1. Introduction

IPA is using a randomized control trial (RCT) to implement a listing and survey of small enterprises in Malawi, as well as implement an intervention for the Business Registration Impact Evaluation (BRIE) that entails business and tax registration assistance. The resulting baseline data will constitute a key input into the impact analysis of the project intervention.

This report outlines the activities to be undertaken by IPA for completing Baseline Data Collection and registration interventions. Annex I includes a detailed Work plan of activities.

2. Research Design

1. What is a randomized controlled trial?

IPA uses randomized controlled trials (RCTs) to determine which types of interventions and products are effective. RCTs determine the true causal impact of an intervention by comparing the outcome of the intervention to what *would have happened* without it. With an RCT, some people or groups of people (such as villages) are randomly assigned to participate in the intervention and others serve as a control group. Randomization ensures that the two groups are identical at the outset. Individuals in these groups live through the same external events throughout the same period of time, and thus encounter the same external intervening factors. The only difference between the two groups is that those in the treatment are exposed to the intervention and those in the control are not. Therefore, any difference in the outcomes between the two groups at the end of the study must be attributable to the intervention itself. As such, random assignment eliminates the problem of selection bias and assures the identification of causal effects.

3. Study Areas for Impact Assessment and sampling

From the list of all enumeration areas (EAs) in Lilongwe Urban and Blantyre Urban, as defined by the Malawi National Statistics Office (NSO)[1], 10 will be sampled – 5 from Lilongwe Urban and 5 from

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[1] The list of EAs for Lilongwe and Blantyre have been provided by the National Statistics Office - NSO- (2008 Census).

Blantyre Urban. In addition to those, IPA will conduct a market/business area listing exercise to collect information about business areas in the two cities. Three teams of enumerators per urban location will walk through assigned geographical sections of the cities and list any contiguous areas that contain businesses, abstracting from the nature and size of those businesses. From the universe of Business Areas listed, 20 will be randomly selected in Lilongwe and 20 in Blantyre for inclusion in BRIE.

After this mapping of business /market areas in Lilongwe and Blantyre, we identified 130 isolated markets or business areas in Lilongwe and 138 in Blantyre. In Lilongwe, the number of markets or shopping centers in each area varies across the areas, with some of them having 21 markets (area 25) and other areas with just one market. In Blantyre the largest business and commercial areas are located downtown in Blantyre Central and Blantyre East and West, as well as in Limbe.

Some areas have quite separated and easily to identify markets (Area 10, 47, 49 in Lilongwe); distances among them are significant and we can easily consider them as different markets/business areas. Other areas present some challenges: markets cannot be demarcated clearly, it seems they are a unique business area on their own. Sometimes one road separates one cluster of shops from another, but it's not always obvious. (For example area 1,7,8,22,23,36 in Lilongwe)

From this initial list of markets and business areas, for the purpose of this study, we identified 39 business centers. Accordingly with the sampling design, each business center needs to be large enough to include a minimum number of businesses. This would guarantee to find at least 65 non registered businesses within those business centers. Therefore in some cases, whenever the isolated market or shopping center appeared to be too small, other adjacent markets have been added in order to meet the target.

Following these assumptions, some of our business centers appear to be a combination of markets within the same enumeration area (i.e. the one in Area 4) while other ones are the result of merging small markets into a larger one.

The criteria we used to select business centers for our sample were:

- the size of the market (approximately 120-180 vendors). Some Business Centers include more than 180 vendors as these are mostly big businesses and very likely to be registered.

- the proximity with another market in the same enumeration area or in a close area

For the purpose of this impact evaluation, a Business Center will be defined as an area where a market or a number of shops are located. Thus, an area where business activities take place, even if it is not a market itself, it is considered a "Business Center."

