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Non-Technical Abstract

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Abstract

Temporary migration programs for unskilled workers are increasingly being proposed as a way to both relieve labour shortages in developed countries and aid development in sending countries without entailing many of the costs associated with permanent migration. New Zealand's new Recognised Seasonal Employer (RSE) program is designed with both these goals in mind, enabling unskilled workers from the Pacific Islands to work in horticulture and viticulture in New Zealand for a period of up to seven months. However, the development impact on a sending country will depend not only on how many workers participate, but also on who participates. This paper uses new survey data from Tonga to examine the process of selecting Tongans to work in the RSE, and to analyze how pro-poor the recruitment process has been to date. We find that the workers recruited come from largely agricultural backgrounds, and have lower average incomes and schooling levels than Tongans not participating in the program. We also compare the characteristics of RSE workers to those of Tongans applying to permanently migrate to New Zealand through the Pacific Access Category, and find the RSE workers to be more rural and less educated. The RSE therefore does seem to have succeeded in creating new opportunities for relatively poor and unskilled Tongans to work in New Zealand.

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1. Introduction

"First and foremost it will help alleviate poverty directly by providing jobs for rural and outer island workers who often lack income-generating work. The earnings they send home will support families, help pay for education and health, and sometimes provide capital for those wanting to start a small business"

Winston Peters, New Zealand's Foreign Affairs Minister, 25 October 2006[1]

New Zealand's new Recognised Seasonal Employer (RSE) program, which allows workers from the Pacific to work in seasonal employment in the horticulture and viticulture industries in New Zealand, is expected to have positive development benefits for the participating Pacific nations. However, the development impact of the program will depend in large part on whether rural unskilled workers really do participate in the program, or whether in practice employers end up recruiting more educated, wealthier, urban workers with better English skills who still stand to benefit from the higher wages offered in New Zealand.

This paper examines the process of selection into the RSE program in Tonga, using a large specialized survey intended as a baseline for assessing the development impact of the RSE. We find that the process of village-level nomination of workers and Government-orchestrated recruitment has resulted in the RSE workers being largely agricultural workers with lower than average incomes and schooling. The RSE workers are also seen to be significantly more rural and less educated than individuals applying to

[1] Quoted in *Islands Business*, http://www.islandsbusiness.com/news/index_dynamic/containerNameToReplace=MiddleMiddle/focusModuleID=130/focusContentID=6691/tableName=mediaRelease/overideSkinName=newsArticle-full.tpl [accessed March 15, 2008].

permanently migrate to New Zealand under the Pacific Access Category. The RSE therefore appears to have created new opportunities for migration for a large sector of the population which previously had no available mechanism for working abroad.

2. The Recognised Seasonal Employer (RSE) Program in Tonga

The Recognised Seasonal Employer (RSE) work policy is a new seasonal work policy launched on 30 April 2007. The program allows up to 5,000 seasonal workers to come to New Zealand for a maximum of seven months per eleven month period, to work in horticulture and viticulture industries. All Pacific Forum countries (other than Fiji whose participation was suspended) are eligible for this scheme , but Kiribati, Samoa, Tonga, Tuvalu and Vanuatu were selected for special "kick-start" status which entailed deliberate and expedited efforts to launch the scheme and recruit in these countries.

New Zealand employers in the horticulture and viticulture industries can apply to become Recognised Seasonal Employers (RSEs) in New Zealand, and then apply for an Agreement to Recruit (ATR) overseas workers. A worker with an employment offer linked to an ATR can then apply for a Seasonal Work Visa, which entails supplying a passport, a temporary entry chest x-ray certificate (used to screen for tuberculosis), a medical certificate, police clearance, and their return air ticket. Employers are required to pay for half of the return airfare. Workers are required to attend a pre-departure orientation before their departure to New Zealand, which is meant to cover matters such as climate, clothing and footwear requirements, taxation, insurance, remitting and budget advice, and emergency contact information. In subsequent years, employers can then request the same workers to return again in the next season.

The implementation of the RSE policy varies slightly between each of the five kick-start countries according to terms set out in Inter-agency Understandings (IAU) between the New Zealand Ministry of Labour and the respective Labour ministry in the Pacific country. For example, in Tonga the minimum age for participation is 18, the same as Kiribati, Tuvalu and Samoa, but different from the minimum age of 21 in Vanuatu. One of the major areas where some differences occur is in how recruitment takes place. In Tonga, the IAU sets out two recruitment options for New Zealand employers wishing to recruit from Tonga.[2] The first option, which is noted in the IAU as preferred by the Tongan Ministry of Labour, Commerce and Industries (hereafter referred to as the Tongan Labour Ministry), is for the employer to recruit from a "work-ready" pool of Tongan nationals pre-screened and selected by the Tongan Labour Ministry. The second option is for the New Zealand employer to recruit directly, after informing the Tongan Labour Ministry.

