

Research Proposal:

Engendered Institutional Changes and Human Development in Pacific Marketplaces

24 October 2012

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Disclaimer:

This intervention proposal is broadly based on the Partners Improving Marketplaces (PIM) Project Design Documents I drafted for UN Women Pacific in previous employment at the Foundation for Development Cooperation. To this date, the PIM projects have been separate projects per country, unlike I have proposed here. The particular elements of the intervention and the design are substantially different, but the context and goals are similar. The actual needs and problems have been informed by extensive scoping and stakeholder engagements, including household surveys, workshopping the problems and a detailed economic and productivity analysis of some marketplaces.

PIM projects were staggered into several phases and the third phase, which includes the infrastructure upgrades, should be commencing soon. The design and planning should have been finalised by now and my previous work did not include a detailed evaluation strategy. The impact evaluation proposed in this assessment is my own original work and drafted during this course.

For purposes of brevity, extensive empirical references to support the economic motivations have not been provided and given the interconnected nature of the issues being addressed, discussion has been kept relatively high-level. All the gender and institutions relationships, which are the basis for this intervention, have rigorous and vast empirical bases which can be found in the literature review and findings of my Masters Economic Project: It is available online at:

http://ryanedwards.weebly.com/uploads/3/1/7/1/3171363/gender_inequality_and_socioeconomic_development_final.pdf .

I hope you enjoy reading my proposal.

1. Background Context: Pacific Marketplaces

Papua New Guinea, Fiji, Solomon Islands and Vanuatu are the four Melanesian countries which together account for 90% of the 22 Pacific island countries and territories' population (see [Attachment A](#) for a map). Dependent on semi-subsistence agriculture and fishing, many people trade at marketplaces to meet their basic needs. Food production and market vending are traditional gendered labour divisions and poor rural women make up most of the market vendor population, mostly rural and poor, selling in places far from their own place of residence.

Market access is an expensive and risky undertaking, as the physical infrastructure is rudimentary, unsheltered, overcrowded, unsanitary and constitutes very poor occupational health and safety conditions. There is also poor transport and logistical systems, a lack of basic facilities like toilets and clean water, out-dated and vague regulations on vendors' rights, lack of representation and very dated and inefficient asset management and maintenance systems. Most women market vendors (WMVs) suffer from more multiple deprivations in multidimensional poverty measures.

Institutions are male-dominated in Melanesia, with some of the highest levels of gender inequality in the world. In these weak gender extractive institutions, women have little to no opportunity to participate in marketplace governance and there is little consideration of the impact of marketplace policies, rules, regulations and poor physical infrastructure on women and girls. They are sites of maximum revenue extraction and minimal investment, even maintenance, despite the fundamental role played by the marketplaces in broader human development and core social protection.

2. Economic Motivations and Literature

Critical development problems for women in the Pacific, particularly WMVs, are systemic gender inequality and bad institutions, which together erode most dimensions of development, from the macro to the household level. Two important, yet complex causal chains underpin these problems: gender equality is central to human development and directly strengthens economic, social and institutional development; and institutions are a fundamental determinant of long-term development (See [Attachment B](#) for a stylised chart of impacts of bad institutions on development, where each link represents a few empirical papers). Gender inequality tends to worsen institutions, which tends to increase corruption, promote social exclusion and inequality, retard economic and social development, exacerbate poverty and make public policies less effective through conditionality effects.

Addressing gender inequality therefore has complex multidimensional impacts on most major development indicators and has the potential to significantly improve the effectiveness of other programs through conditionality, redistributive, income and inclusion effects. Another key macroeconomic problem this intervention seeks to address is the poor physical infrastructure, which hinders productivity, investment and private sector development in and around these core centres of formal and informal economic activity. Communities are dependent on the marketplaces for 'basic needs' goods (which comprise most of the consumption basket) and this critical infrastructure is arguably a binding constraint to their development. Further, the large informal sector presents an abundant supply of low cost labour (much of which is skilled), which has the potential to drive (formal) private sector development if the business environment at the marketplaces is improved.

At the macro level, improving the marketplaces around the Pacific will have directly positive economic effects on investment, productivity and local economic development, while addressing gender inequality and institutions contemporaneously should strengthen these impacts through conditionality effects and also drive broader cross-cutting human development improvements, particularly through socioeconomic and institutional inclusion and participation.

