Protocol for L10K Midterm Survey

The Last 10 Kilometers Project

JSI Research & Training Institute, Inc.

Addis Ababa, Ethiopia

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Contents

Introduction

Ethiopia faces a formidable task in reducing its maternal and child mortality rates to reach Millennium Development Goals (MDGs) 4 and 5. The neonatal, infant and under-five mortality rates need to be reduced from 39, 77, and 123 per 1,000 live births observed in 2005, respectively, to 15, 31, and 67 per 1,000 live births by 2015, respectively, in order to reach Ethiopia's target for MDG 4. The maternal mortality ratio needs to be reduced from 673 to 267 per 100,000 live births during the same period to reach Ethiopia's MDG 5 target. The Health Extension Program (HEP) launched in 2003 is Ethiopia's major effort to reach its health-related MDG targets. The main strategies of the HEP are the expansion of physical health infrastructure and training and deployment of a cadre of female Health Extension Workers (HEWs) who will provide mainly promotive and preventive health care services with some basic curative services throughout Ethiopia . The expansion of the HEP throughout the country has been proceeding according to plan. To date, the HEP has achieved almost universal coverage by establishing at least one health post and deploying at least two HEWs in almost all of the 15 thousand kebeles[1] in the country.

HEP relies on implementing strategies that involve local communities, institutes and resources to maximize its reach. In this regard, the Last Ten Kilometers Project (L10K), funded by Bill and Melinda Gates Foundation, implements and tests innovative community-based strategies with the goal of strengthening interactions between households, communities, and the HEWs to improve high-impact household and community health practices to contribute towards reaching MDGs 4 and 5. Specifically, L10K's community strategies aim at i) enhancing HEWs' and voluntary Community Health Workers' (vCHWs') skill to interact with households and communities; and ii) stimulating community collective action to ultimately increase access to and use of proven, high-impact reproductive, maternal, newborn and child health (RMNCH) interventions. Documenting learning and effectiveness of these L10K strategies, along with disseminating findings among local and global stakeholders and likeminded organizations, are imperative for L10K.

To measure the impact of the L10K project, a baseline survey was conducted between December 2008 and January 2009 and a follow-up or end-line survey will be conducted in December 2011. The baseline survey included 204 kebeles (as primary sampling units or clusters) which will be revisited during the follow-up (i.e., end-line) survey. The study design, i.e., a kebele-level (i.e., cluster- or community -level) fixed effects panel design, measures L10K program intensity at the kebele-level and outcomes of interest at the household- and individual-level. This approach allows the study to utilize the variability of program intensity within the project areas, and measure impact by correlating the magnitude of changes in L10K program intensity between baseline and end-line within a kebele with the magnitude of changes in key RMNCH-seeking behavior and practices in those kebeles during the same period, averaged across 201 kebeles, netting out secular trend and changes due to other observed confounders and kebele-level unobserved confounders that remain similar (i.e., fixed) over time. However, during the baseline survey the intervention sub-strata within L10K woredas[2] where the specific community strategies of the L10K project would be tested had not yet been identified—this hindered the allocation of samples sufficient to achieve the power to isolate the effect of specific L10K strategy interventions within their areas during the baseline survey. Moreover, during the

[1] Kebele is the smallest administrative unit of the country comprising about five thousand population, on average.

[2] Woredas (or districts) are administrative units within each region comprising about 20 kebeles each, on average.

time of the baseline survey, the critical activities of the L10K interventions were not clear, which prevented the design of an appropriate tool to measure the intensity of L10K program activities at the kebele level. Lastly, there may remain errors associated with measuring program intensity at the kebele-level which may threaten the validity of the kebele-level panel design for measuring program impact. Therefore, this protocol proposes to improve the impact assessment of the specific L10K strategies of interest through modifying the current study design by implementing a midterm survey which will be followed by an end-line survey (i.e., also modifying the original end-line survey design). The modified study design will introduce a baseline-midterm and midterm-posttest multiple groups comparison design which, in addition to assessing the impact of specific L10K strategies would also validate the results from the kebele-level panel study design.

The Last Ten Kilometers Project

Since 2008, L10K has been working in partnership with 12 regional-level CSOs and about 24 woreda-level NGOs, public administrations or CSOs to implement innovative strategies to engage local communities to participate in improving maternal, newborn and child health. The project covers 115 rural woredas, located in Amhara, Oromia, Southern Nations, Nations and Nationalities and Peoples [SNNP], and Tigray regions, covering about 13.2 million people, or about 19 percent of the population of the country (see Annex 1 for the list of L10K woredas). Specifically, the project has hypothesized that the six objectives listed below will be achieved.

Objective one: Households and kebeles actively engaged in the provision of kebele-based health services in conjunction with the HEP in order to increase availability of services and change household and kebele health practices.

Objective two: Households and kebele actively informing, leading, owning, planning, and monitoring their own RMNCH interventions.

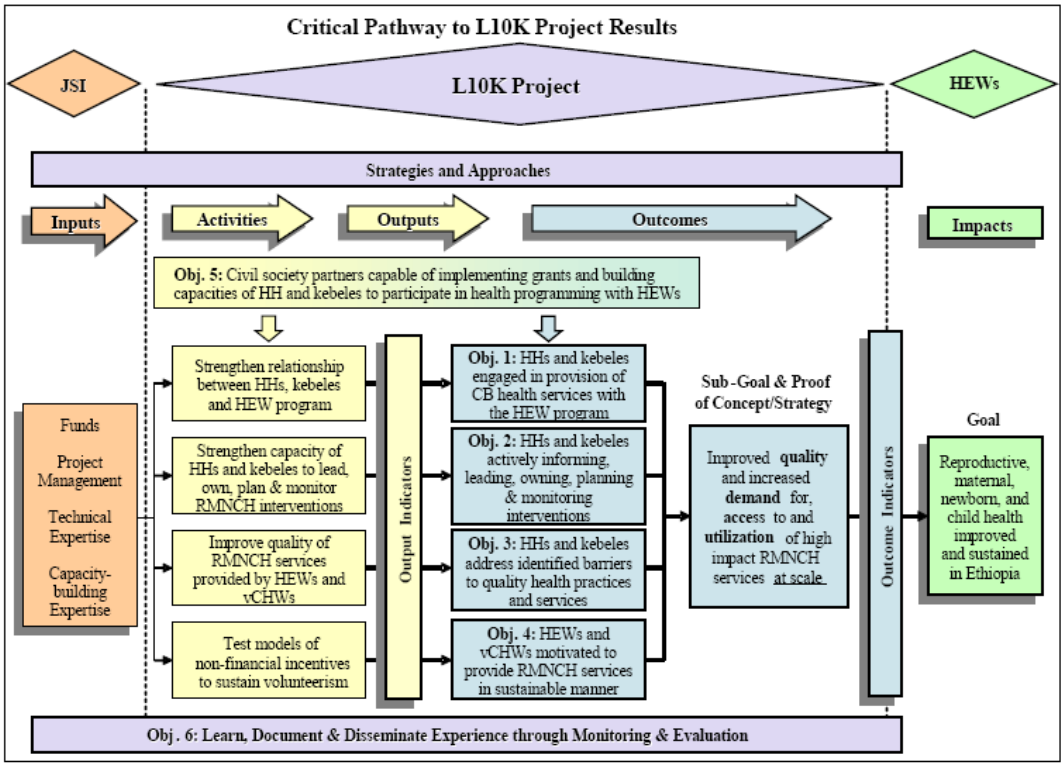
Objective three: Households and kebeles address identified barriers to quality RMNCH household/kebele health practices and services through innovative kebele approaches.