The work-ready pool is established by pre-selection and screening at the district level.[3] District and town officers, together with church and community leaders, pre-select and screen candidates. The IAU states that the Tongan Labour Ministry will provide a set of criteria to the districts for the purposes of pre-selection and screening, together with an indication of the number of candidates to nominate, specifying that the number of candidates that can be nominated will be fairly distributed in proportion to population size. These candidates are then all entered into a single database with the Tongan Labour Ministry. New Zealand employers can then either select nominees who all come from a

[2] New Zealand Department of Labour (2007).
[3] There are 17 districts in Tonga, each with an average population of approximately 6,000 people.

single district, in order to establish a community linkage, or select across different districts.

Community-based selection has the potential to use the additional information that community and church leaders have about the character and ability of prospective applicants to ensure that only suitable candidates are chosen. However, in theory, a potential concern with such a scheme is that it could end up as a de facto patronage system, leading to workers being selected on the basis of familial, social or political connections or based on how much of the added income they promise to contribute to community rather than household needs.

In practice, there appears to have been little evidence to support this concern. The high interest in the scheme in Tonga is evidenced by more than 5,000 Tongans registering for the work ready pool (Wallis, 2007). Based on our sample estimate of 87 percent of applicants being male, this amounts to approximately one in five Tongan males aged 20-60 applying, and approximately one in forty females aged 20-60 applying. News accounts at the time of selection spoke of village committees being asked to find "…good, reliable people. Both men and women, ranging in age from 20 to 60" (Matangi Tonga, 2007a) and doing their "best to make sure that nobody overstays" (Radio Australia, 2007), by placing "emphasis on people who have good reasons to return to Tonga, including family" (Wallis, 2007). This is further emphasized in the pre-departure orientation, where workers are made aware that the penalty for them overstaying is no further recruitment from their village. In general, there are high expectations from the sending community to represent their village well and not to jeopardize further employment opportunities for others in the community.

In our survey work (to be described below) we asked both workers and village town officers what the main attributes used by the village committees in pre-selection were. Selection was done by looking for honest, hard working people, who obey orders, show respect, do not drink alcohol excessively, and speak reasonable English. Both the vlllage leaders and individual workers noted that emphasis was put on selecting individuals from low income families in financial need. An emphasis on responsible individuals from families in need was also expressed in our interview with the Tongan Labour Ministry.

Employers appear to have chosen to recruit from Tonga in part because of the large Tongan community in New Zealand, and because of prior experience hiring Tongans. For example, Vinepower, the first RSE to recruit from Tonga, chose Tonga due to the large Tongan community in Marlborough, which they believed would provide a lot of support for the workers (Marlborough Express, 2007b). The largest employer, Mr Apple (NZ) Ltd, which recruited 242 Tongans, chose Tonga due to previous experience hiring Tongans (Matangi Tonga, 2007b).

The Tongan Labour Ministry was then heavily involved in the selection process once employers had decided to recruit from Tonga. As of May 22, 2008, a total of 816 Tongan RSE workers had been approved.[4] Twenty four different employers had recruited from Tonga. The largest, Mr Apple, recruited 242 workers, and the smallest recruitment was 4 workers. Of the twenty employers recruiting by the end of April 2008, all but one had used the work-ready pool. A single employer recruited 26 workers via direct recruitment. This employer had an existing Tongan employee, who recruited from his

[4] Basic information on all Tongans recruited under the RSE was supplied by the New Zealand Department of Labour and Tongan Ministry of Labour, Commerce and Industries.

own island and village. Employers recruiting from the work-ready pool conduct interviews of the shortlisted workers to decide who to take. For example, Vinepower interviewed 20 workers in a village to order to recruit 10 (Marlborough Express, 2007a). The Tongan Labour Ministry has tried to ensure that all island groups, and as many villages as possible were given the opportunity to participate in the scheme. All villages in Tonga now have at least two workers in the scheme. Table 1 shows the geographic breakdown of RSE workers to date is reasonably close to the overall population distribution across islands. Only 73 of the 816 Tongan RSE workers (9 percent) recruited by May 22, 2008 were female. Only 3 out of the 305 Tongan RSE workers arriving in New Zealand in 2007 were women, with more recruited in 2008. One reason for the increase in female participation in early 2008 appears to be the changing nature of seasonal work available, with more women being to do work packing fruit towards the end of the season.

3. Survey Data

In order to evaluate the short-term development impact of the RSE on individuals, households, and communities in Tonga, the World Bank partnered with the University of Waikato and New Zealand Department of Labour to design a research study. The study aims to survey households and individuals in Tonga before RSE workers leave for New Zealand, survey these same households while the workers are away, and survey households again upon the return of the workers. The survey targets three groups of households: households with a member selected for the RSE, households with a member who is part of the work-ready pool who have not been selected to work under the RSE

program, and households where no member registered for the work-ready pool. In addition to a household survey, a short community survey was also carried out with village town officers and other community leaders in the villages from which households were drawn. This paper uses the baseline survey, conducted between October 2007 and April 2008.