The complexity and multidimensionality of gender and institutions make it most appropriate to frame the problem at the macro or systemic level, but it is also possible to identify some microeconomic manifestations. For example, WMVs often suffer from severe intra-household gender discrimination problems, which reduce their bargaining power and welfare, and leads to Pareto inefficient decisions.

Pacific populations, not just women, also suffer from various types of poverty traps. For example, remoteness, limited employment opportunities and multiple financial market failures, to name a few. It is common to try address many of these issues through bottom-up empowerment activities, such as improving access to financial services, promoting start-up small enterprises and training in governance, advocacy broader educational opportunities, including financial and business literacy, but more importantly, addressing the systemic gender and institutional issues and making critical infrastructure investments can reasonably be expected to directly and indirectly address these microeconomic issues as well.

3. Policy Intervention

This project will take place in Papua New Guinea, Fiji, the Solomon Islands and Vanuatu. Within these four countries, villages and their respective marketplaces will be treated with the policy interventions, to improve gender equality and the welfare of WMVs through the transformation of the marketplaces with physical infrastructure upgrades and institutional interventions. The institutional interventions will address 'top-down' governance issues by placing WMVs in governance positions and ensuring adequate checks and balances, as well as ensuring 'bottom-up' institutional improvements through the empowerment of the WMVs, by facilitating the formation of WMV cooperatives to advocate their own interests and providing increased access to financial services and financial literacy education within these cooperatives.

The primary beneficiaries of the intervention will therefore be the WMVs and their households in the treated villages, which are expected to be impacted in the short to medium term. The secondary beneficiaries will be the broader villages and local economies, where effects can be expected in the medium to long term.

Given the heterogeneous nature of the marketplaces and the Pacific island communities, it is important to standardise the three interventions to ensure consistent intervention treatments if we are to accurately estimate the impacts (dependent variables) of the interventions (explanatory variables).

The three treatments will be standardised with the characteristics listed at [Attachment C](#).

Implementation will be led and coordinated by a multilateral development agency specialising in human development and gender, in partnership with: local financial institutions (microfinance institutions and commercial banks) to provide the financial inclusion interventions; governments (local and district) to support the institutional reforms; and engineering and building companies to upgrade the infrastructure. National and regional statistical agencies will coordinate the data collection, with support from local enumerators and the multilateral staff.

4. Research Questions

The multidimensionality, complexity and simultaneity of both the problems being addressed and the types of interventions proposed allow for novel research questions which may fill a number of important gaps in the literature.

First, it is generally accepted that institutions take a long-time to change¹, but this is contrast with microeconomic experimental evidence where institutions can shift quite quickly with a targeted gender intervention².

Research Question (RQ) 1: Can institutional interventions have significant and positive impacts, both on institutions and other dimensions of human development, over the course of a short-term targeted project?

Second, it is unclear whether tangible development projects work better than ‘soft’ or transformational institutional development projects. While all treatment villages will receive an infrastructure upgrade, it will be possible to disentangle whether the institutional interventions have additional impacts.

RQ 2: Consistent with the conditionality effects of good institutions, can ‘hard’ development projects, such as infrastructure, have a greater impact on human development outcomes when complemented with institutional projects?

Third, there is yet to be clear evidence on whether attempts to change institutions should intervene: from the top-down, such as through governance reforms; from the bottom-up, such as through empowerment and participatory development methods; or through a combination of both³.

RQ 3: Are bottom-up, top-down or combinations of institutional gender interventions more effective instruments for transformations in institutions and human development outcomes?

The impact of the infrastructure upgrade alone will also be considered. Noting that most market vendors are women, the final three research questions are as follows:

RQ 4. Can traditional projects, like upgrading physical infrastructure alone, have a positive impact on either institutions and gender inequality or human development, when specifically targeted to benefit marginalised women, in the absence of addressing the broader institutional drivers of gender inequality?

RQ 5. Can development projects targeted at marginalised women also benefit children, men and the broader communities?

RQ 6. Did the intervention achieve its outcomes? Which outcomes were affected more than others and which options of interventions are most effective at achieving the different outcomes?