In order to select enterprises that would be eligible for the business registration data collection and subsequent implementation, the following criteria will be considered:

1. The enterprise must not be registered.
2. The enterprise must be large enough (it must have at least one employee, excluding the owner)

3. The enterprise must operate from a fixed location.(This can be a permanent structure as a shop or house, but also semi-permanent structures as huts/ grass stalls)

In addition to the abovementioned criteria, (monthly) turnover will also considered to screen out very small and marginal businesses which, accordingly with the design of study, would not benefit from the intervention.

4. Study Implementation Details

Before starting data collection, IPA will obtain all the necessary permissions for implementing the baseline data collection, including permissions from the District Assembly, Police, and local leaders. The field team in charge of the listing will visit each business area before data collection is scheduled to begin. Meetings with the Group Village Headmen and TAs will be scheduled to acknowledge them and to get authorization to conduct the survey. The authorization to conduct work in an area is essential to ensuring that the appropriate support is obtained.

1. **Composition of a standard survey team**

The survey team is composed of:

Enumerators	42
Supervisors	10
Auditors	4
Scrutinizers	2
Field Coordinators	2
TOTAL	59

Summary of our assumptions and Team composition

	Total	Lilongwe	Blantyre
Number of Business Owners (Sample size)	3000	1500	1500
Enumeration Areas	10	5	5
Business Areas	40	20	20
Total number of Areas	50	25	25
Surveyor Team Size	4	4	4
Number of Teams	10	5	5
Average num of Surveys per Area	60	60	60
Team Days per Area	1.43	1.43	1.43
Implicit Surveys/Day (this is based on 2h Length Survey) per enumerator	2	2	2
Number of Areas covered in one day by each team	0.875	0.875	0.875
Total Days data collection	57.14	28.57	28.57
Total Days Off (Sundays and Christmas)	15		

One squad composed by 21 enumerators, 5 supervisors, 2 Auditors and 1 scrutinizer will be surveying Lilongwe and a similar team will be responsible for surveying the selected areas in Blantyre.

The listing teams will conduct the Enterprises and Households screening. A short training (2 days) will be held in the week 31 October-4 November, after the Supervisors training. One sub-team of 6 Enumerators will be trained specifically on the Household Screening process, while the rest of the group will be trained on the enterprise screening survey.

We estimate that the listing teams could complete the listing exercise in about 1 week.

The listing teams will be responsible for the Enterprise/household screening: all households within a given area will be listed using the Household Screening form and direct identification of business will occur using an enterprise screening form.

During the week of the listing and in the following week, while the Baseline training will be held, the listing data will be entered and all businesses in the 10 EAs and 40 Business Areas will be screened for the requisite characteristics of businesses that are eligible for the impact evaluation.

From the population of eligible businesses in Lilongwe, 1500 firms, will be sampled for a 2.5-hour survey. 50% of the sample will be composed by female business owners.

The exact same exercise will be conducted in Blantyre, approximately one month after this process has started in Lilongwe. We expect to start the training and the subsequent listing in Blantyre on the week of 28 November.

Each enumerator in the survey team will be assigned to a Supervisor: each Supervisor will be managing a team of 4 Enumerators (except for one Supervisor who will be managing 5 enumerators). The small size of the teams will guarantee a better control and close monitoring of business screening and enterprise surveying.

All the Enumerators selected for data collection have been recruited by IPA through a rigorous recruitment process. They all hold a MSCE, computer skills and previous work experience as research assistants. They are all fluent in Chichewa and English.

The Surveying team will be composed by:

2 Field Managers (a Lilongwe based Field Manager and a Blantyre based Field Manager) who coordinate IPA fieldwork respectively in Lilongwe and in Blantyre . This is to guarantee that each site is left without supervision. The Super visors report to the Field Manager s who are responsible for planning data collection logistics, managing supervisors and respective teams and overall productivity. They play a key role during the training. They attend interviews and reports to the Project Associate and Country Director.