Our survey has near national coverage, covering Tongatapu, Vava'u and 'Eua. Collectively these three islands contain 90 percent of the population and 92 percent of the RSE workers (Table 1). The design of the sample was complicated by the rolling recruitment of workers, and the fact that with no country-specific quotas under the RSE, it was not known ex ante how many Tongans would be selected for the scheme. We therefore based our choice of villages on lists obtained from the Tongan Labour Ministry, which contained the names of the RSE workers and the islands and villages they were from.[5] The town officer in each village then provided directions to households with RSE workers. In each of these villages we also used the town officers to identify households with RSE applicants who were part of the work-ready pool but who had not yet been selected, and we additionally surveyed households where all members were non-applicants. In each village we aimed for approximately five households with a RSE worker, three households with a member of the work-ready pool who was not selected, and four households with a non-applicant.

We follow common survey practice in defining a *household* as a group of people sharing expenses and living together. Mean household size is 5.2 individuals, and 82 percent of households in our sample are nuclear households consisting of a head, spouse,

[5] Due to the short time frame between recruitment and travel to New Zealand, we also interviewed 37 RSE workers at Auckland airport as they were arriving in New Zealand, and some households whose members had just left for New Zealand.

and children only, while a further six percent contain only a household head and their spouse.

In total our survey covered 448 households containing 2,335 individuals in 46 villages. By island, the sample includes 371 households on Tongatapu, 29 on Vava'u and 60 on 'Eua. By RSE status, the sample contains 228 households with a RSE worker, 79 with an unselected member of the work-ready pool, and 141 with a non-applicant.

4. Determinants of RSE Participation and Characteristics of the RSE Workers

Table 2 summarizes household-level characteristics by RSE status. Two-sample *t*-tests for differences in means are used to test for differences between households with a selected RSE worker and those with someone in the work-ready pool, and between households which have a member that applied to the RSE and households containing only non-applicants. All three groups of households have similarly high levels of infrastructure access, with 94 percent of households having piped water, 87 percent having a flush toilet, and 96 percent having electric lighting. The recent rapid growth in cellphone penetration is seen in 77 percent of households owning a cellphone. The large network of Tongans in New Zealand is seen through 88 percent of households having a relative in New Zealand and 56 percent having received remittances from overseas in the past year.

At the household level, the main differences between selected RSE worker households and others are in household size, expenditure, and cash income. The selected RSE worker households are significantly larger, and produce the same amount of own food production as other households, but earn less total cash income from wage jobs and

agricultural cash sales and have lower food expenditure and total expenditure per capita. The mean weekly total household income per head is significantly lower in the RSE worker households, at 35 pa'anga (approximately $USD18.2 or $NZD23.0),[6] compared to 49-52 pa'anga per head in households without a selected worker and in non-applicant households.

Table 3 compares the individual-level characteristics of selected RSE workers to unselected applicants and non-applicants. 87 percent of the applicants in our sample are male. We therefore report the means for non-applicants separately by gender, and compare them to means of RSE applicants of the same gender. Figure 1 plots the age distribution of RSE workers in our sample and Figure 2 the age distribution of all Tongan RSE workers recruited up to May 22, 2008. The distribution is right-skewed, including workers up to age 60. The median age in our sample is 33, close to the median of 32 in the full sample. Among all workers, 23 percent are under 25, and 21 percent are over 40. Seventy-one percent of applicants in our sample are married, and 70 percent have children. Therefore, for most applicants, the seasonal worker program requires leaving behind a wife and children. The median age of the child of a RSE worker is 11, with 25 percent of children of RSE workers aged 5 and under. Self-reported English literacy is high, with 91 percent of applicants literate. This is reflected in very few individuals listing English as a constraint to their application, in contrast to Vanuatu, where English literacy is considerably lower (McKenzie et al, 2008).

Village selection and the medical examination are intended to ensure healthy, fit individuals are chosen. Only 1-2 percent of Tongans interviewed say they have had a health complaint in the last six months, preventing this question being used to compare

[6] 1 NZD = 1.52 Pa'anga; 1 USD = 1.92 pa'anga, in April 2008. Source. www.xe.com/ucc.

health status across individuals. The male RSE applicants have spent slightly more days in hard physical labour in the last week (4.7 for RSE applicants compared to 4.4 for non-applicants). The difference for females is similar in magnitude, but statistically insignificant due to the small sample size of female applicants. This suggests the RSE workers are more physically fit. However, the male RSE applicants are more likely to smoke than non-applicants (58 percent of applicants smoke compared to 48 percent of non-applicants). Moreover, while village selection stressed a lack of alcohol dependence, we find no significant difference between male applicants and non-applicants in whether they had consumed alcohol in the last month, while female applicants were significantly more likely to have consumed alcohol in the last month than non-applicants (10 percent for RSE applicants compared to 2 percent of non-applicants).

The median RSE worker has completed Form 5 (Year 11) of school, with the mean years of education of 10.4 similar to that among non-applicants. Only 15 percent of RSE workers have ever held a paid job. The majority are thus rural workers involved in own agricultural production. Almost every RSE household produces its own food for consumption, with the main crops being coconuts, cassava, breadfruit, bananas, and sweet potatoes, as well as raising their own chickens. Agricultural income provides 100 percent of household income for the median RSE household. Therefore for most RSE workers, this will be the first time they are working for pay, and the crops they will be working with will not be those that they have previous experience with. Among the few RSE workers with previous wage sector experience, the main jobs were driver, cleaner, carpenter, and security officer. The RSE program is therefore not taking more skilled workers out of white collar jobs.