Objective four: VCHWs and model families motivated by non-financial incentives to provide RMNCH services in a sustainable manner.

Objective five: Civil society partners capable of implementing grants program, and building capacities of households and kebeles to participate in health programming with HEWs.

Objective six: L10K project partners learn, document, and disseminate project experiences through monitoring and evaluation.

The critical pathway to L10K results is depicted below. Objectives one to four are the critical community based strategies that are being tested by the project; objective five is an integral part of successfully implementing the first four objectives—i.e. building the capacity of tier one and tier two grantees to plan, implement and monitor health programs; and objective six is aimed at disseminating lessons learned from the L10K strategies that work in order to replicate and scale them up.



Objective one activities covering all L10K woredas

The community-based strategy associated with objective one is being implemented in all 115 L10K woredas where the project supports the HEWs to work with their communities, utilizing a geographically spread network of voluntary Community Health Workers (vCHW)—i.e., one vCHW for a neighborhood consisting of about 25 to 30 households. The vCHW are community members who are selected by the community with attention to geographic spread, so that they can be role models for their neighbors and help extend the reach of HEW to bring their health messages and actions for change more equitably to families residing in every corner of her kebele. To motivate and sustain support from households, vCHWs and the community as a whole, the L10K project works with existing community structures, organizations or institutes (such as idirs, churches, mosques, and women's and youth Associations). The value of embedding the community health program within community institutes, or "anchors," is that the anchors are hypothesized to improve and sustain community health outcomes. The anchors foster the credibility and recognition of vCHWs; sustain volunteerism by working through recognized community structure; more widely promote the role of the households for improving health outcomes; improve equity by reaching all corners of the kebele, and improve efficiency by facilitating achievable task-shifting from HEWs to vCHWs as appropriate and feasible.

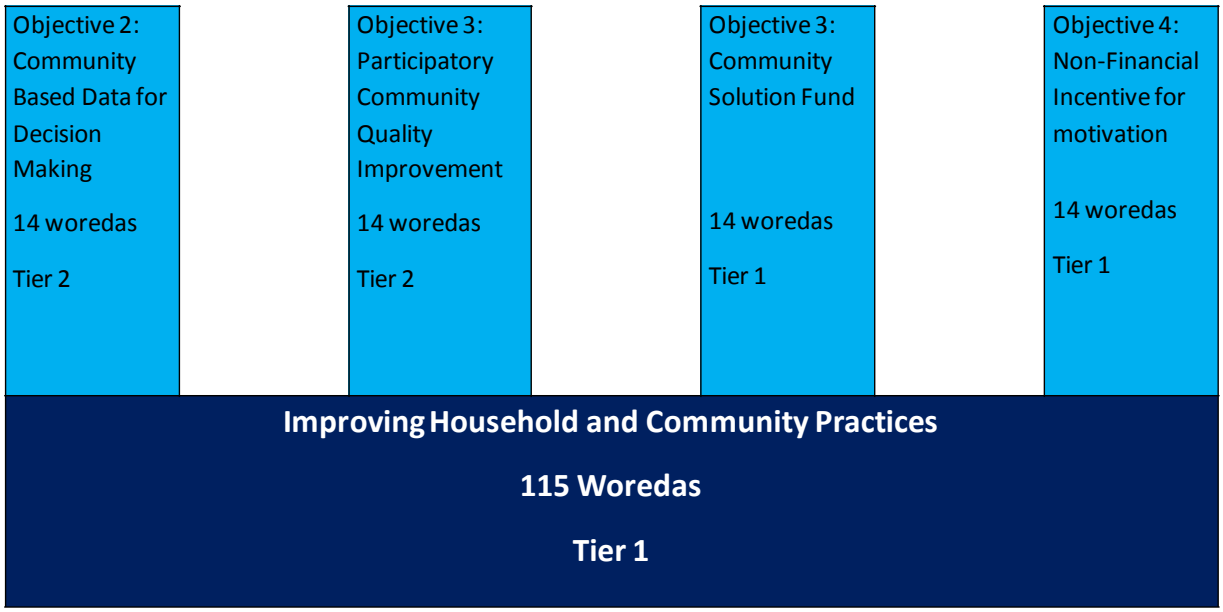
The activities under objective one are implemented in two phases. The first phase, rolled out in January 2009, covers 71 woredas (i.e., 20 in Amhara, 22 in Oromia, 19 in SNNP, and 10 in Tigray) with a population of about 8.5 million in 1,970 kebeles; while the second phase, rolled out in June 2010, covers 44 woredas (i.e., 15 in Amhara, 13 in Oromia, 11 in SNNP, and five in Tigray) with a population of about 4.7 million in 1,078 kebeles. A list of woredas by implementation phase is provided in Annex 1 and illustrated in Annex 2 maps.