5. Research Method

This research proposal is an impact evaluation. An impact is defined as the difference between a given outcome sometime after a program has been introduced and the outcome at the same point in time had the program not been introduced, or the counterfactual: the state of the world that participants would have experienced in the absence of the program. The fundamental impact evaluation challenge is mimicking or constructing the counterfactual, because it cannot be observed. The estimated impact of a program is only ever as good as the counterfactual. While there are various options to attempt to mimic the counterfactual, all of these options require assumptions, which if disproved or tested, can undermine the entire impact evaluation. The counterfactual method which requires the least assumptions, and is therefore the most rigorous, is a randomised controlled experiment. Given the high level of complexity, interdependence and potential measurement issues that this intervention presents, it is prudent to immediately select a randomised design, to allow my research to focus on the many other issues which may compromise the integrity of this evaluation, rather than managing assumptions. Moreover, unlike the basic randomised controlled experiment with a treatment and control group, there will be multiple treatment groups to allow for the disentanglement of different

¹ ACEMOGLU, D., JOHNSON, S. and ROBINSON, J. A. 2004. 'Institutions as the Fundamental Cause of Long-Run Growth'. C.E.P.R. Discussion Papers, CEPR Discussion Papers: 4458.

² CHATTOPADHYAY, R., and DUFLO, E. 2004. 'Women as Policy Makers: Evidence from a Randomised Policy Experiment in India', *Econometrica*, 72(5), 1409-1443.

³ EASTERLY, W. 2008. 'Institutions: Top Down or Bottom Up?' *American Economic Review, Papers and Proceedings*, 2008, 98(2), 95-99.

impacts from different treatments and a detailed comparison of the effectiveness of these policy intervention options.

The data to be used will include qualitative household surveys to measure empowerment and perceptions of institutions, as well as adopting comprehensive well-being indicators based on the human development approach. This will include the explicit measurement of multi-dimensional poverty, which has had very limited application in the Pacific, despite its relevance. More specifically, the data used will be Household Income and Expenditure Surveys, Demographic and Health Surveys, and Census data, as coordinate by the Secretariat of the Pacific Community and national statistical agencies. Frequency will include baseline data, with usual yearly or biyearly collection, including an end-line and the data will be marked for control and treatment groups and gender disaggregated. Linking with the existing data collection tools allows a wider range of indicators to be collected, strong OECD data standards to be maintained and costs to be achieved through scale and partnership.

6. Evaluation Design

As discussed in the previous section, this research is an impact evaluation and the design will be a randomised controlled experiment. Village marketplace sites will be treated with the intention of having a positive impact on the individuals in these villages, so randomisation will be at the village / marketplace level, therefore estimating the average impact of the three different interventions on individuals across entire villages, using an intent-to-treat estimator. These estimators can however be decomposed into average impacts on men, women and children, with the collection of disaggregated data. While impacts on individuals could have been explored, particularly with the empowerment intervention, this would have increased the required sample size beyond what is feasible in this context and the spill-over impacts would be uncontrollable because of strong social networks.

The village-level randomisation will create five groups: one control and four different treatments. The program is being run across several countries in order to get the sample size necessary for a valid estimate. This raises the potential issue of country-level heterogeneity, but relative to the diversity and intra-country heterogeneity of Pacific island countries, this not a major concern. While a country-level fixed effect estimator could be used to account for cross-country heterogeneity, there is no simple way to account for intra-country village heterogeneity and the best approach to manage both these heterogeneity issues is to build this into the randomisation process.

All villages with less than 300 people are first dropped from the sample. This remaining sample is then stratified by country and each country's villages are randomised using a random number generator, which is preferred to alphabetical order as it is purely random, whereas common alphabetising may have historical, culture or other determinants which may be correlated with the villages. Each country's randomly ordered villages are then evenly divided into five groups, then merged with the corresponding groups from the other three countries. Each group is drawn from all countries. By blending regions and countries randomly with a sufficiently large sample, we can effectively draw a valid impact estimate from the intervention, as the randomised large sample should converge the variation and observable characteristics of the groups.

A graphical overview of the randomisation design is provided at [Attachment D](#). It states the number of villages in the intervention will be 200, because basic calculations suggest that this is a safe level. [Attachment E](#) presents *Optimal Design* power calculations for a randomised experiment with only a treatment and control group. By multiplying the upper limit of these calculations by 5, we see that the number of groups $J = 200$, when the number of people per group is at least $n = 300$, should be a sufficient sample size.

The empirical model used to estimate the impacts of the program and test the hypotheses of the research questions will be the simple comparison of the outcomes of the four treatment groups against the control group and one another. Difference-in-difference estimators will be used for robustness checks and sensitivity analysis, ensuring that the randomisation was not compromised and all the required assumptions hold. Various models will be estimated, such as country fixed effects and relevant corrections will be made to tighten the standard errors, such as White's corrections for heteroskedasticity and bootstrap simulations.