Table 4 presents the results of probit estimation of the likelihood of applying, and of the likelihood of being selected among RSE applicants. While Tables 2 and 3 show unconditional differences in means, Table 4 allows us to assess the marginal impact of changing one characteristic, while holding other characteristics constant. We see that the likelihood of application is higher for men, is increasing in age up to 38, after which it starts to fall, and is lower for individuals from richer households. Individuals who self-report themselves to be in very good health are more likely to apply, while males who have consumed alcohol in the last month are less likely to apply, conditional on other characteristics being held constant. Individuals from Tongatapu, and those with family members in New Zealand are more likely to apply. Columns 4 and 5 of Table 4 show that the likelihood of being selected among RSE applicants peaks around age 38, and is higher for individuals from larger and poorer households.

Taken together, the results from Tables 2, 3 and 4 do show that the RSE program in Tonga has recruited rural workers with average education levels, from larger and poorer families. The professed aim of village committees to select workers from families in financial hardship therefore appears to be supported in our data.

5. How do the RSE Workers compare to Tongans applying for the Pacific Access Category?

Prior to the RSE program being implemented, the main avenues of emigration from Tonga were permanent migration via family-sponsored categories to New Zealand, Australia and the United States, and since 2002, through the Pacific Access Category (PAC), which allows a quota of 250 Tongans to emigrate to New Zealand each year. A random ballot is used to select among the many individuals who apply. Applicants to this

category must be aged 18 to 45, meet a minimum level of English language ability, meet health and character requirements, and have an offer of employment in New Zealand. The PAC has broadened the range of opportunities for Tongans to work in New Zealand, but the Tongans migrating through the PAC have had higher than average education levels, with many working in white collar jobs in Tonga prior to migration (Gibson and McKenzie, 2007; McKenzie, Gibson, Stillman 2006). It is therefore of interest to see to what extent participants in the two migration programs overlap, and to what extent those participating in the RSE have not tried to take part in other migration programs.

Only 7.5 percent of the RSE applicants say they have a family member in New Zealand who could sponsor them under family-sponsored approval, only 2.6 percent believe they could get in through the skilled/business category, and only 1.6 percent say they are eligible for residence in the USA, Australia, or any other country. Only 11 percent of the RSE applicant sample have previously applied for the Pacific Access Category. This is higher than the five percent in the non-applicant sample, but still shows the majority of RSE applicants are individuals who were not trying to participate in the PAC. This may be because they do not meet the requirements of the PAC, such as the requirement to find a job offer at a specified income level in New Zealand, or because the RSE workers do not wish to leave Tonga permanently. When asked, 51 percent of RSE workers say they would prefer to move permanently to New Zealand, whereas the remaining 49 percent would prefer to have a season in New Zealand and the rest of the year in Tonga.

Table 5 compares the characteristics of individuals applying for the RSE to those applying for the PAC, using data on PAC applicants from the Pacific-Island New Zealand

Migration Survey (PINZMS).[7] We restrict the analysis to 18 to 45 year olds, the age group who are eligible for both programs. Income and employment in the PINZMS are for 2004, compared to 2007 for the RSE applicants. Even without increasing the PAC applicant incomes to adjust for wage inflation over this time, we see that the PAC applicants earn more, and are much more likely to have worked in a wage job in the past year. Specifically, 59 percent of PAC applicants have had a wage job in the last year, compared to only 16 percent of 18 to 45 year old RSE applicants. The PAC applicants have higher schooling, and are much more balanced across gender than the RSE applicants. These differences show that the RSE is succeeding in offering the chance to work in New Zealand to poorer, more rural, and less skilled individuals (especially males) than are able to move to New Zealand through the main permanent work category used by Tongans.

6. Knowledge of the RSE and the application process in practice

The launch of the RSE program was a significant event in Tonga. Before the scheme began, a team from the Tongan Labour Ministry and New Zealand Immigration Services in Tonga visited nearly all the districts in Tongatapu and most of the Outer islands. These visits acted both as part of an awareness campaign, and also a means of establishing networks with the District and town officers who would be involved in pre-screening workers for the work-ready pool. Local newspapers covered the program launch, and the hiring and departure of the first sets of workers. When asked how they obtained information about the RSE, 87 percent of RSE applicants used village leaders, 31 percent television, 27 percent newspapers, 26 percent radio, and 7 percent the internet.

[7] See www.pacificmigration.ac.nz for a description of the survey and link to related papers.

In light of this reasonably extensive information provision, and the strong networks between Tonga and New Zealand, one might expect Tongans to be well-informed about the RSE. Table 6 reports on the knowledge that RSE workers, unselected applicants, non-applicants, and community leaders have on the RSE. They were first asked if they had heard about the possibility of going to New Zealand under the RSE, and if so, asked about specific conditions of the program. Not surprisingly, almost all RSE applicants and village leaders had heard of the program. However, only 27 percent of non-applicants say they have heard of the program. Conditional on having heard of the program, knowledge is good with regard to the time allowed abroad, knowing that workers can return in subsequent years, and knowing that children and the spouse can not accompany the worker. However, more than half (54 percent) of the RSE workers believe that you can apply for permanent residence while in New Zealand, whereas 87 percent of community leaders know this is not the case. While most workers know that the employer is required to pay half the airfare, there is less knowledge about the RSE program's conditions in terms of the minimum number of hours work that an employer must pay for.