Activities for objectives two, three and four in selected woredas

In 14 woredas each, activities for objectives two, three, and four are added to the activities under objective one in order to assess their added value (see figure below). The list of L10K woredas according to activities for objectives two, three and four are indicated in Annex 1 and Annex 2 maps. The objective one activity is implemented by the 12 region-level civil organizations (i.e., tier one grantees) with technical assistance from JSI Research & Training Institute, Inc., (JSI R&T). The Community Based Data for Decision Making (CBDDM), i.e., the community based strategy under objective two, is added to 14 objective one woredas by woreda-level organizations (i.e., tier two grantees) under the guidance of tier one grantees. In each of the 14 woredas the CBDDM activities are limited to 10 kebeles during the pilot phase. Similarly, Participatory Community Quality Improvement (PCQI), i.e., one of the two objective three strategies, is added to 14 more woredas with objective one activities by 14 other tier two grantees. (PCQI activities are also limited to 10 kebeles within a woreda.)Tier one grantees are implementing the Community Solutions Fund (CSF), i.e., the second strategy under objective three, and the Non-Financial Incentives (NFI) strategy under objective four, each in 14 more objective one woredas, respectively.

Community based data for decision making (CBDDM)

CBDDM fosters partnership between the grassroots public administration, HEWs, local institutes, and vCHWs to gather information to identify gaps in utilization of maternal and newborn health (M&NH) services and facilitates community actions for solutions. The vCHW keeps the 25 to 30 households within her or his catchment area under surveillance to ensure M&NH services. The HEWs and the community members analyze the data obtained by vCHWs to identify barriers to the



access to M&NH services and implement solutions.

Participatory Community Quality Improvement (PCQI)

The PCQI encourages partnership between communities and service providers to create shared responsibility in the ownership of M&NH services provided by the HEP, in order to improve the program's quality from the perspective of providers, clients, and the community, thereby improving use of high impact M&NH services for improved M&NH health outcomes. PCQI ensures continuous quality improvement through a cyclical process that begins with identification of barriers to quality of services from the community, client and provider perspectives; proposing and implementing solutions to overcome the barriers; evaluating the impact of quality improvement solutions; and, then revisiting barriers to quality of services to identify other gaps to propose solutions for mitigation and so on. The PCQI activities are coordinated by facilitators who are respected community members, in most cases school teachers.

Community solutions fund (CSF)

The CSF aims at availing small funds to community- or kebele-level institutes to empower them to identify and prioritize barriers to quality M&NH services to propose and implement innovative strategies to address them. CSF improves the capacity of kebele-level organizations and local government to design and implement activities, through developing proposals seeking small funds; and receiving and managing funds for solutions to M&NH service barriers.

Non-financial incentives (NFI)

The NFI aims to ensure the sustained engagement of vCHWs in the HEP by motivating and strengthening volunteerism among vCHWs through several mechanisms in addition to the anchoring of vCHWs within community institutes under objective one. These NFIs include developing mechanisms to recognize vCHWs' work within the community by maintaining continuous support from HEWs in the form of ongoing mentoring, training and follow-up; certification, performance reviews, and support by kebele and woreda leaders; periodically-organized celebrations; and providing badges and ID cards. vCHWs are also recognized through other identification methods, such as posting their photographs at public places, and the provision of refreshments during performance review meetings.

The purpose of the midterm survey

As described earlier, the baseline survey that included household- and kebele-level data collection was mainly conducted to assess the impact of the L10K program. The baseline survey provided the benchmark for measuring changes in the key RMNCH knowledge and behavioral outcome indicators that the L10K project seeks to improve. The analysis of the baseline survey answered the following questions:

1. What are the benchmarks for the perceived quality, awareness, knowledge, demand, access and utilization of high impact RMNCH services in L10K Project areas?

2. Where are the underserved areas for RMNCH services located? In other words, how do the perceived quality, awareness, knowledge, demand, access and utilization of high impact RMNCH services vary by socio-demographic characteristics and within the L10K Project areas?

3. What is the benchmark for HEP coverage in the L10K areas?

4. What are the scope and intensity of HEP activities in L10K Project kebeles? And, how do the scope and intensity of the HEP activities vary within the project areas?

5. Are the variations in the scope and intensity of HEP activities within L10K Project areas associated with variations in RMNCH knowledge, perception and behavioral outcomes?

The analysis of the midterm survey along with the baseline survey will provide the answers to the following research questions:

6. Have there been increases in perceived quality, awareness, knowledge, demand, access and utilization of high impact RMNCH services in L10K Project areas?

7. What is the scope and intensity of the L10K activities in the project kebeles? And, how do the scope and intensity of the L10K activities vary within the project areas?

8. Have the scope and intensity of the HEP activities in L10K Project kebeles increased since the baseline?

9. Are the increases in perceived quality, awareness, knowledge, demand, access and utilization of high impact RMNCH services in the project areas attributable to the improvements in the scope and intensity of the HEP activities in those areas?

10. Are the increases in perceived quality, awareness, knowledge, demand, access and utilization of high impact RMNCH services attributable to the interaction between HEP and L10K objective one and two strategies?

11. What is the quality of HEP services from the perspective of providers, clients and the community in the L10K areas? And, is the variation in the quality of HEP services attributable to L10K strategies?

The analysis of the midterm survey along with the baseline and the end-line surveys will validate the baseline-midterm analysis findings with the introduction of an intervention-comparison group midterm-post-test group. It would also try to isolate the impact of the PCQI strategy under objective three.

The midterm survey design

The midterm survey would be a modified version of the baseline survey which would 1) add stratification of the L10K woredas according to program strategy and according to implementation phase; and 2) add non-L10K areas for comparison. Specifically, there will be six strata from which household and kebele information will be collected. The list of strata and their respective sample sizes are given below:

Strata	Woreda	Census 2007	Baseline			Midterm			
No.	Name	Population	Total	Revisit	Replace	Total	Revisit	New	Ssize
	Intervention	8,975,026	204	129	75	330	129	201	3,960
	Tigray	1,322,775	54	36	18	63	36	27	756
	Amhara	3,410,381	50	33	17	91	33	58	1,092
	Oromia	2,347,373	50	33	17	88	33	55	1,056
	SNNP	1,894,497	50	27	23	88	27	61	1,056
1	Objective 1/phase 1	3,613,336	50	50	0	76	50	26	912
	Tigray	266,729	10	10	0	16	10	6	192
	Amhara	1,384,422	14	14	0	20	14	6	240
	Oromia	1,213,478	15	15	0	20	15	5	240
	SNNP	748,707	11	11	0	20	11	9	240
2	Objective 1/phase 2	3,041,484	39	39	0	76	39	37	912
	Tigray	617,412	11	11	0	16	11	5	192
	Amhara	1,160,305	10	10	0	20	10	10	240
	Oromia	665,057	10	10	0	20	10	10	240
	SNNP	598,710	8	8	0	20	8	12	240
3	CBDDM/phase 1	674,394	27	12	15	76	12	64	912
	Tigray	143,251	10	5	5	16	5	11	192
	Amhara	240,770	5	2	3	20	2	18	240
	Oromia	146,499	6	2	4	20	2	18	240
	SNNP	143,874	6	3	3	20	3	17	240
4	PCQI	458,551	29	5	24	51	5	46	612
4.1	Phase 1	325,428	20	3	17	37	3	34	444
4.1.1	Tigray	82,949	7	2	5	7	2	5	84
4.1.2	Amhara	99,399	3	0	3	10	0	10	120
4.1.3	Oromia	68,699	3	1	2	10	1	9	120
4.1.4	SNNP	74,381	7	0	7	10	0	10	120
4.2	Phase 2	133,123	9	2	7	14	2	12	168
4.2.1	Tigray	0	0	0	0	0	0	0	0
4.2.2	Amhara	79,678	3	1	2	5	1	4	60
4.2.3	Oromia	25,319	3	1	2	5	1	4	60
4.2.4	SNNP	28,126	3	0	3	4	0	4	48
5	Other (CSF &NFI)	1,187,261	59	23	36	51	23	28	612
5.1	Phase 1 CSF	531,935	27	10	17	22	10	12	264
5.1.1	Tigray	132,215	8	5	3	5	5	0	60
5.1.2	Amhara	176,878	5	2	3	6	2	4	72
5.1.3	Oromia	81,531	8	1	7	5	1	4	60
5.1.4	SNNP	141,311	6	2	4	6	2	4	72
5.2	Phase 2 CSF	122,044	5	1	4	6	1	5	72
5.2.1	Tigray	0	0	0	0	0	0	0	0
5.2.2	Amhara	41,748	2	1	1	2	1	1	24
5.2.3	Oromia	20,525	1	0	1	2	0	2	24
5.2.4	SNNP	59,771	2	0	2	2	0	2	24
5.3	Phase 1 NFI	234,863	13	4	9	12	4	8	144
5.3.1	Tigray	80,219	8	3	5	3	3	0	36
5.3.2	Amhara	62,750	2	1	1	3	1	2	36
5.3.3	Oromia	58,037	1	0	1	3	0	3	36
5.3.4	SNNP	33,857	2	0	2	3	0	3	36
5.4	Phase 2 NFI	298,419	14	8	6	11	8	3	132
5.4.1	Tigray	0	0	0	0	0	0	0	0
5.4.2	Amhara	164,431	6	2	4	5	2	3	60
5.4.3	Oromia	68,228	3	3	0	3	3	0	36
5.4.4	SNNP	65,760	5	3	2	3	3	0	36
6	Comparison	3,322,960				76	0	76	912
6.1	Tigray	691,395				25	0	25	300
6.2	Amhara	1,023,891				17	0	17	204
6.3	Oromia	735,969				17	0	17	204
6.4	SNNP	871,705				17	0	17	204
Sample size per target group			204	129	75	406	129	277	4,872
Total sample size									14,616

The sample sizes for objective 1/ phase 1, objective 1/phase 2, CBDDM, and comparison area strata are large enough to detect at least eight percentage point differences in a given indicator (with 80% power, two-

sided alpha error set at 0.05, and survey design effect set at 1.5) between them. The PCQI strata the sample is large enough to detect at least 8 percentage points differences of a given indicator (with the sampling parameters set as before) from the objective one only woredas (i.e., phases 1 and 2 combined).

The same number of respondents will be interviewed from the three target groups for the household population. As with the baseline survey, the target populations for midterm household survey are 1) any women of reproductive age, 2) women with children 0 to 11 months, and 3) women with children 12 to 23 months. About 4,872 interviews for each target group will be expected to be completed from about 406 kebeles or clusters, giving a total of 14,616 interviews. (However, the expected total number of women interviewed will be 10% less because about 16% of women in reproductive age have children less than two years old and are thus interviewed to complete the other questionnaires.)

The kebeles (i.e., clusters) visited during the baseline survey will be revisited during the midterm survey in order to facilitate the community-level fixed effects panel design. However, about 75 kebeles will be dropped, mainly from the special woredas because they are not the kebeles selected for the intervention. About 277 additional kebeles or clusters would be visited (201 in intervention areas and 76 in comparison areas) to get the desired sample size.

The same household questionnaires from the baseline survey will be used for the midterm survey. However, questions will be added to get more details for measuring program intensity.

The community/kebele questionnaire will use most of the same questions from the baseline survey; however, new questions will be added to measure 1) intensity of L10K activities in a given kebele, 2) quality of HEP services from the provider, client and community perspectives.

A total of 30 non-L10K woredas will be selected for the comparison strata, from which 76 kebeles will be sampled as clusters. The comparison woredas will be matched with phase one and phase two woredas based on zone. One comparison woreda could be potentially matched with more than one L10K intervention woreda. Information on the health and development infrastructure of the intervention and comparison woredas will also be obtained in order to adjust for confounders that were overlooked during the matching process.

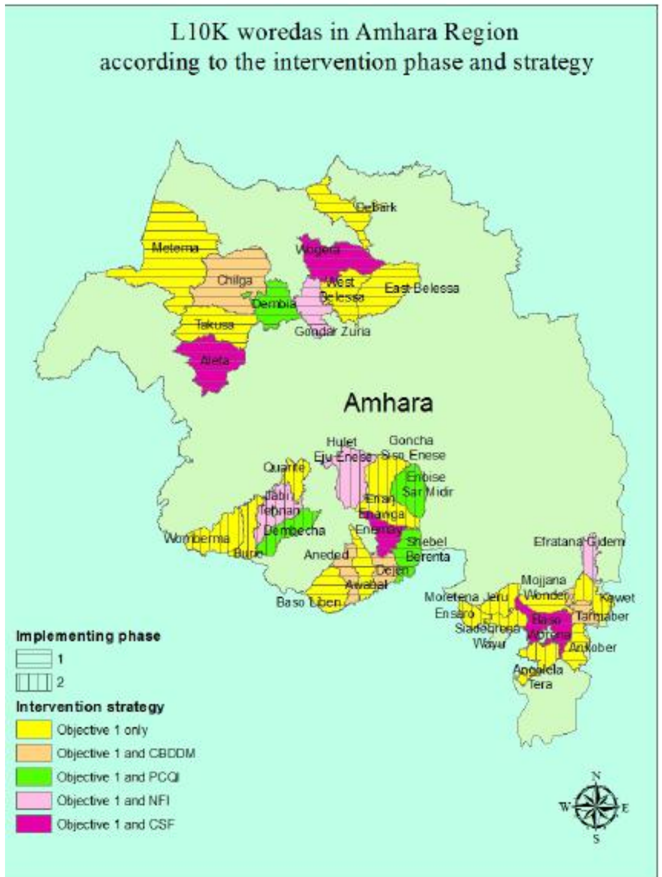
The field implementation strategy will be the same as that used for the baseline survey. In order to improve the confidence of the implementing partners in the findings of the midterm survey, the field implementation and analysis of the survey will be done in collaboration with the Federal Ministry of Health (FMOH), Regional Health Bureaus (RHBs), and the L10K implementing partners (i.e., 1st tier grantees).

