
Teacher Demand and Supply in Tonga, 2012-2021

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This report has been prepared by Dr. Paul Bennell, Senior Partner, Knowledge and Skills for Development, Brighton, United Kingdom under management of the AusAID Education Resource Facility. His national counterpart was Dr. Masasso Paunga, Fellow, Institute of Education, USP Tonga Campus.

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Acronyms

B.Ed.	Bachelor of Education
EMIS	Education Management Information System
FTE	Full time equivalent
FWC	Free Wesleyan Church
GER	Gross enrolment rate
GoT	Government of Tonga
IT	Information technology
MET	Ministry of Education and Training
NER	Net enrolment rate
OECD	Organisation for Economic Cooperation and Development
PGDE	Post-graduate diploma in education
PSC	Public Services Commission
PSSC	Pacific Senior Secondary Certificate
SPFSC	South Pacific Form Seven Certificate
STR	Student-teacher ratio
TIOE	Tonga Institute of Education
TIST	Tonga Institute of Science and Technology
TNQAB	Tonga National Qualifications and Accreditation Board
TOP	Tongan pa'anga
TSC	Tongan Society and Culture
TTPR	Total teacher post requirement
TVET	Technical and vocational education and training
UBE	Universal basic education
USP	University of the South Pacific

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EXECUTIVE SUMMARY

This study examines the current and future supply and demand of teachers at primary and secondary schools in Tonga over the period 2012 to 2021. The three main objectives of the study are as follows:

- to provide an overview of the teaching force in primary and secondary schools.
- to estimate the number of trained primary and secondary teachers required over the next 10 years.
- to provide estimates of the cost of any additional teaching posts that will be required.

The findings of the study are presented in three parts, namely teacher overview, projected teacher demand, and projected teacher supply with costings:

- In Part A, Section 2 presents the key characteristics of the teaching force in Tonga.
- Part B focuses on estimating the future demand for primary and secondary school teachers. It comprises sections on projected school enrolments and projected teaching post requirements (Section 3) and teacher replacement and target teacher recruitment (Section 4).
- In Part C, Section 5 focuses on planning teacher supply over the next 10 years. This includes an overview of enrolments and graduates from Tonga Institute of Education (TIOE). Enrolment targets for pre-service teacher training are then presented. Section 6 presents estimates of the salary costs of the additional teaching posts required to achieve Universal Basic Education (UBE) targets.

The key findings of the report are as follows.

TEACHER CHARACTERISTICS

Primary school teachers:Data for 2011 showed the following:

- A total of 767 teachers were employed at 126 primary schools (666 at government schools and 101 at church schools).
- Seventy percent of all primary school teachers are women.
- The average number of teachers at each primary school is 2.7. Around half of schools have fewer than six teachers.
- Nearly all teachers are qualified.
- Around one half of primary school teachers have less than 10 years of experience.

Secondary school teachers:Data for 2011 showed the following:

- There were 32 high schools (Forms 1-5/6/7) and 23 middle and side schools (Forms 1-2/3).
- 15 secondary schools are government owned and 40 are church schools. Total enrolments were 14,838 in 2011 (5,169 government and 9,669 church).
- 986 teachers were employed at secondary schools (874 at high schools and 112 at middle/side schools).
- Five schools employed around one third of all teachers.
- Fifty-eight percent of secondary school teachers are women.
- Seventy percent of middle/side schools and one third of high schools have less than 100 students.
- Eighty-five percent of government secondary school teachers are trained, but only 63% of church teachers.

Teacher utilisation:

- The student-teacher ratio (STR) for primary school is 25:1. This is in line with internationally recommended staffing norms for primary schools in developing countries. However, school STRs vary considerably across the country.
- There is no prescribed STR for secondary schools. The current STR is 15:1.
- The teaching load norm for secondary schools is around 25-26 periods out of a total of 30 periods per week. Actual teaching hours average 20 hours in government high schools.