RSE applicants were also asked open-ended questions about the process of applying. When asked what the most burdensome part of the application process was, the majority of applicants gave the cost of applying as the answer. Excluding the air ticket, the mean (median) cost of applying is reported to be 456 pa'anga (450 pa'anga). This consists of a visa cost of 270 pa'anga, passport cost of 86 pa'anga, a medical check and x-ray cost of 60 pa'anga, police clearance cost of 5 pa'anga, and other costs such as passport photos and obtaining a copy of their birth certificate, which average 30 pa'anga.

Air tickets average 700-800 Pa'anga. The total cost to the applicant after including half the airfare is thus 800-850 pa'anga (approximately USD420 or NZD530). This is approximately 8 weeks of total household cash income for the RSE workers, although in most cases the employer allowed the employee's share of the airfare to be paid from withdrawals from their New Zealand earnings upon arrival. Other costs were often met through loans from the church that the RSE worker belonged to. Loans were usually taken out by the parents of the RSE worker on their child's behalf, and were requested during church meetings. The loans usually required no deposit and attracted minimal interest so long as the individual was a reliable member of the congregation.

RSE workers were asked what the most useful aspect of the pre-departure orientation was, and how they think it could be improved. The most useful information provided according to the workers was information on the specifics of how to work on an apple farm, how to work together in agricultural teams, and some aspects of budgeting and saving. They would have liked to receive more information on the cheapest ways to communicate with family back home and to send money home, and on the tax system in New Zealand as it applies to them.

7. Rationale for applying and anticipated benefits

RSE applicants were asked to assess the importance of different reasons in their decision to apply for the RSE. Table 7 reports the results. The most important motives are to help their families, earn higher wages, and improve their English. Also, 97 percent say that a very important or important reason was forming links with New Zealand to begin a path to obtaining permanent residence. This perhaps reflects the mistaken belief of many that they can directly apply for permanent residence while in New Zealand. Few

individuals give earning money to start a business as a reason for applying, which is in accordance with the low levels of non-agricultural self-employment in Tonga.

Table 8 reports the reasons given by RSE non-applicants for not applying. The most important reason given is that they do not know what the requirements are, which 45 percent say is very important and 90 percent say is either important or very important. This accords with the low percentage of non-applicants who say they have heard about the RSE (Table 6). The second most important reason given for not applying is that they do not want to move away without their family. Few have on-going businesses or jobs that they can not leave, or believe they can earn more in Tonga.

RSE migrants were asked how much they expected to earn per week in New Zealand. The mean (median) income expected per week was 356 pa'anga (325 pa'anga), approximately NZD215-230 per week. Workers were given a choice of answering in New Zealand dollars or pa'anga. Workers were also asked how much they expected to remit or bring back with them. The mean (median) response was 6392 pa'anga (4560 pa'anga), approximately 3000-4000 New Zealand dollars.

These estimates appear to severely underestimate the income to be earned in New Zealand, which was also a feature of Tongans leaving for New Zealand under the Pacific Access Category (McKenzie, Gibson and Stillman, 2007). Interviews with workers at one of the vineyards found that they were paid piece rates per vine, which were giving higher hourly rates than the minimum wage of NZ$12 per hour. The minimum work week is 30 hours for RSE workers, so incomes should be at least $360 per week, which is fifty percent more than expected – on a forty hour week incomes would be at least twice that expected. In some cases workers are able to earn even more in particular weeks. For

example, Vinepower workers were reported to earn NZ$18-20 per hour in their second week (Tonga-Now, 2007).

Finally, community leaders were asked what they saw as the possible benefits and downsides of the RSE program for their village. The main benefit anticipated was better incomes for the families of RSE workers. Other answers included employment opportunities for village youth, help for the village economy, more income for the church, and the new experiences and skills learned. The main downsides anticipated were the family separation involved, the chance that someone could give the village a bad name, and that there would not be enough members for the local church. In practice there have to date been several isolated incidences of alcohol abuse by workers, and pay disputes, resulting in 19 workers returning home before their contracts. However, the vast majority of workers have not experienced such problems, and the initial reports are of employers being impressed by the hard work. Indeed, one issue facing some workers has been shortages of work to do as they have finished all the work available in shorter than expected times.

8. Conclusions

A survey of over 2,000 Tongans finds that the new RSE program has succeeded in opening up seasonal migration opportunities to poor, rural households in Tonga. Participation of poorer and more rural households in the program makes it more likely that the RSE will have some of the positive development impacts that form one of the objectives of the policy. The enormous interest in the RSE is evidenced by approximately 20 percent of working age men becoming part of the work-ready pool, with over 800 workers so far having the opportunity to work in New Zealand. The majority of RSE

applicants were not working in paid employment prior to the program taking place, so the main opportunity cost of their employment in New Zealand will be the time they would have spent on agricultural production in Tonga. Our follow-up surveys will measure changes in agricultural production in both households participating and those not participating in the RSE, allowing measurement of this effect along with other impacts of the RSE on individuals and households in Tonga.