7. Expected Outcomes and Potential Challenges

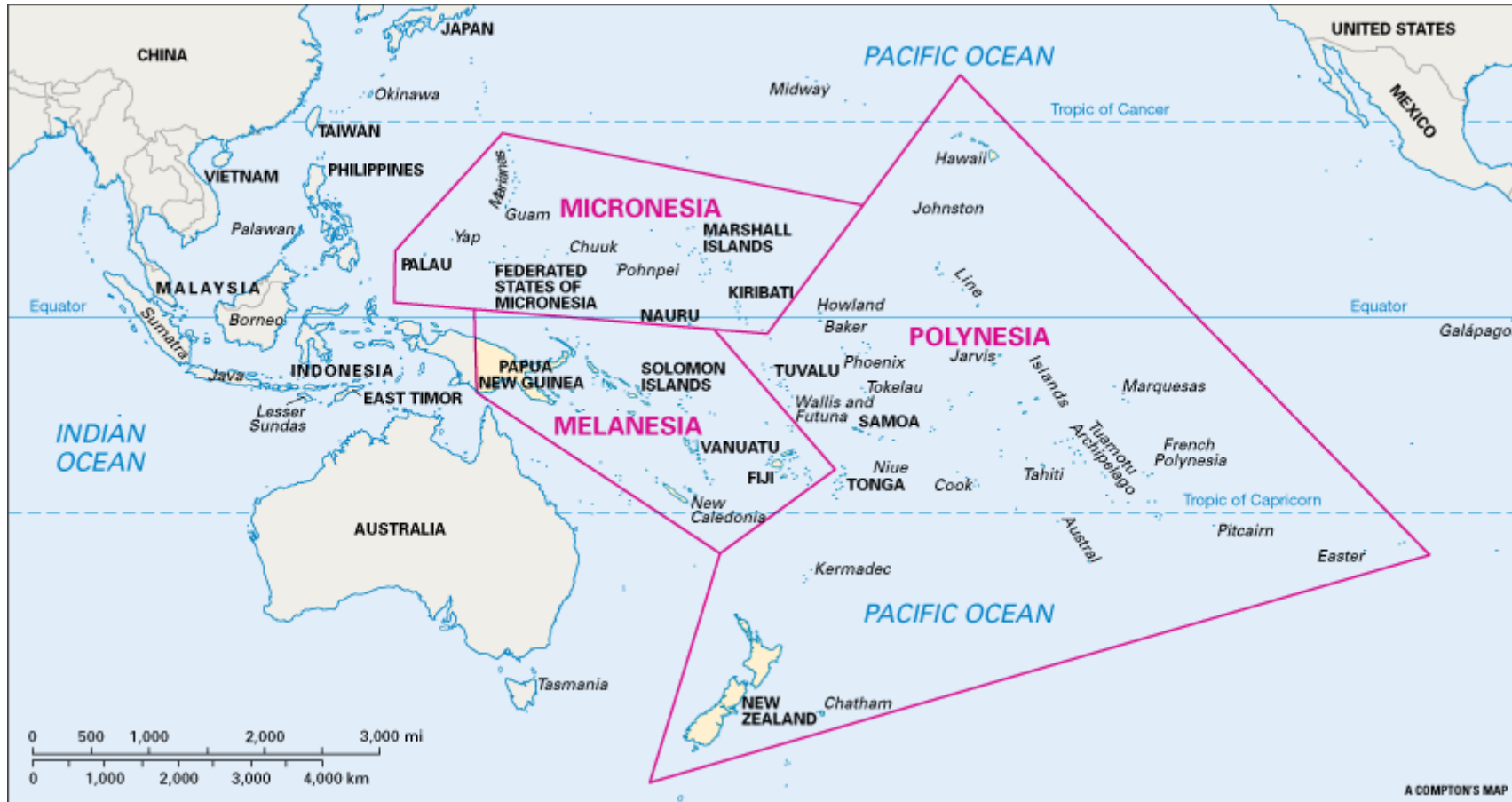
If the intervention is successful I expect for the outcomes of the project to include improvements gender equality, strengthened institutions, and improvement in the living and trading conditions of WMVs, which may lead to a sustainable transition out of a persistent poverty trap. At the broader level, addressing the systemic issues which act as bottlenecks to development may also act as a catalyst to broader longer term dynamic impacts on human development.