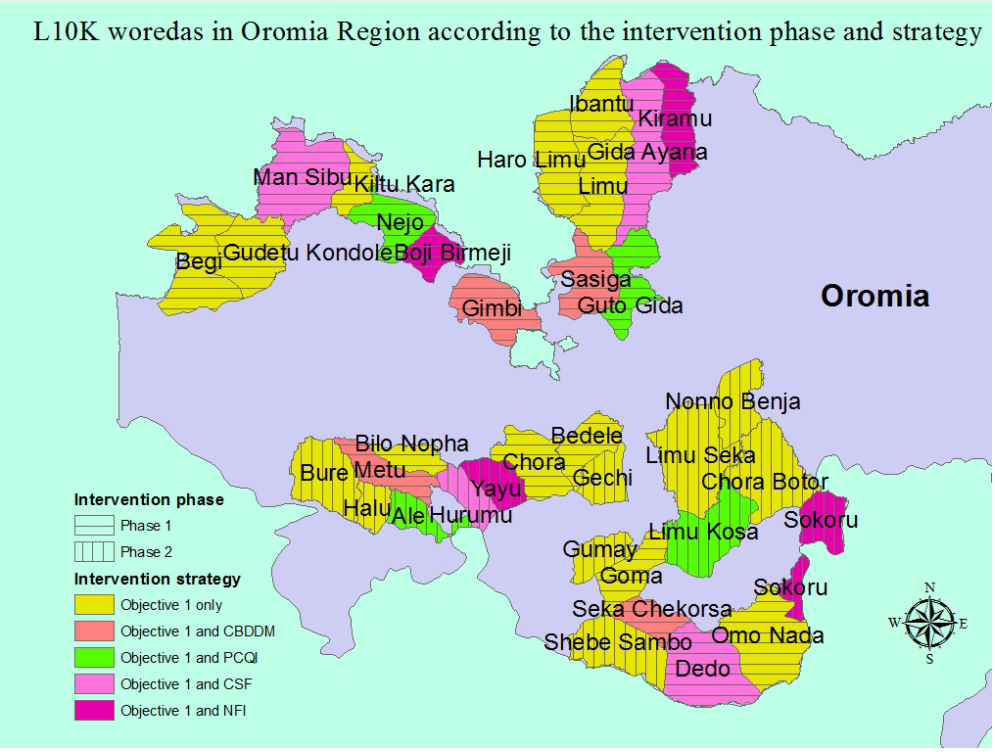
Study designs for the research questions are given in annex 3; the baseline survey methodology is given in annex 4; and, the timeline for the survey is attached as annex 5.

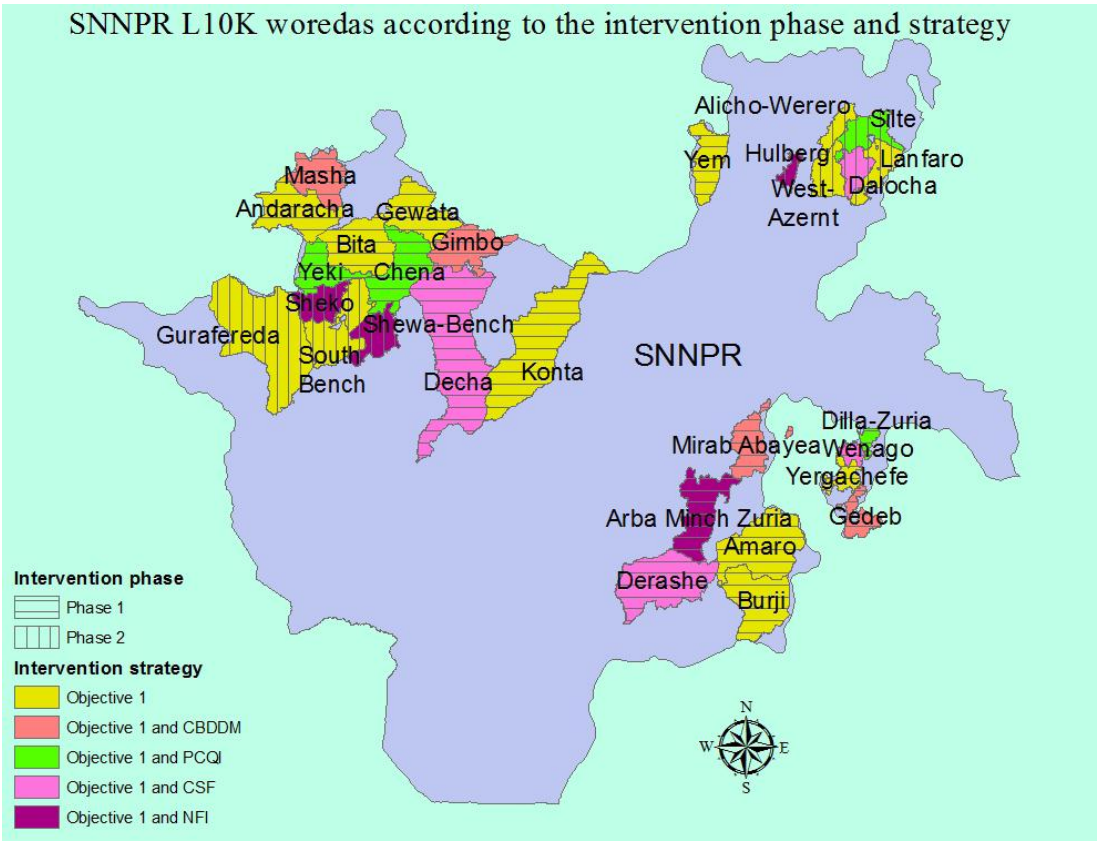
Annex 1: List of L10K woredas by region, implementation strategy, and implementing phase

