareness among the people on ECCD education and an increase in trust in such facilities before any ECCD centers are built/enhanced or facilitated as a necessary requirement.
 - Building trust would require highly qualified teachers as a mandatory condition. This would require highly secure and very well monitored caregiver environments as a mandatory requirement. This would require assurances on the part of facility operators to the communities as a mandatory requirement.
 - Therefore, a cost escalation of preschools to roughly 4 times (more security, safe equipment, higher paid and trained caregivers) than what is invested on average in such facilities in the Vanni region.
 - Therefore, given the above, a reduction in the number of such facilities and an enhancement of the quality of the facilities probably required initially in order to get a community level vote for a process that was vital for child development.
 - Therefore, a very strong geophysical and geo-social citing method for each ECCD center would be required.
 - Additionally, a very strong policy advocacy program with the government to change their view of how such education should take place.