Measuring the impact of interventions designed to improve the Business Enabling Environment – The case of GEMS3 in Nigeria

Synopsis

Estimating the attribution of a project that aims to improve the Business Enabling Environment is challenging. It often takes a long time before these type of interventions lead to impact for the benefiting enterprises. It is also challenging to define the counterfactual because often all enterprises are affected. This case describes how GEMS3 has assessed the results of interventions to improve tax harmonisation, and how they assessed their impact at target enterprise level.

Authors: Mihaela Balan and Ben Fowler

Date: June 2015

Acknowledgements:

This is one of 10 cases that have been developed by Hans Posthumus Consultancy[1]. The preparation of these cases was supported by funds from the Swiss Agency for Development and Cooperation (SDC), provided through the DCED Trust Fund. We would like to thank them for providing the opportunity to work on this case. The examples used in this case are drawn from GEMS3, a business environment programme funded by DFID in Nigeria, to which we are indebted. We would like to extend our gratitude, in particular, to William Benthal, Hafeez Onisarotu, Charles Laurence, Hamza Farouk, Ronke Seymour, Bashir Sarki, Sebari Diete-Spiff from GEMS3 for providing comments and allowing us to use the programme reports, case studies and testimonials as examples for the case and publically sharing the GEMS3 experience with others. We would also like to thank Hans Posthumus for his valuable input into the case.

This case describes how the programme has addressed a typical challenge in results measurement. The aim of the case is to provide insights that will be useful to other practitioners facing a similar challenge. The author does not represent the DCED or SDC, nor do the views expressed in the case necessarily reflect the views of the DCED or SDC.

Table of Contents

[1] The HPC consortium was led by Hans Posthumus (HPC) and consisted of Aly Miehlbradt (MCL), Ben Fowler (MSA), Mihaela Balan, Nabanita Sen (OU), Phitcha Wanitphon and Wafa Hafiz (H&S)

1. Measuring the impact of interventions aimed at improving the Business Enabling Environment

Business Enabling Environment (BEE) programmes aim to improve the policy, legal, institutional, and regulatory conditions that govern business activities, ultimately creating additional income, jobs, and access to consumer products.[2] Establishing attribution for these high level goals is challenging, for two reasons.

Firstly, BEE interventions take a long time to show results. Project interventions often aim to support stakeholders to adopt changes to the regulatory framework, which is a slow and unpredictable process. Once such changes are adopted, it can take even longer before any changes are visible for businesses or poor producers, employees, or consumers. The longer time-frames make it harder to establish attribution, because are likely to be more factors affecting the observed changes.

Secondly, BEE interventions often work on a broad scale, targeting most or all enterprises in the area. A change in government tax policy, for example, will affect all enterprises in the country. This makes it challenging to establish the counterfactual, since it is not possible to compare enterprises affected by the intervention with a comparison group of enterprises who remains unaffected.[3]

Nevertheless, estimating attribution is important for BEE programmes. Managers need to know if their interventions lead to a better enabling environment andimproved business performance. This understanding can help managers to modify underperforming interventions, develop new interventions, and report on the achievements of their programme.

This case describes how a project (GEMS3) has assessed attribution for an intervention that aimed to improve tax harmonisation.

2. Introducing the GEMS3 Business Environment Programme

In Nigeria, the World Bank and the United Kingdom's Department for International Development (DFID) have funded four programmes since 2012 under the umbrella of Growth and Employment in States (GEMS). Those programmes focus on several sectors: meat and leather (GEMS1), construction and real estate (GEMS2), business environment (GEMS3) and wholesale and retail trade (GEMS4).

GEMS3 is a £47m seven-year programme operating from 2010 to 2017. GEMS3 works with private and public stakeholders to build a systematic framework that will make it easier to do business in Nigeria, leading to lasting improvements in economic opportunities for the poor, especially women. GEMS3 aims to transform the structure and dynamics of the business environment to positively impact a large number of enterprises. Over 4.5 million households or enterprises should have benefitted by the end of the programme. GEMS3 is currently operational in nine of Nigeria's 36 states.