Supervisors - Team Leaders (or Supervisors) are responsible for general deployment and productivity of their assigned team members, , conduct spot checks and accompanies enumerators. They are responsible for the overall quality of data collection of 4 enumerators. They conduct spot checks/accompaniments of enumerators as well as setting up appointments with business owners. At the end of the day, they are responsible for verifying the quality of data collected that day (quick scrutiny of questionnaires), and set up of the following day's schedule. They report directly to the Field Manager and Project Associate.

Auditors: we will have two Auditors for each squad - who are experienced and qualified researchers. The Auditor's job is to check that every survey is being conducted to the highest standard. Auditor spend days in the field doing back checks and work with the scrutinizer, the Team Leaders to verify the data. They spend some of their days doing a full check of the data quality and will report any errors or suspicious activity to the Team Leaders and the Project Associate.

A minimum of 15% of the surveys will be randomly selected for a data audit. IPA, in collaboration with the Evaluation team, will prepare an audit form that draws from the full-length questionnaire. The audit questionnaire is intended to last no more than 15 minutes of interview time. A comparison/discrepancies sheet will be created and filled by the Auditor. Auditors will work independently of the listing and baseline team in order to limit communication between the auditors and the enumerators.

Scrutinizers

We will have one scrutinizer for each of the two teams. She/he will be checking the data, recording errors, communicating errors to the team leaders and providing the Field Manager and the Project Associate with a list of errors, delineated by question and by enumerator.

2. Training

Supervisors Trainings (one for the Lilongwe Team, one for the Blantyre Team) will be held before the Enumerators training takes place. The training will take place in Lilongwe at IPA office and it will take 3 full days. During the training, the Supervisors will get familiar with the survey instruments and check the translation in Chichewa, making the changes that are needed. A similar training for the Blantyre supervisors will be conducted before the Business Listing in Blantyre.

The enumerator training will last approximately one week including one or two days of field testing .

An higher number of participants than the ones needed, will be admitted to the training; this will guarantee a number of research assistant immediately available for replacements.

A training Manual will be used and given to the participants as reference material; copies of the survey/listing instruments will be also shared.

3.   Travel and logistics

- Assignment of Business to RAs

One Team (5 RAs) will be responsible for surveying the Enumeration Areas. The remaining 4 Teams will cover the Business Centers assigned for that week. Communication among supervisors will be emphasized in order to coordinate movements of Enumerators across areas and to avoid overcrowding one area.

Before data collection starts a plan highlighting each week schedule and assignment of Teams to the target areas will be developed by the Field Manager in collaboration with the Project Associate.

It is estimated that a total of 28 days (5 weeks) will be necessary to complete baseline data collection in Lilongwe and the same amount of days to finalize surveying activities in Blantyre. A partial overlap, with the Blantyre's team starting listing activities one week after data collection started in Lilongwe, will guarantee that the entire data collection will end not later than end of January - assuming as starting date, November 21st.

In order to keep refusal rates to the minimum, a minimum of 2 visits attempts in different days will be allowed before considering a respondent as "Refused" or "Not found" . In case the respondent will not be available for the interview, whenever possible, an appointment will be scheduled. Each week, business owners not found at the second attempt, will be visited by a team of trackers (the number of tracker might vary each week depending on the number of business to be tracked).

4. **Protocol for spot-checks**

Each Enumerator, each day, before leaving the area of work, will check his/her own questionnaires to make sure no questions have been left blank or to be able to ask again some questions whenever there might be inconsistencies or there is need to clarify with the respondent. They will hand over their completed questionnaires to their respective supervisors who will conduct a first review of the surveys of the day. The following day a more detailed checking will occur.

During the first week of Baseline data collection, each Supervisor will conduct spot-checks (or accompanied visits) to each Enumerator in his/her team (4 per day). From the second week onward, when the number of surveys is expected to increase, Supervisors will conduct 2 spot-checks per day, meaning that each enumerator will be checked by the Supervisor three times per week.

A spot-check form scoring the performance of the enumerator and the way the interview is conducted will be filled in by the supervisors. The Field Managers and the Project Associate will review the forms each week and give feedback to the Enumerators.