In addition to the actual outcomes of the intervention, I expect the research garnered from the project to fill significant gaps in the current literature and practice⁴. First and foremost, it will show if the interventions were successful and allow for comparison between the interventions. It will also be an example of the effective measurement and evaluation of transformational changes in development, namely institutions and empowerment, which are typically difficult to both identify and measure. Secondly, it will add to the evidence on institutional interventions, showing whether changes can materialize in the short term or whether longer horizons are necessary, and also comparing the effectiveness of 'top-down' and 'bottom-up' approaches to institutional change. It will also test for conditionality effects of institutions on traditional development programs. The research will provide evidence as to whether targeting interventions at women also benefits children, men and the broader population. Finally, this intervention will be a useful case study and proof that randomised controlled experiments can be applied in very difficult operating environments, such as the remote islands of the Pacific, and that they can also be used to analyse complex multidimensional interventions with many potential outcomes, when designed appropriately and the right data is collected.

The proposal presents many practical challenges which will need to be managed. Logistical, cost, cultural and language issues can be managed by effectively partnering with local organisations to pool expertise, resources and costs. With respect to the actual randomised controlled experiment, major challenges might include attrition, spillovers, partial compliance and sample selection bias and internal and external validity. However, by randomising and treating at the village level instead of the individual level, using high-level standardization across the interventions to deal with heterogeneity, collecting rich baseline and ongoing data to ensure the integrity of the experiment, and having a sufficiently large sample size by increasing the intervention to cover four countries, these issues are generally taken care of. Similarly, by operating at a high-level with the strategic standardization of the interventions and large scale of the intervention, we should be able to draw conclusions around the impact estimates which are certainly internally valid, and externally valid to some degree beyond Pacific context. This is because the Pacific has some of the most entrenched and persistent gender inequality, institutions, poverty and informal subsistence trading sectors in the world. If impacts and a transition from these poverty traps can be detected from such the proposed intervention here it will be a conservative proxy for potential interventions impacts in a situation with far less binding constraints.

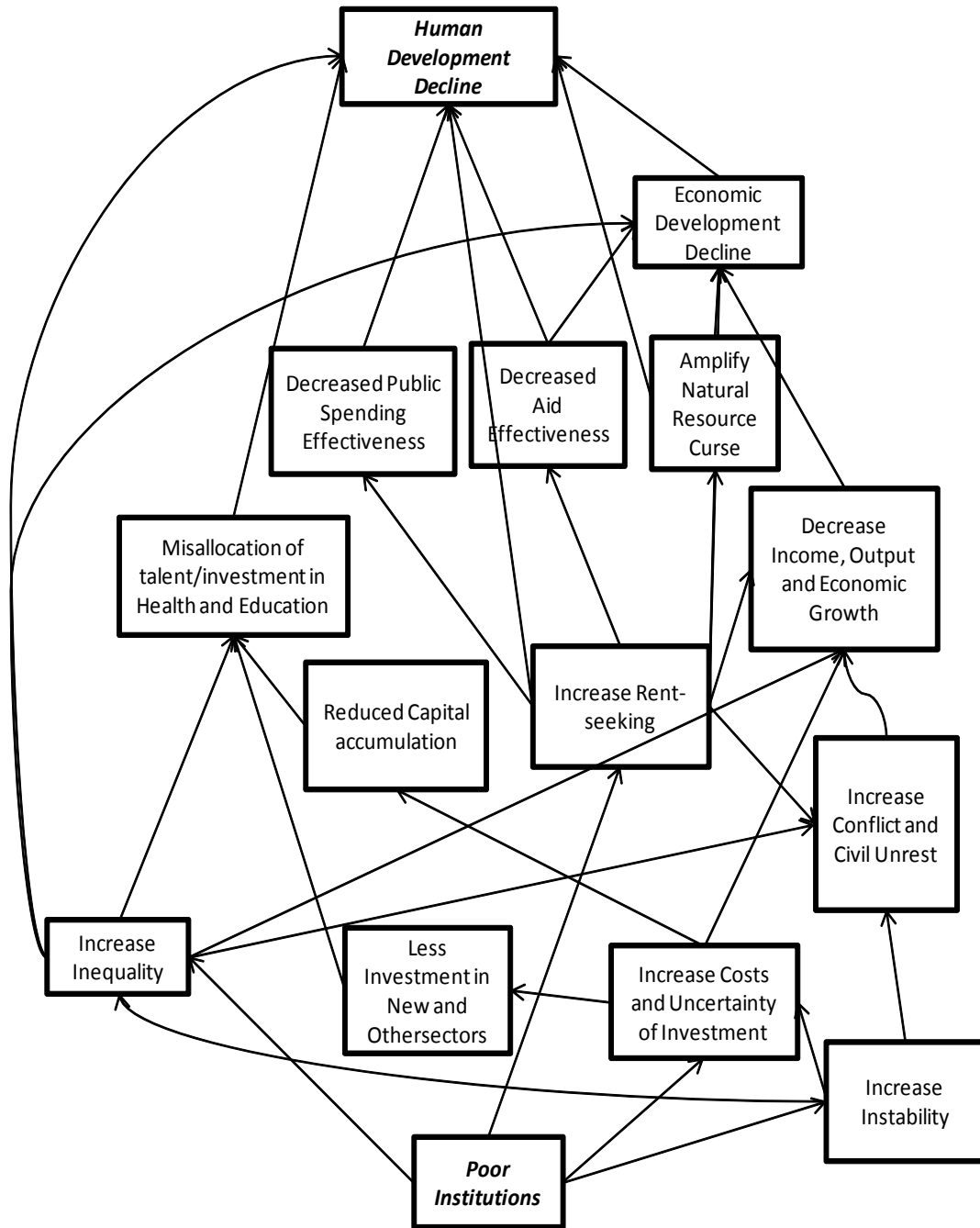
⁴ These examples are not exhaustive and the open design and use of rich survey data sets allows for flexible questions and detailed analysis of a variety of dynamics and different outcome indicators.