[2] http://enterprise-development.org/page/business-environment-reform-

[3] For more information on the concepts underlying the assessment of attribution, refer to the other case studies on the DCED website. http://enterprise-development.org/page/case-studies

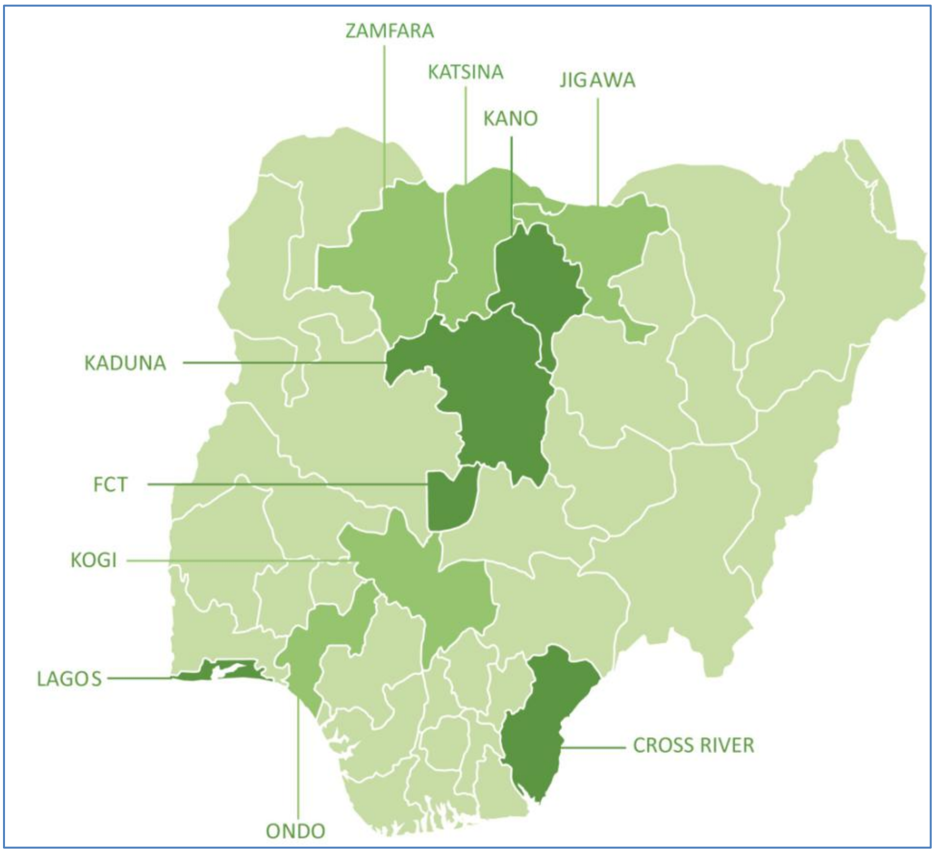

Fig.1 States where GEMS3 is operational

GEMS3 addresses BEE constraints in its three components: land, investment and taxation. More information on the interventions in land and investments is available on the website. This case describes how the project assessed the impact of one intervention within the area of tax harmonization.

Introducing tax harmonization

Complying with taxation requirements imposes high costs on Nigerian enterprises. In 2008, the Foreign Investment Advisory Service (FIAS) noted that Nigerian businesses are subject to as many as 100 different taxes, charges, fees and levies at the local government level.[4] In some instances, enterprises were taxed or levied three times for the same event or asset: at the national level, at the state level and at the Local Government Area (LGA) level. Enterprises pay between £32 and £70 each year in nuisance taxes. On average, enterprises pay around thirty per cent tax. Small traders are penalized even more: smaller firms face taxation rates of up to 54 per cent.