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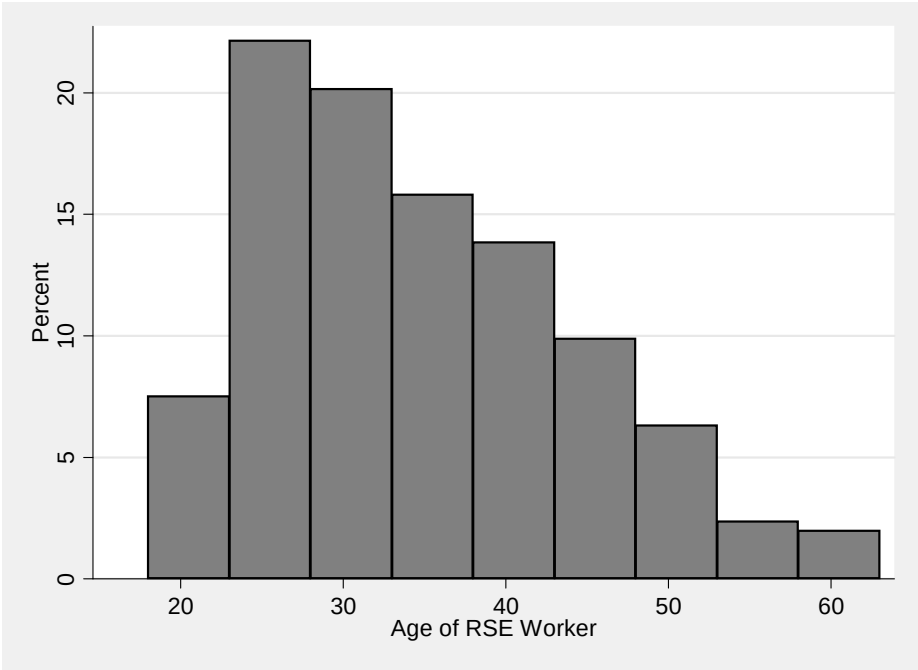

Figure 1: Age Distribution of Tongan RSE Workers in Sample

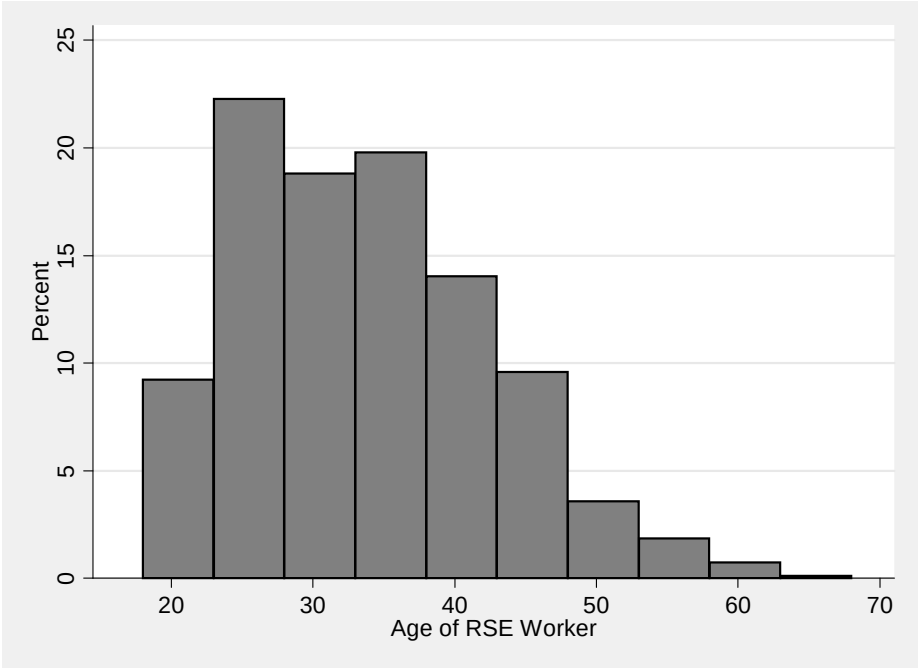

Figure 2: Age Distribution of all Tongan RSE Workers Recruited by May 22, 2008

Table 1: Geographic Breakdown of RSE Recruitment

Island	1996 Population	Population share (%)	# of RSE workers	share of RSE workers (%)
Tongatapu	66,979	68.5	498	70.6
Vava'u	15,715	16.1	99	14.0
Ha'apai	8,138	8.3	33	4.7
'Eua	4,934	5.0	49	7.0
Niua Toputapu	1,283	1.3	16	2.3
Niuafo'ou	735	0.8	10	1.4
Total	**97,784**	**100**	**705**	**100**

Source: Population data from 1996 Tongan Census
RSE Worker data as of end April 2008, from Tongan Ministry of Labour, Commerce and Industries.