Attachment A: Map of Pacific Island Countries and Territories



Source: <http://kids.britannica.com/comptons/art-93829/Oceania-is-traditionally-divided-into-three-parts-Micronesia-Melanesia-and>

Attachment B: Institutions and Development



Source: Own author's construction.

For related literature review, please see 'Edwards, R., 2010, 'Gender Inequality and Socioeconomic Development', Economic Project, The University of Queensland, Available online at: http://ryanedwards.weebly.com/uploads/3/1/7/1/3171363/gender_inequality_and_socioeconomic_development_final.pdf

Attachment C: Treatment Standardisation

The following checklists must be fully met for an intervention in a given village to count as a completed treatment:

Treatment One: Physical Infrastructure Upgrade

1. Access to clean water
2. Access to constant electricity or generator at the market level
3. Adequate drainage and no stagnant water at the market
4. Adequate roofing and shelter for all market vendors, from sunshine exposure, rain, storms etc.
5. Access to separated male, female and disabled toilets, showers and baby care areas
6. Access to local police and security by radio or fixed phone line
7. Emergency sleeping quarter for 4 people
8. Basic communal area, including tables and chairs, to sit around 5% of daily market traffic
9. Fixed ATM
10. Access to a mobile banker for 1 hour each day
11. Designated child safe area