The FIAS study identified the three most important constraints in the tax system: the multiplicity of taxes, the taxpayers' lack of knowledge of their rights and responsibilities, and the lax law enforcement. Taxation is mostly inefficient, inequitable and non-transparent, constituting both a barrier to growth and an opportunity for corruption. Consequently, the operators of enterprises, who are unaware of their genuine tax obligations, are often

[4] FIAS, Sector Study of the Effective Tax Burden

exposed to harassment. Studies conducted by GEMS3 confirmed these findings and concluded that tax harmonisation could reduce the number of taxes at the LGA level to just twenty.

The revenues[5] of the LGAs were decreasing due to malpractice. In order to boost them the LGAs engaged private consultants to collect their taxes and levies. This also led to increased harassment of enterprises, triggered tax-related corruption and led to more malpractice. As a result and combined with the fact that more than half the enterprises (51-65%) were completely unaware of the taxes they were required to pay, some 60% of enterprises reported harassment by tax agents.

To respond to these issues, GEMS3 supported the Ministry for Local Government to harmonize taxes at the Local Government Area (LGA) level. First, GEMS3 supported the Ministry to draft and enact a new law. Secondly, the project supported the LGAs with training to build the capacity of their staff. Thirdly, GEMS3 supported awareness raising campaigns among enterprises on taxation. Those two support activities (capacity-building and awareness-creation) were initially piloted in a few LGAs in each State with the objective to learn and upscale them in 2015. These interventions are part of a 'tax toolkit' that GEMS3 developed to improve tax harmonisation.