Table 2: Characteristics of Households by RSE Status

	Selected RSE Worker Households Mean	Unselected RSE applicant Households Mean	Non-Applicant Households Mean
Household Characteristics			
Proportion with:			
Piped Water	0.95	0.92	0.92
Flush Toilet	0.86	0.91	0.86
Electric Light	0.96	0.94	0.95
Cellphone	0.77	0.73	0.78
Motor vehicle	0.56	0.51	0.62
Bank account	0.61	0.67	0.57
ATM card	0.30	0.28	0.31
Receive overseas remittances	0.60	0.44**	0.56
Receive some cash income	0.76	0.80	0.79
Have relative in New Zealand	0.88	0.84	0.89
Quantities			
Household Size	5.64	4.86***	4.74***, $^{+++}$
Asset index	0.13	-0.52***	0.09
Number of pigs	5.30	6.47**	5.37
Number of chickens	4.62	6.15*	5.34
Number of cattle	0.49	0.43	0.42
Household Weekly cash income (Pa'anga)	98	134**	138**, $^{+}$
Household Weekly wage income 2006 (Pa'anga)	57	47	180
Household Weekly own production (Pa'anga)	78	77	79
Weekly total income per head (Pa'anga)	35	49***	52***, $^{+++}$
Household Weekly food expenditure (Pa'anga)	41	42	65*, $^{++}$
Monthly total expenditure per head (Pa'anga)	68	91***	123**, $^{++}$
Median total income per head (Pa'anga)	24	38**	39***, $^{++}$
Median weekly food expenditure (Pa'anga)	35	25*	30
Median monthly total expenditure per head (Pa'anga)	57	61	64***, $^{++}$
Sample Size	**228**	**79**	**141**

Notes:
*, **, and *** and +, ++, and +++ denote t-test shows significantly different from the RSE selected worker household sample (*'s)
and all RSE applicants (+'s) at the 10%, 5% and 1% levels respectively.
Difference in medians carried out using a non-parametric two-sample test for equality of medians.

Table 3: Characteristics of 18 to 60 year olds by RSE status

	RSE Selected Worker	RSE Unselected Applicant	RSE Non-applicant	
			Males	Females
Male	0.88	0.86	1	0
Age	34.2	33.3	32.2**	34.1
Married/De-facto	0.71	0.64	0.49***	0.72
Have a child	0.70	0.56**	0.43***	0.67
Literate in English	0.91	0.97	0.95*	0.93
Has primary schooling or less	0.01	0.00	0.03*	0.02
Has schooling past Form 4 (Year 10)	0.48	0.56	0.49	0.49
Years of Education	10.41	10.47	10.44	10.43
Ever held a paid job	0.15	0.20	0.22	0.14
Worked for pay in 2007	0.15	0.20	0.21	0.14
Weekly income in first half of 2007, if work (Pa'anga)	153	155	162	131
Average hours worked in last week, if work	34	36	38	36
Wages last week (Pa'anga), if work	138	160	147	106
Had a health compliant in last 6 months	0.01	0.02	0.01	0.02
Number of days of hard physical labor per week	4.59	5.21**	4.42**	4.42
Currently smokes	0.53	0.50	0.48**	0.08
Has consumed alcohol in last month	0.40	0.33	0.36	0.02***
Sample Size	**253**	**88**	**664**	**531**

Notes:
*, **, and *** indicate significantly different at the 10, 5, and 1 percent levels respectively.
T-tests for Unselected RSE applicants compare means to Selected RSE workers
T-tests for Non-applicants compare means to RSE applicants of the same gender.

Table 4: Probit estimation of determinants of being an RSE applicant, and of an applicant being selected
Marginal effects shown for probit estimation on 18 to 60 year olds