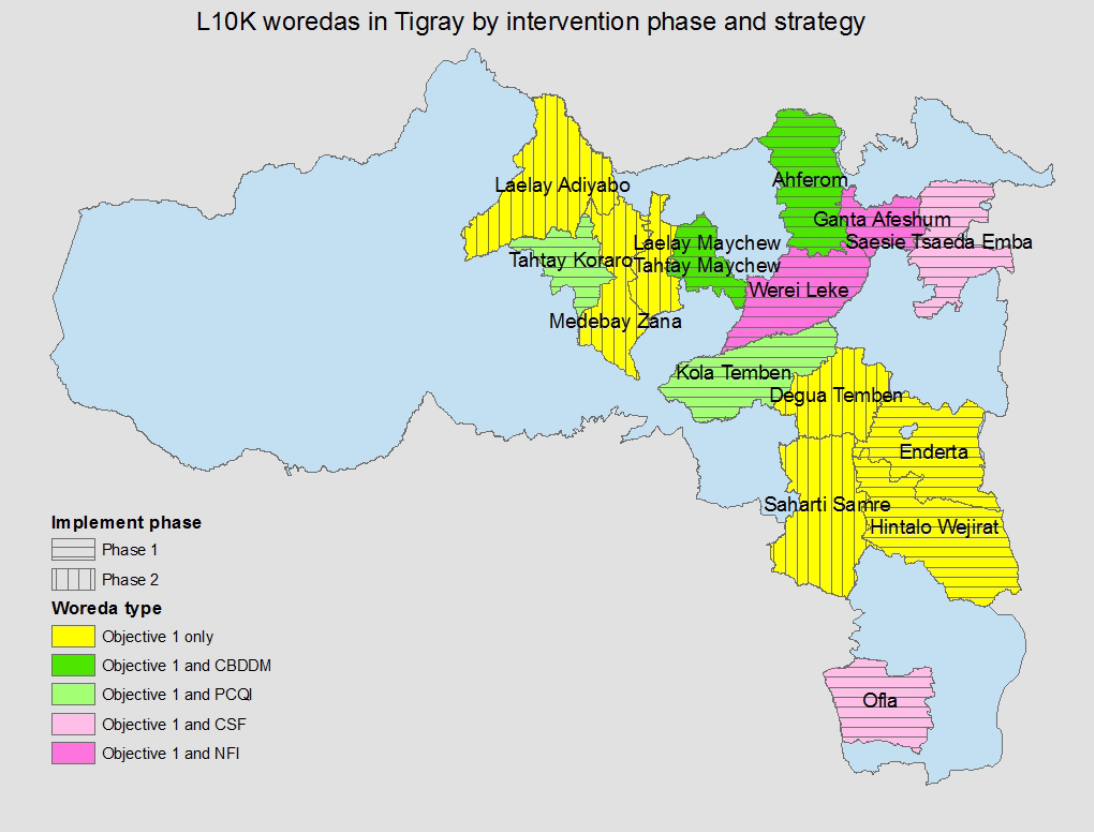
Amhara	Oromia	SNNP	Tigray
(Phase 1)	***(Phase 1)***	***(Phase 1)***	***(Phase 1)***
1. Aneded α	1. Gida Ayana μ	1. Amaro	1. Ahferom α
2. Awabal	2. Guto Gida β	2. Burji	2. Kola Tembein β
3. Baso Liben	3. Haro Limu	3. Derashe μ	3. Laelay Maichew α
4. Dejenα	4. Ibantu	4. Arba Minch Zuria π	4. Werei Leke π
5. Enemay	5. Kiramu	5. Mirab Abayea α	5. Ganta Afeshum π
6. Alefa	6. Limu π	6. Dilla-Zuria β	6. Saesie Tsaeda Emba μ
7. Chilga α	7. Sasiga α	7. Gedeb α	7. Tahtay Koraro β
8. Debark	8. Bedele	8. Wenago μ	8. Enderta
9. Dembia β	9. Bilo Nopha	9. Yergachefe	9. Hintola Wajirat
10. East Belessa	10. Chora	10. Bita	10. Ofla μ
11. Gondar Zuria π	11. Metu α	11. Chena β	***(Phase 2)***
12. Metema	12. Dedo μ	12. Decha μ	11. Tahtay Maychew
13. Takusa μ	13. Goma	13. Gewata	12. Degua Temben
14. West Belessa	14. Omo Nada	14. Gimboα	13. Laelay Adiabo
15. Wogera μ	15. Seka Chekorsa α	15. Konta	14. Medebay Zana
16. Ankober	16. Begi	16. Andaracha	15. Samre Sehart
17. Baso Worena μ	17. Boji Birmeji	17. Masha α	
18. Mojjana Wonder	18. Gimbi α	18. Yeki β	
19. Siadebrena Wayu β	19. Gudetu Kondole	19. Yem	
20. Tarmaber α	20. Kiltu Kara π	***(Phase 2)***	α CBDDM: Community based data for decision making
(Phase 2)	21. Man Sibu μ	20. Gurafereda	
21. Enarj Enawga	22. Nejo β	21. North- Bench	
22. Enbise Sar Midir π	***(Phase 2)***	22. Sheko π	
23. Goncha Siso Enese	23. Ale β	23. Shewa-Bench π	β PCQI: Participatory community quality improvement
24. Hulet Eju Enese β	24. Bure π	24. South Bench	
25. Shebel Berenta	25. Gechi	25. Alicho-Werero π	
26. Angolela Tera	26. Halu	26. Dalocha	
27. Efratana Gidem π	27. Hurumu μ	27. Hulberg μ	μ CSF: Community solutions fund
28. Ensaro	28. Yayu	28. Lanfaro	
29. Kewet	29. Chora Botor	29. Silte β	
30. Moretena Jeru	30. Gumay	30. West-Azernt	π NFI: Non-financial incentives
31. Burie μ	31. Limu Kosa β		
32. Dembecha β	32. Limu Seka		
33. Jabi Tehnan π	33. Nonno Benja		
34. Quarite	34. Shebe Sambo		
35. Womberma	35. Sokoru π		