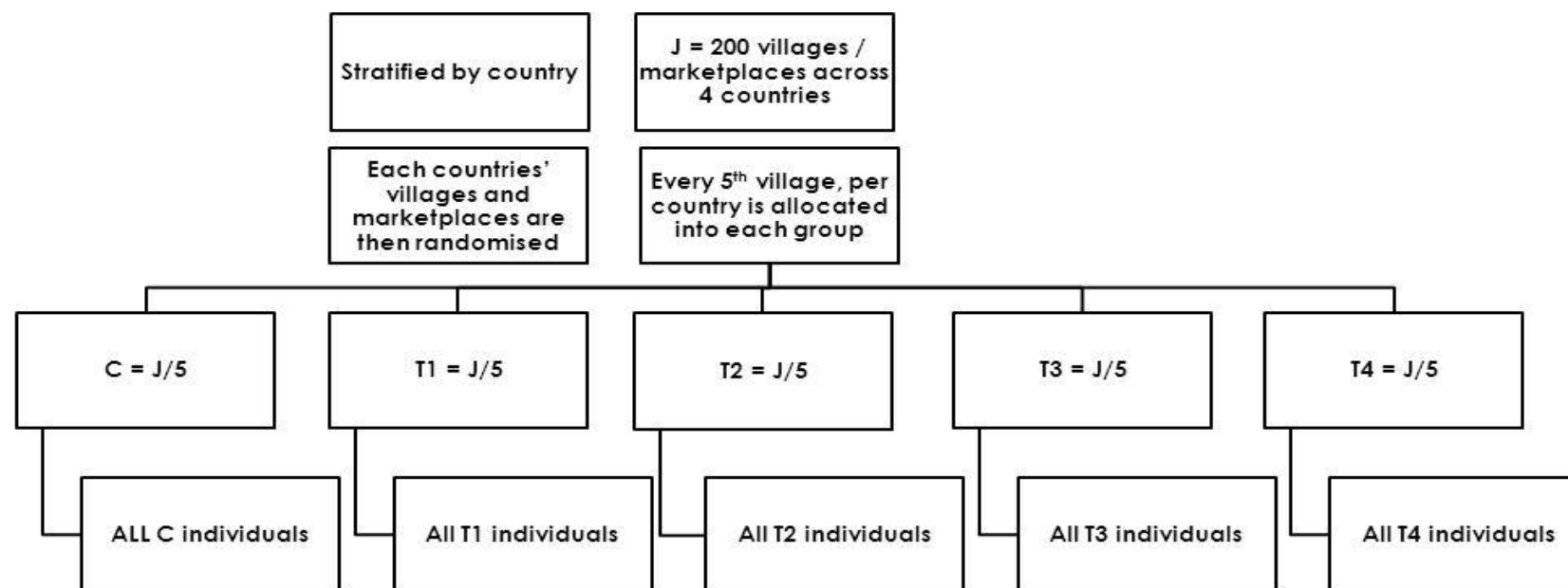
Treatment Two: Top-down Institutions – Governance Reform

1. Adequately skilled WMVs employed as 50% of market management team
2. Woman market vendor appointed as special market representative in local and district councils
3. Third party audit of council market management and revenue
4. Market by-laws revised to be gender sensitive

Treatment Two: Bottom-up Institutions – Empowerment

5. Advocacy and credit cooperative formed for WMVs in the market place
6. Cooperative membership is selected by the community, subject to consent and interest. Credit cooperative manages loans as required to other community members.
7. All WMVs provided with access to low-cost financial products, mobile banker and ATM cards
8. Cooperative receives intensive business development and financial literacy training from commercial bank and MFI, with tools to share knowledge with peers

Attachment D: Randomised Design



Where:

$N = TBC$

4 countries = PNG, Fiji, Solomon Islands and Vanuatu

C = pure control group

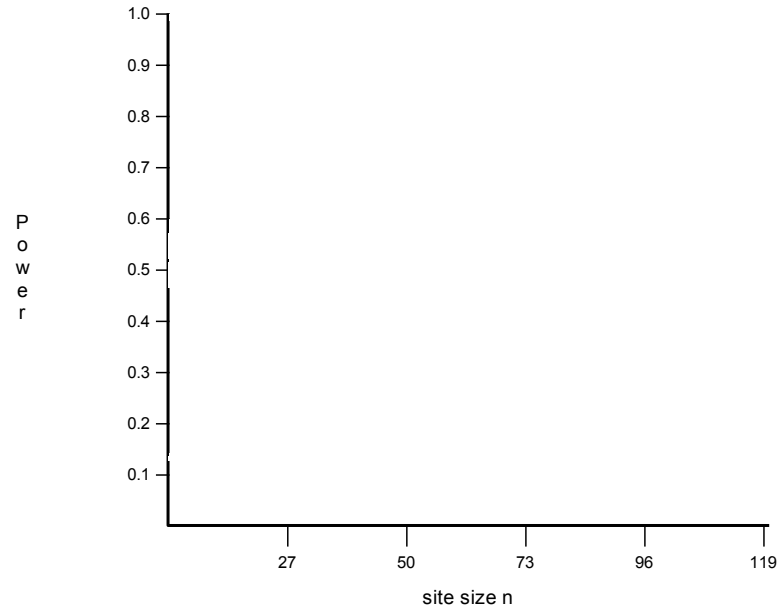
$T1$ = infrastructure upgrade only

$T2$ = infrastructure upgrade + bottom-up institutions program

$T3$ = infrastructure upgrade + top-down institutions reform

$T4$ = infrastructure + both institutions interventions

Attachment E: Basic Power Calculations*



*for only treatment and control groups, not for four treatments