5. **Protocol for Back-checks- Quality control**

In order to guarantee that the data collected reflect the reality and high quality is achieved, two auditors will visit the same businesses after few days the survey has been conducted, to check whether the survey was conducted and to check the information collected. A short back-check form including some of the key question of the full survey will be administrated. In each location, approximately 225 surveys/ business will be targeted for back-checks (15% of the total 1500 surveys to be conducted respectively in Lilongwe and in Blantyre).

Each Enumerators will have approximately 4 surveys (out of 12 surveys administrated) back-checked each week , which means that each week about 84 (21*4) back-checks will be conducted by the two auditors. In case this target cannot be met, the remaining surveys to be back-checked will be carried over to the following week. It is expected that each auditor will complete 7 back-checks per day.

6. Data scrutiny and entry

Scrutiny: An initial check of the questionnaires will be done by each supervisors at the end of each day. The field manager and the Project Associate will scrutinize at least 15% of the surveys completed per week. Simultaneously each of the two scrutinizers will go through the questionnaires completed by the enumerators and note errors by enumerators. Each supervisor will be informed about the mistakes done by their respective enumerators and verify them with the concerned research assistant.

Once data entry has commenced, more rigorous error checking on Stata will be done regularly (on a weekly basis) in order to identify inconsistencies and address them promptly.

Each Supervisor should review 100% of his/her team's questionnaires. Scrutinizer will do 100% and a 15% will be done by the FM and the Project Associate.

Data Entry: In order to guarantee better quality of data and possibility to identify errors at an early stage, data entry will be started as soon as data collection has begun. A team of experienced data entry operators will be based at IPA office in Lilongwe and will start the first entry one week after the beginning of data collection in Lilongwe. Another team will be based in Blantyre and will be in charge of entering questionnaires from the Blantyre teams.

 All data entry will be double entry (the second entry will be done at IPA's Lilongwe office), with inconsistencies checked and reconciled prior to completing a raw data file produced in Stata format.

Each Data entry operator will be assigned to one Enumerators team (and to one Supervisor) for the first entry and to another one for the second entry. This would create a strong link between data entry operators and supervisors and consequently enumerators and a constant communication among these staff members.

It is expected that data entry will take approximately 10 weeks in total (double entry).

Detailed timeline of work

Timeline

Activity- Deliverables	Deadline
1. Obtain census information by Enumeration Areas (EAs) in Malawi	15 October, 2011
2. Recruitment of Field Teams	28 October, 2011
3. Mapping of EAs and Business Areas in Lilongwe and Blantyre	21 October, 2011
4. Finalization of survey and translation (including a full survey pilot)	27 October 2011
5. Translation in Chichewa	4 November 2011
6. Supervisors Training (LLW Team)	31-October-2 November 2011
7. Sampling of business/enumeration areas in Lilongwe and Blantyre	1 November 2011
8. Production of EAs and Business Centers Maps	
9. Training Enumerators for Listing	3-4 November, 2011
10. Listing of Enterprises (Screening) in EAs and Business Areas in Lilongwe	7 -12 November 2011
11. CSpro Template for listing finalized and tested	7 -12 November 2011
12. Enumerators Training including Field Pilot	8-12 November 2011
13. Listing Data entered and firms (1500) to be interviewed in LLW sampled	14-18 November 2011
14. Conduct Baseline Survey in Lilongwe	21 November- 23 December 2011
15. Baseline Cspro Template finalized	26 November
16. Start first entry Lilongwe	28 November
17. Conduct Supervisors training in Blantyre	28-30 November
18. Training Enumerators for Listing	1-2 December 2011

19. Blantyre Listing of Enterprises (Screening) in EAs and Business	5-10 December 2011
20. Enumerators training	12-17 December 2011
21. Conduct Baseline Survey in Blantyre	5 December-27 January (including Christmas Break)
22. Data entry	Start 28 November- End ~10 February 2012