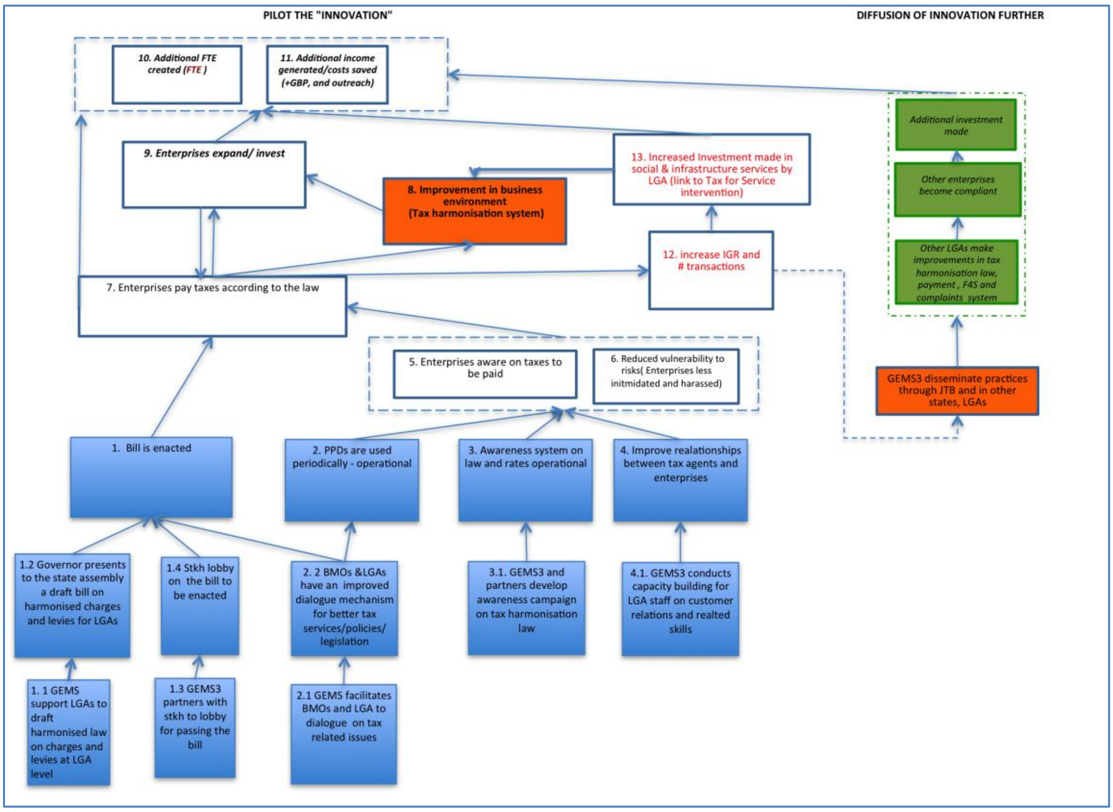

Fig.2 Results Chain for GEMS3 Tax Harmonisation Intervention

As a result of the law, enterprises are expected to pay less tax. Improved awareness by enterprises of the law combined with improved relationships between tax collectors and enterprises were expected to reduce harassment and other malpractices on the part of tax agents.

[5] Internal Generated Revenue (IGR) is the revenue accrued by the LGA from taxes, levies and charges collectable by the LGA.

As a result of these improvements it was expected that enterprises would change their behaviour in ways that would help them grow. GEMS3 measures growth by examining additional investments, increased sales and the number of jobs created. GEMS3 expects that this impact would be scaled up during the diffusion phase when these innovative practices are taken up by other LGAs or states. To find out more about the tax harmonisation intervention and the results achieved, see this video.

Sensitization in Obubra

3. The rationale for the impact assessments

A critical challenge faced by GEMS3 was how to establish a rigorous approach to estimating its attribution to changes observed.

The key research question was to estimate the change in tax that the enterprises paid, and to link to the intervention any changes in the amount of tax paid. This implies that changes needed to be linked to the enacted law (that should have resulted in reduced taxation) and to the increased capacity and better relationship between the LGAs and the enterprises (that should have resulted in reduced harassment). A second research question was whether paying less tax and experiencing less harassment had resulted in the growth of enterprises (as observed by more sales, investments and jobs).

Taxation affected all enterprises in the LGAs and therefore comparing these enterprises with non-affected enterprises is impossible. Moreover, not many other factors influence the tax amount. The level of taxation is not related to turnover or profitability, but taxation is applied based on the type and location of enterprises. Stakeholder interviews confirmed that the law was enacted thanks to the support of GEMS3 to the Ministry. Hence, GEMS3 reasoned that any change in taxation (charged and paid) is due to the intervention.

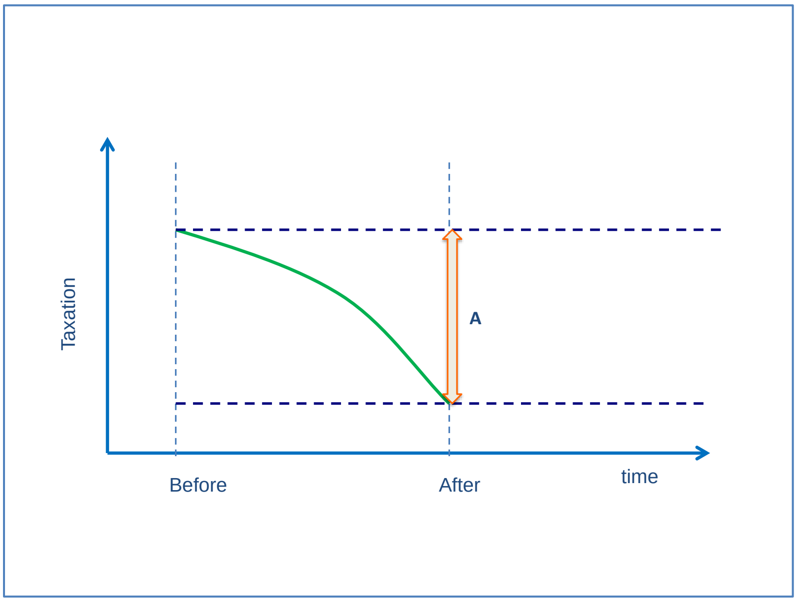

Fig.3 Before and After Comparison of the tax paid in the States

The project compared the tax that enterprises paid before and after the intervention. The lower amount of tax paid due to harmonization is thus a cost saving for the enterprises. GEMS3 would thus be able to report how many enterprises saved tax costs and how much was saved.