Annex 2: Maps


L10K woredas in Amhara Region
according to the intervention phase and strategy
Debark
Metema
Wogera
Chilga
West
Belessa
East Belessa
Dembia
Takusa
Gondar Zuria
Amhara
Hulet
Eju Enese
Goncha
Siso Enese
Quarite
Enbise
Sar Midir
Jabi
Tehnan
Enarj
Enawga
Dembecha
Enemay
Womberma
Bure
Shebel
Berenta
Aneded
Dejen
Awabel
Baso Liben
Efratana Gidem
Mojjana
Wonder
Moretena Jeru
Kewet
Ensaro
Tarmaber
Siadebrena
Wayu
Baso
Worena
Ankober
Angolela
Tera
Implementing phase
1
2
Intervention strategy
Objective 1 only
Objective 1 and CBDDM
Objective 1 and PCQI
Objective 1 and NFI
Objective 1 and CSF
N
W
E
S


L10K woredas in Oromia Region according to the intervention phase and strategy
Ibantu
Kiramu
Haro Limu
Gida Ayana
Limu
Man Sibu
Kiltu Kara
Nejo
Begi
Gudetu Kondole
Boji Birmeji
Sasiga
Gimbi
Guto Gida
Oromia
Nonno Benja
Bilo Nopha
Bedele
Bure Metu
Chora
Gechi
Limu Seka
Chora Botor
Yayu
Halu
Ale
Hurumu
Sokoru
Limu Kosa
Gumay
Goma
Sokoru
Seka Chekorsa
Shebe Sambo
Omo Nada
Dedo
Intervention phase
Phase 1
Phase 2
Intervention strategy
Objective 1 only
Objective 1 and CBDDM
Objective 1 and PCQI
Objective 1 and CSF
Objective 1 and NFI
N
W
E
S


SNNPR L10K woredas according to the intervention phase and strategy
Alicho-Werero
Silte
Yem
Hulberg
Lanfaro
West-Azernt
Dalocha
Masha
Andaracha
Gewata
Bita
Gimbo
Yeki
Chena
Sheko
Shewa-Bench
Gurafereda
South Bench
Decha
Konta
SNNPR
Dilla-Zuria
Mirab Abaya
Wenago
Yergachefe
Arba Minch Zuria
Gedeb
Amaro
Derashe
Burji
Intervention phase
Phase 1
Phase 2
Intervention strategy
Objective 1
Objective 1 and CBDDM
Objective 1 and PCQI
Objective 1 and CSF
Objective 1 and NFI
N
W
E
S


L10K woredas in Tigray by intervention phase and strategy
Laelay Adiyabo
Ahferom
Ganta Afeshum
Saesie Tsaeda Emba
Laelay Maychew
Tahtay Koraro
Tahtay Maychew
Werei Leke
Medebay Zana
Kola Temben
Degua Temben
Enderta
Saharti Samre
Hintalo Wejirat
Ofla
Implement phase
Phase 1
Phase 2
Woreda type
Objective 1 only
Objective 1 and CBDDM
Objective 1 and PCQI
Objective 1 and CSF
Objective 1 and NFI

Annex 3: Research questions with their corresponding study design

Research question	Study design
6. Have there been increases in perceived quality, awareness, knowledge, demand, access and utilization of high impact RMNCH services in L10K Project areas?	Pre-test-post-test only, i.e., comparison between baseline and midterm.
7. What is the scope and intensity of the L10K activities in the project kebeles? And, how do the scope and intensity of the L10K activities vary within the project areas?	Cross-sectional, midterm survey.
8. Have the scope and intensity of the HEP activities in L10K Project kebeles increased since the baseline?	Pre-test-post-test only, i.e., comparison between baseline and midterm.
9. Are the increases in perceived quality, awareness, knowledge, demand, access and utilization of high impact RMNCH services in the project areas attributable to the improvements in the scope and intensity of the HEP activities in those areas?	Community-level fixed effects panel design; i.e., correlation between changes in HEP intensities in a kebele/woreda (from baseline to midterm) with the changes in RMNCH indicators in that kebele/woreda during that time, averaged across all the sampled kebeles from the L10K areas.
10. Are the increases in perceived quality, awareness, knowledge, demand, access and utilization of high impact RMNCH services attributable to the interaction between HEP and L10K objectives one and two strategies?	a. Differences in differences between i) phase 1 and phase 2 woredas, and ii) phase 1 and CBDDM; b. Differences in differences between stratification of the L10K areas according to the combination of L10K and HEP intensities; and, c. Community-level fixed effects panel design; i.e., correlation between changes in L10K intensities in a kebele/woreda (from baseline to midterm) with the changes in RMNCH indicators in that kebele/woreda during that time, averaged across all the sampled kebeles from the L10K areas.
11. What is the quality of HEP services from the provider, client and the community perspective in the L10K areas? And, is the variation in the quality of HEP services attributable to L10K strategies?	Cross-sectional descriptive statistics and cross-sectional correlation between measures of service quality and measures of program intensities.

Annex 4: Baseline survey methodology

Sample design

A two-stage cluster sampling methodology was employed to select kebeles as clusters to be included in the survey from the L10K Project woredas of the four regions. A total of 204 kebeles were selected from the 4 regions (i.e. 50 from Amhara, 50 from Oromiya, 50 from SNNP and 54 from Tigray). Kebeles were selected using probability proportional to size (PPS). The sampling frame was constructed by obtaining the list of kebeles with their population size from the woreda health (or the administration) offices in the L10K project areas.

Survey Indicators

Several indicators within the context of the continuum of care of maternal, newborn, and child health were the focuses of the survey. The indicators concern interventions provided at the six critical health contacts: antenatal care including Tetanus Toxoid, delivery care including newborn care, postnatal care and family planning, child immunization, child health and nutrition, and childhood illness and treatment practices. All recommended interventions are described for each of the contacts, including essential nutrition Actions (ENA). Information on household characteristics were also collected, such as presence of iodized salt, bed net possession, availability of household toilet facilities, and clean water supply, among others. Indicators measuring population access to maternal and child health information and services were also included. Community or kebele level indicators such as availability of health services (e.g. health post, health center), presence of HEWs and vCHWs, and whether the kebele is malaria-endemic, among others were also collected in the survey.