TEACHER DEMAND

Enrolment projections: The enrolment simulations are based on two scenarios:

- status quo, where all the key current enrolment and efficiency parameters remain unchanged
- the Government of Tonga (GoT)'s Universal Basic Education (UBE) target where all children aged 4 to 18 are enrolled in full-time education and training by 2021.

Primary education: Nearly all children in Tonga complete six years of primary education. The projected UBE target enrolments are considerably lower than the status quo scenario enrolments (by around 1,500 in 2017 and around 2,000 in 2021) because of the lower admission (gross intake) rate, and, in particular, the assumed reductions in repetition rates by 2021.

Junior secondary education (Forms 1-5): For lower secondary education (Forms 1-5), projected target UBE enrolments are quite similar to projected status quo scenario enrolments, mainly because the assumed lower repetition and drop-out rates under the UBE target scenario roughly cancel each other out with respect to their impact on future enrolments. Over the next 10 years, for both scenarios, lower secondary enrolments will increase by around 12% from 12,000 to 13,500.

Senior secondary education (Forms 6 and 7): Projected enrolments for upper secondary schooling (Forms 6 and 7) remain largely unchanged under the status quo enrolment scenario. By contrast, under the UBE target scenario, projected enrolment rate increases for senior secondary education are very large mainly because of the assumed sizeable increase in transition rates and reductions in drop-out rates. Under this scenario, total enrolment is projected to double from 2,500 in 2011 to 5,000 by 2021. The affordability of such an expansion (especially if GoT takes on more of the financial burden) is, therefore, a major issue.

Teaching post requirements: In addition to projected enrolments, the other major set of determinants of future teacher demand is how teachers are utilised in schools. The key ratio that underpins teaching staffing in both primary and secondary schools is the STR. This has two components, namely teaching load and class size. The Ministry of Education and Training (MET) has no specific objectives with regard to class or STRs in primary and secondary schools.

Primary education: Based on the current STR of 25:1, an additional 28 primary school teaching posts will be needed for the status quo enrolment scenario between 2012 and 2016 and only 1 for the target UBE scenario. The corresponding figures for the 5-year period 2017 to 2021 are -32 and -62.

Secondary education: Teaching loads for secondary school teachers in Tonga compare quite favourably with those in other developing countries. It has been assumed, therefore, that the teaching load norm of 25-26 periods for secondary school teachers

remains unchanged. Teaching post requirement projections for secondary schooling are based on a class size norm of 30, a teaching week of 30(45-minute) periods, and a teaching load norm of 25 periods per week

The current STR for secondary education is 15:1. Assuming that this continues to be the *de facto* staffing norm for secondary education over the next 10 years, then, under the UBE target scenario, an average of 21 additional teaching posts will be required for lower secondary education (Forms 1-5) each year between 2012 and 2016 and an average of six fewer posts each year between 2017 and 2021. The corresponding figures for upper secondary schools (Forms 6-7) are three posts and 30 posts each year during these two periods. For secondary schools as a whole, under the UBE target enrolment scenario, an average of around 25 new posts a year would need to be created during the next 10 years compared to only 10 for the status quo enrolment scenario.

Teacher recruitment targets: Teacher demand has two components, namely the net additional teacher posts that are required, and replacements for teachers who have left permanently. Overall attrition among government teachers was 3% in 2011. Whereas total recruitment needs for primary school teachers are not dramatically different between the two enrolment scenarios, for secondary school teachers, they are substantially higher under the target UBE enrolment scenario (see Table 1).

Table 1: Total teacher recruitment targets for status quo and target UBE enrolment scenarios

	Status quo			Target UBE		
	2012-2016	2017-2021	Total	2012-2016	2017-2021	Total
PRIMARY	168	129	297	139	93	232
SECONDARY	98	206	304	268	304	572
TOTAL	266	335	601	407	397	804

It is difficult to make precise projections of future demand for secondary school teachers according to subject specialisation. However, the report presents estimates on the basis of the current pattern of student electives in Forms 3-7.