The rationale for improving the capacity of the LGAs and sensitizing enterprises was that enterprises would be less harassed and be better able to deal with harassment. It was assumed that in these LGAs, enterprises would be better informed, and thus more enterprises would pay taxes according to the law.[6] The law affected all enterprises, but those support interventions were not implemented in all LGAs. Hence, GEMS3 would be able to compare the performance of enterprises that were affected in LGAs where such activities took place, **the treatment group**, with enterprises that were not affected in other LGAs where no such activities took place, **the comparison group**.

[6] Often, enterprises still pay levies and taxes according to the 'previous practice' if they are not aware of the new law, such as in the case of Lagos state where the law had been changed (long before GEMS3 become operational). This was the main reason for GEMS3 to design the awareness raising.

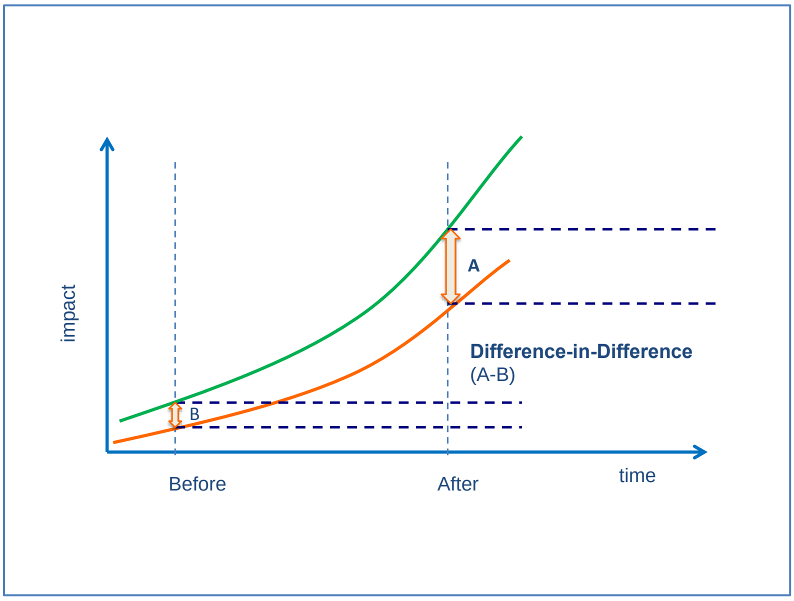

Fig.4 Difference-in-difference comparing the performance of enterprises in LGAs with and without awareness raising campaigns

The green line represents the performance level of the enterprises in those LGAs where awareness-creation activities were held, **the treatment group**. The orange line represents the performance level of the enterprises in other LGAs where no awareness-creation activities were held, **the comparison group**. Deducting B from A provides the attributable performance change due to the awareness-creation activities.

4. Assessing the impact of both intervention logics

GEMS3 had to assess two impacts. The first was the difference in paying tax due to the enacted law, a before-and-after-comparison and the second was the difference-in-difference between enterprises affected by the capacity-building and awareness-creation activities, and those that were not.

Comparing the tax amount paid before and after the enactment of the law

To assess the difference in the tax paid, GEMS3 collected information on the amount of tax paid by the enterprises before and after the intervention. During the baseline study, GEMS3 collected information from enterprises on the amount of taxes and fees paid. Taxation experts were then able to estimate the amount of tax that was paid twice due to the taxation laws not yet being harmonised. In fact, it provided valuable input into the drafting of the bill.

After the law was enacted, taxation was harmonised, and double payments or nuisance fees should no longer have been daily practice. When assessing the 'after' situation, the project verified whether enterprises were aware of the harmonised law, and if they actually paid according to the harmonised law, or not. The difference between the two measurements was then attributable to the new law.