Survey target respondents

The survey focuses on 4 groups of respondents to generate the survey indicators. These are:

(1) Women in the reproductive age (15-49 years),

(2) Women with children age 0-11 months,

(3) Women with children age 12-23 months, and

(4) Health extension workers (HEWs)

Selection of households and respondents

The spin the pen/bottle technique has been used widely in household surveys to identify the starting point within a sample area. Spinning a ballpoint pen at the center of the community helps the survey team randomly choose a direction to follow. Interviewers were instructed to do the following to select households for the survey:

- Go to the population center of the cluster/kebele (the point in the kebele where the population is about equally distributed on all sides).
- Select a smooth, level spot where you can spin the pen.
- Spin the pen.

- Determine which direction the ballpoint of the pen is pointing. The survey team should go in the direction that the ballpoint of the pen is pointing.
- The first household in that direction is the starting household.

The procedure was that once the starting household has been identified, women age 15-49 years who were residing in every 5th household were interviewed using the 15-49 questionnaire until the desired sample size per cluster was achieved (i.e. 20). If these women also had children age 0-11 or 12-23 months, they would be interviewed using the 0-11 & 12-23 questionnaires. To get the desired sample size for the women with children 0-11 and 12-23 months, interviewers were instructed to visit consecutive households.

Survey Questionnaires

Four sets of questionnaires were used in accordance with the target respondents, as follows:

(a) Questionnaire for women of reproductive age (15-49 years)

The respondents for this questionnaire were all women age 15-49 years whether or not they have children 2 years or younger. This questionnaire asked household and demographic characteristics; utilization of health services, bed nets, exposure to health information, family planning, and knowledge of HIV/AIDS.

(b) Questionnaire for women with children age 0-11 months

The respondents for this questionnaire were women with children age 0-11 months. On top of the general background characteristics, exposure to community-level information and use of bed nets, this questionnaire also contained information on utilization of maternal health care services, delivery care, newborn care, breastfeeding, and childhood morbidity and treatment pattern.

(c) Questionnaire for women with children age12-23 months

The respondents for this questionnaire were women with children age 12-23 months. On top of the general background characteristics, exposure to information and use of bed nets, this questionnaire also collected information on child immunization, and childhood morbidity and treatment pattern.

(d) Community questionnaire

The respondents for this questionnaire were the HEWs operating in the kebeles sampled for the survey. Kebele-level information on health service availability and type, number of HEWs in the kebele, duration of service of the HEWs, availability and number of vCHWs, and whether malaria is endemic in the kebele were collected. This questionnaire also asked about the type of training received by the HEWs, type of services provided by the HEWs, service availability, supportive supervision, collaboration between HEWs and other community actors (e.g. vCHWs, kebele administration, community based organizations), and availability of supplies and drugs in the health post.

The survey questionnaires were administered in three local languages—Amharic (in Amhara and SNNP), Oromifa (in Oromiya) and Tigregna (in Tigray).

Sample size

The sample sizes for the three target respondents per region were: 1,000 for women age 15-49 years, 600 for women with children age 0-11 months and 500 for women with children age 12-23 months. At each cluster the target sample sizes were—20 women in the reproductive age, 12 women with children 0-11 months and 10 women with children 12-23 months. Since a woman can respond to more than one questionnaire depending on whether she has a child age 0-23 months, the total number of individual women interviewed in the four regions of the L10K project areas were 6,277 (i.e. 1,724 from Amhara, 1,527 from Oromiya, 1,484 from SNNP, and 1,542 from Tigray).

Recruitment, training and fieldwork

The fieldwork was carried out by a number of survey teams, each team consisting of one field supervisor and four interviewers. Overall, in the four regions 89 interviewers, 30 supervisors, and 5 regional survey coordinators were deployed. The interviewers and supervisors were all health professionals working for regional health bureaus at zonal or woreda levels and were recruited in close consultation with the regional health bureaus. A total of 30 four-wheel drive vehicles were also used for the survey.

Training of the field staff was conducted in three sessions – Amhara and SNNP survey field teams were trained together in one session in Addis Ababa; the Oromiya team was trained in Jimma; and the team from Tigray was trained in Mekelle. The 5-day training in each of the sessions consisted of a general introduction to the concepts and objectives of the L10K project, classroom instruction on interviewing techniques and survey filing procedures, a detailed review of each item in the questionnaires, specific survey instructions, and role play. A one-day field practice was also part of the training. Survey supervisors and regional survey coordinators were given orientations on how to organize the survey, monitor and supervise the field work, and on techniques for detecting errors in the field and correcting them on spot, among others. The whole survey including the training period took about a month (from December 8, 2008 to January 17, 2009).

On the whole, the field work was completed on time as planned. Nevertheless, it has not been without problems, especially due to geographic inaccessibility. In some instances, the field team had to travel on foot for three or more hours to get to the selected cluster. Out of the 204 originally selected clusters, eight had to be replaced due to extreme inaccessibility.

Data management and processing

Data entry was centralized at the L10K project office in Addis Ababa. Data were computerized using EPI-INFO. Post coding, office editing, and translation of the Oromifa and Tigregna open-ended responses were done in the office. Three experienced data entry clerks and 2 translators were involved. The data entry team was given orientation on the survey questionnaires, the nature of the data to be computerized, and the EPI-INFO data dictionary. In order to control for possible errors during data entry a number of checking mechanisms were employed including spot checking and running intermediate frequencies. A 5% double data entry was done and high levels of concordance (exceeding 97%) were achieved. Data analysis was performed using STATA version 10.

Annex 5: L10K midterm survey timeline

L10K midline survey timeline

Activities	October-10				November-10				December-10				January-11				February-11				March-11				April-11			
	w1	w2	w3	w4	w1	w2	w3	w4	w1	w2	w3	w4	w1	w2	w3	w4	w1	w2	w3	w4	w1	w2	w3	w4	w1	w2	w3	w4
Coordination with FMOH & RHB																												
Coordinate with 1st tier grantees																												
Obtain RHB clearance and its distribution																												
Comparison woreda selection																												
Questionnaire modification and pre-testing																												
Interviewer & field supervisor selection																												
Field & training manual development																												
Monitoring & quality assurance tool development																												
Training																												
Data collection																												
Field monitoring & quality assurance																												
Data editing, entry, cleaning & verification																												
Cleaning & analysis																												
Preliminary report																												
Dissemination																												