	Selection into Applying			Selection among Applicants	
	(1)	(2)	(3)	(4)	(5)
	All	Males	Females	All	Males
Male	0.416***			0.146	
	(0.030)			(0.093)	
Age	0.0444***	0.0606***	0.0134*	0.0303*	0.0401**
	(0.010)	(0.015)	(0.0081)	(0.016)	(0.016)
Age Squared	0.000571**	0.000816**	-0.000158	-0.000398*	-0.000516**
	(0.00013)	(0.00020)	(0.00010)	(0.00021)	(0.00021)
Married	0.0124	0.132**	-0.0774*	-0.0153	-0.0603
	(0.043)	(0.060)	(0.043)	(0.057)	(0.056)
Years of Education	-0.00145	0.00132	-0.00955	-0.0337	-0.00312
	(0.014)	(0.022)	(0.014)	(0.028)	(0.031)
Worked for pay in 2007	-0.0383	-0.0579	-0.0140	0.0672	0.0724
	(0.040)	(0.066)	(0.033)	(0.059)	(0.057)
In very good health	0.0648**	0.0385	0.0621**	-0.0693	-0.0481
	(0.030)	(0.050)	(0.027)	(0.054)	(0.054)
Currently smokes	0.0452	0.0562	-0.0350	0.0797	0.0900
	(0.049)	(0.070)	(0.041)	(0.075)	(0.075)
Has consumed alcohol in last month	-0.0883*	-0.131*	0.321	-0.0229	0.00455
	(0.045)	(0.074)	(0.30)	(0.085)	(0.081)
Household Size	-0.0199***	-0.0214**	-0.0153**	0.0193*	0.0226**
	(0.0062)	(0.0096)	(0.0061)	(0.012)	(0.011)
Household Asset Index	0.0129	0.00960	0.0192**	0.0384**	0.0138
	(0.0085)	(0.013)	(0.0075)	(0.016)	(0.017)
Log per capita income	-0.0529***	-0.0946***	-0.0129	-0.0740*	-0.0693*
	(0.020)	(0.034)	(0.017)	(0.043)	(0.042)
Number of pigs owned	0.00152	0.00683	-0.00470	-0.00360	-0.00282
	(0.0041)	(0.0069)	(0.0048)	(0.0091)	(0.0088)
Number of chickens owned	-0.00243	-0.00259	0.000158	-0.00766	-0.00832*
	(0.0024)	(0.0042)	(0.0027)	(0.0051)	(0.0049)
Lives in Tongatapu	0.0878**	0.109		0.00368	-0.00136
	(0.035)	(0.071)		(0.084)	(0.083)
Has a family member in New Zealand	0.0570*	0.0397	0.0564***	0.257**	0.163
	(0.034)	(0.062)	(0.018)	(0.12)	(0.11)
Observations	945	500	380	268	235

Notes:
Robust Standard errors in parentheses clustered at the Household Level
*** p<0.01, ** p<0.05, * p<0.1
There are too few female applicants to look at selection among female applicants.
There were no female applicants outside of Tongatapu in our sample.

Table 5: Characteristics of 18 to 45 year old RSE applicants compared to PAC Applicants

	RSE Applicants All	PAC Applicants All	RSE Male Applicants	PAC Male Applicants	RSE Female Applicants	PAC Female Applicants
Male	0.87	0.54***	1	1	0	0
Age	31.1	33.7***	31.0	33.8***	32.5	33.7
Married/De-facto	0.66	0.69	0.65	0.79**	0.68	0.57
Literate in English	0.93	1.00***	0.93	1.00**	0.95	1.00*
Has schooling past Form 4 (Year 10)	0.54	0.71***	0.54	0.73***	0.54	0.70
Years of Education	10.5	11.8***	10.6	11.5***	10.4	12.1***
Worked for pay in last year	0.16	0.59***	0.16	0.56***	0.11	0.62***
Weekly income in last year, if work (Pa'anga)	153	211***	161	194	96	229*
Household Size	5.32	5.30	5.39	5.24	4.81	5.36
Sample Size	**292**	**115**	**251**	**62**	**37**	**53**

Note: *, **, and *** indicate difference in means between the RSE applicants and PAC applicants at the 10, 5 and 1 percent levels respectively.

Table 6: Knowledge of the RSE Policy by RSE Status

	RSE Selected Worker Households	RSE Unselected Households	RSE Non-applicant Households	Village Leaders
Percent who have heard of the RSE	97	95	27	100
Responses conditional on having heard about the possibility of RSE work				
Know maximum number of months is seven	89	85	81	91
Know workers can return in subsequent years	86	90	71	98
Know workers can't apply for permanent residence while in New Zealand	46	41	58	87
Know spouse and children can't accompany the worker	88	95	85	93
Know employer obligations for hours and half airfare	49	21	35	53

Table 7: RSE Worker and Applicant reasons given for Applying

	Percent saying that in their decision the reason was:	
Reason	Very Important	Important or Very Important
My family asked me to go	71	93
Improve my English	65	97
To earn higher wages	62	96
Gain working skills	62	90
Experience a different lifestyle	60	83
As a way of getting links to NZ to give a path to permanent residence	58	97
Having family members already in New Zealand	49	72
To earn money to pay for social responsibilities in my village	39	77
To earn money for school fees	38	85
I could work abroad but my children could stay in school at home	35	70
Less cultural restrictions on what I can and cannot do	26	73
To earn money to build a better house in Tonga	26	54
I don't want to leave tonga permanently, but this gives me some time in both Tonga and NZ	19	66
To earn money to start a business in Tonga	18	39
I could still keep my job in Tonga	13	47
I have a health problem and wanted to consult a NZ doctor	12	48
Other	2	78

Table 8: RSE Non-applicants reasons given for not applying

Reason	Percent saying that in their decision the reason was: Very Important	Important or Very Important
I do not know what the requirements are	45	90
I do not want to move away without my family	45	80
I do not think the chances of getting selected are very high	21	73
I do not feel my English ability is good enough	16	82
I do not want to go temporarily, and will wait until a permanent option	16	76
The seasonal work in New Zealand is too hard for me	15	69
I already have permission to work in NZ through another category	15	40
I can not afford the costs of applying for the RSE	14	78
I think I can earn more money staying in Tonga	9	40
Social obligations in my village that do not allow me to leave	7	33
I have an on-going business I can not leave for 7 months	4	19