Using difference-in-difference to assess the effect of building capacities and creating awareness

To assess the impact of the capacity-building and awareness-raising campaigns, GEMS3 compared the enterprises in LGAs that were affected by the sensitization and capacity-building interventions (‘**treatment’** group), with enterprises in LGAs where no such activities took place (**‘comparison’** group).

The project therefore constructed the baseline before the intervention took place, and after the intervention the project conducted the end line for both the **treatment** and the **comparison** group. The **comparison** group was a sample of enterprises in other LGAs in the same State, with similar socio-economic contexts, where no awareness campaigns or capacity-building activities had taken place. By using this difference-in-difference approach, GEMS3 was able to assess the changes between both groups (treatment and comparison groups) before and after the interventions.

Market woman paying taxes in Ogoja

5. The impact assessments in practice

GEMS3 had to construct the base line and end line to assess the final impact. The LGAs did not maintain reliable and sufficiently detailed data on the amount of taxes that was paid by the enterprises. GEMS3 had to obtain primary data from the enterprises themselves.

Baseline

The baseline was constructed for both the **treatment** and the **comparison** group, in other words, sampling enterprises from LGAs with, and without, the additional capacity-building and awareness-raising campaigns[7]. The **comparison** LGAs were selected in such a way that they would be similar to the **treatment** LGAs. They were sampled based on population size and economic output (estimated number of enterprises, number, type and size of markets, type and size of economic activities). In addition, they were selected in such a way that contamination, occurring when LGAs and enterprises in the **comparison** group are influenced by the LGAs and enterprises in the **treatment** group, was limited.

[7] At this pilot stage, GEMS3 wanted to find out if those additional activities contributed, and what the best type of awareness raising would be, in order to apply them later in other LGAs.

To determine the sample for the baseline, the project first listed all the enterprises in the selected LGAs to develop a framework and then applied the Systematic Random Sampling method[8] to pick the enterprises. In total some 350 enterprises were selected from each LGA, based upon the average number of enterprises in each LGA and the desired confidence levels.[9]

Early Signs of Impact

Mid way through implementation, towards the end of 2013, GEMS3 conducted an Early Signs of Impact (ESI) study. These ESI studies were planned after the tax law was enacted and after the first waves of sensitisation were conducted in pilot LGAs. Their purpose was to determine if these changes would lead to higher-level impact benefits, namely costs savings, reduction in harassment, and growth.

The sample size was small and the respondents were purposively selected. GEMS3 had only started its sensitisation in one area of an LGA, usually a specific physical market place. The selection was therefore not done randomly as it was only used to verify whether the theory of change was valid. Some 40 enterprises from that specific market in each LGA were selected which GEMS3 considered a reasonable size in order to assess the changes at a reasonable cost.

The interviews focussed on their awareness of the law and its implications for them in terms of taxation. The interviewer asked how they had become aware of the changes to assess which sensitization campaigns were most effective. The survey included questions about the number and amounts of taxes they paid (or were likely to pay) and whether they still experience harassment. Respondents were asked to give their perceptions of improvements in their business environment with respect to tax harmonisation, and to comment on possible growth (or not) of their enterprise and the causes.

These ESI studies revealed that in all six states[10] some impact had occurred or was likely to occur.

Impact assessment

The impact assessment was conducted in mid-2014 in all six states. GEMS3 wanted to measure the actual tax paid and to assess the effect of the supporting capacity-building and awareness-raising activities in order to apply these in other states and LGAs.[11] The approach used was similar to the approach applied for the baseline study.

Rather than going back to the initial baseline respondents and measure their end-line, GEMS3 reasoned it would be better to interview different respondents, because there were concerns that there would be too much respondent bias[12]. Moreover, the findings and process to construct the baseline (using random sampling), was representative. Hence the

---

[8] In systematic random sampling, the researcher first randomly picks the first enterprise from the list. Then, the researcher will select each n'th subject from the list.

[9] using a confidence level of 95%, on an average population of 20,000 enterprises http://www.surveysystem.com/sscalc.htm or the new DCED sample size calculator.

[10] Cross River, Jigawa, Kaduna, Kano, Lagos, and Kogi

[11] In the two other states, Katsina and Zamfara, the interventions had just started.

[12] Respondent bias might occur because respondents are aware of the taxation topic because they were asked about it in the earlier (baseline) interview, and they might thus provide more favorable answers than others who were not asked those questions earlier.

end-line could also make use of a random, representative sampling of the end-line respondents.

In each state, GEMS3 randomly selected one **treatment** LGA[13], where the supporting capacity-building and awareness-raising activities had been applied, and one **comparison** LGA where they had not.[14]

Enterprises were selected by disaggregating each LGA into primary sampling units (PSUs[15]), which were then again randomly selected. Enterprises within these PSUs were then again sampled at random, identical to the method used to construct the baseline. In each LGA, an average of 350 business owners was interviewed to achieve the same confidence levels as for the baseline. This meant interviewing 350 respondents in each LGA, and with two LGAs per State and six States, a total of 4,202 enterprises were interviewed. Using this sampling method, the survey results were representative with a margin of error of +/- 5.24%.

The choice for high levels of confidence and low margins of error implied a considerable sample size (350 respondents per group). GEMS3 was however expecting to be able to capture important impacts, while the costs of the surveys was not that high. With hindsight, given the fact that the other impact figures (growth, incomes, jobs) did not change that much, the programme could have obtained sufficiently robust figures on the taxation impact itself using smaller sample sizes.

Comparing the tax amount paid before and after the enactment of the law

For each enterprise, the end-line survey would ascertain the awareness of the new taxation laws, and would obtain data on the amount of tax paid, for what and to whom. This was compared to the 'before-situation' and the difference equals the enterprise's cost savings due to the tax harmonisation interventions of GEMS3.

The results of the impact assessment in 12 LGAs in the six States were then extrapolated to all other LGAs in the six States, using the results of either the **treatment** LGA (if such activities had also taken place) or the **comparison** LGA (if such activities had not taken place). In total, cost savings were made by over 175,000 enterprises totalling GBP 8.4 million.

Difference-in-difference to assess the effect of building capacity and creating awareness

By comparing the before-and-after-situation for both the treatment and comparison group, it was found that harassment, for example, was reduced from 59% in the base line to 30.5% on average, but in the **treatment** LGAs it was 7.8 % and in the **comparison** LGAs it was 38%

[13] These LGAs were the same LGAs where the baseline studies were conducted.
[14] One exception was Kaduna State, where treatment and comparison respondents were selected in the same LGA but in different markets.
[15] PSUs were areas in LGAs obtained by dividing the LGA into smaller units with agglomeration of enterprises

	Comparison	Treatment	Difference
Minimum	21.5%	2.5%	19%
Maximum	55%	13.1%	42%

Table 1. Current reported levels of harassment

Assessing the impact of tax harmonization on growth

The impact assessment compared enterprises before and after the tax harmonisation with respect to the number of employees, sales and investments. The results for these growth indicators were minimal. As per Table 2, no significant difference between the **treatment** and **comparison group** was observed, nor could these minor changes for each of them between the before-and-after-situation be linked to the tax harmonisation. Thus no growth impact was reported by GEMS3 from its tax harmonisation intervention.

Indicators	Comparison	Treatment
Increase in Sales	2.5%	2.4%
Increase in Investment	1.14%	0.8%
Jobs	0	0

Table 2: Results on growth indicators

In addition to the survey, the impacts of tax harmonisation were also assessed more qualitatively to understand why and how these impacts occurred, or not. Case studies, additional in-depth interviews with individual enterprises, and Focus Group Discussions (FGD) with enterprises and other stakeholders were conducted.

The FGDs were conducted with up to three groups of enterprises from each LGA, with at least one of the FGDs with only female enterprise owners. These enterprises were from the markets and had been suggested by the market association or other key informants. Key discussion points included tax harmonisation law and practice, payment systems, tax for services, and their perceptions on the usefulness, and their satisfaction with, the introduced harmonisation law, and the potential for enterprise growth. Stakeholder discussions were also held in each state, assessing the additionality of the intervention, the intervention impacts on the institutions, their satisfaction with the support, and the sustainability of the changes.

The results showed that while the tax harmonisation was beneficial in terms of less harassment and cost savings, it was not sufficient to drive growth. The tax harmonisation not only reduced the costs to the enterprises but also increased the revenues of the LGAs, all of which was possible due to the reduction in malpractices. Watch the video to learn more on the tax harmonisation intervention and results.

6. Benefits of assessing the impact

GEMS3's impact assessment generated information that was relevant for management. The project used it to take decisions on future directions of the project. For example, they found:

- There are different levels of awareness amongst the LGAs. Respondents in one LGA had a level of awareness of almost 98% while respondents in another had a level of only 30%. GEMS3 investigated the causes and incorporated the learning into follow-up campaigns.

- GEMS3 found that tax harmonization alone was not enough to spark businesses growth. GEMS3 also needed to address – directly or through partners – other 'parallel constraints' including access to finance and better infrastructure in order to achieve its enterprise growth targets. GEMS3 is in discussion with other programmes to address these constraints.

- Private-public dialogues that GEMS3 facilitated identified opportunities to leverage additional revenues from taxes and levies to further address challenges for enterprises. This then led on to the creation of a 'tax for service' concept where social or economic projects are developed by the LGA using their increasing revenues.

The impact assessment also yielded lessons for GEMS3 on how to improve its measurement systems and impact assessment methodology.

- GEMS3 should make more use of qualitative methods to better understand why and how changes are happening, or not. For example, GEMS3 would in future hold more in-depth interviews and FGD with enterprises to determine why the level of awareness of tax harmonization varies significantly between LGAs. This could then also enable GEMS3 to use surveys with smaller sample sizes.

- Using **comparison** and **treatment** groups to establish the counterfactual is very informative even though it creates some challenges too. This is because the innovation and good practice could spread through mechanisms other than, for example, the awareness campaigns supported by GEMS3. Moreover, the upscaling interventions affect the assessment of the pilot intervention. Through the Joint Tax Board, GEMS3 had spread the word on the benefits of applying the innovations in order to encourage other LGAs or other States to adopt them and create the critical mass that would ultimately transform the tax harmonisation system in Nigeria.

Annex 1: Tax Toolkit

GEMS3 has developed a toolkit for its tax harmonization intervention. The toolkit contains a series of modules that can be applied to States and LGAs. The toolkit is flexible. For example, the Point of Sale payment technology may not be a viable solution for all LGAs and alternative payment system modules from the toolkit can be pursued.

Table of tax toolkit modules are:

Legislation	Payment Incentives	Payment Systems	Taxpayer Awareness
State-level LGA Law	Tax for Service	Payment Systems Assessment	State-level Awareness
State-level MDA Law	Complaints Process Assessment	Direct Lodgment	LGA-level Awareness
LGA by-laws	Rev Officer Training	Point of Sale (PoS)	Market-level Engagement

For these toolkit modules, Activity Guides have been developed that identify the steps that need to be taken in order to deliver the reforms covered by each module.

Each Activity Guide consists of three elements:

- background information relating to the tax toolkit item and the approach
- A list of the activities to complete work on the tax toolkit item
- Appendices containing examples of relevant tailored tools. For example, for the state-level LGA law there is a 'Model Law', and for Tax for Service and PoS there are sample MoUs.

GEMS 3 considers that its tax toolkit information will be of particular benefit to states where GEMS 3 is currently not working and to enable those states to, for example, enact harmonized tax laws, introduce tax for service agreements, and/or introduce improved payment or complaint processes

Seven Activity Guides have been developed that cover the 12 tax toolkit modules:

1. Harmonized tax laws
2. Tax for service
3. Complaints processes
4. Training
5. Improved payment systems
6. Point of sale payments
7. Sensitization