TEACHER SUPPLY

Planning teacher supply over the next 10-15 years would include an overview of current enrolments and expected graduates from the Tonga Institute of Education (TIOE) and other key aspects of its staffing and funding. Enrolment targets for pre-service teacher training are then presented. It is proposed that the last output of diplomates will be in 2016 and that, thereafter, sole reliance is placed on B.Ed. training for both primary and secondary teacher recruitment.

Primary education:

- During 2012 to 2014, the numbers of primary education diploma graduates from TIOE will be relatively fixed. Assuming a completion rate of 85%, around 90 students will have successfully graduated by the end of 2014. Under the status quo enrolment scenario, another 80 diplomates will be needed in 2015 and 2016 and under the target UBE scenario, another 50 diplomates (see Table 2).
- Between 2017 and 2021, 100 and 125 B.Ed. graduates will need to be trained under each scenario respectively.

Secondary education:

- A total of 180 secondary education diplomates will be needed under the status quo scenario between 2012 and 2016 and 350 for the UBE target scenario.

- Between 2017 and 2021, 220 and 305 B.Ed. graduates will be needed for each scenario respectively.

Table 2: Projected requirements of diplomates and B.Ed. graduates, 2012-2021

		Expected output diplomates 2012-14	Diplomates required 2015-16	B.Ed. graduates required 2017-21
Primary	Status quo	90	80	125
	Target UBE	90	50	100
Secondary	Status quo	150	30	220
	Target UBE	150	200	305
All	Status quo	240	110	345
	Target UBE	240	250	405

Untrained teachers and diploma upgrading: There are around 20 untrained primary school and 300 untrained secondary school teachers who still need to obtain the basic teaching certificate at TIOE. In order, therefore, for all teachers to be qualified by the end of 2015, the two upgrading certificate courses at TIOE will need to have a combined average intake of around 110 teachers over the next three years. The costs of replacement teachers will also need to be budgeted for in order to avoid undue disruption in schools while these teachers are away.

There are almost 1,000 diploma teachers (525 primary and 440 secondary). Already, around 100 teachers are enrolled on B.Ed., post-graduate diploma in education (PGDE) and masters courses at the University of the South Pacific (USP) Tonga Campus. It is recommended that Ministry of Education and Training (MET) (if necessary with the support of its development partners) provide financial assistance (in particular course fees, textbooks and other course materials, and transport and accommodation costs in order to attend courses at the campus during vacations) for up to 200 diploma teachers to be enrolled on B.Ed. courses at any one time. At least half of these students should be primary school teachers and priority should be given to teachers outside of Tongatapu, especially those who are working on remote islands.

Cost projections: This study presents costs estimates for the additional teaching posts between 2012 and 2021. Given the projected reductions in the number of primary school teacher posts over the next 10 years under both planning scenarios, considerable salary savings could be achieved. By contrast, the additional salary costs of funding the very considerable increase in secondary school teaching posts are sizeable – amounting to over TOP3 million for both government and church schools over the next 10 years.

Next steps: It is important to stress that this study should be seen as only the initial step in what should be an ongoing process to establish robust estimates of long to medium term teacher requirements and the planning of teacher education with regard to both its quantitative and qualitative aspects. Further discussions of the report's main findings and recommendations, both within MET and between MET and its key stakeholders, (in particular the church education directors) are, therefore, clearly needed. While MET is not in a position to ensure full and immediate compliance with any new staffing norms at church schools, it should encourage the church education agencies to adopt these norms in the interests of improved resource efficiency and education outcomes. There may also be some scope for MET to provide additional teacher salary subsidies or other financial incentives to schools that do meet the staffing norms.

As is discussed at some length in the report, reforming teacher education in Tonga should be a top priority for MET and its partners. Another important step could, therefore,

be the establishment of a high level task force, which would be tasked with developing a long-term strategy for teacher education in the country based on a clear vision of the teaching profession over the next 20 to 30 years.

INTRODUCTION

1.1 STUDY BACKGROUND AND OBJECTIVES

1.1.1 Study background

There is growing recognition by politicians, senior policymakers and other key stakeholders in Tonga that decisive steps need to be taken in order to improve comprehensively both primary and secondary education in the country. In particular, it is essential to ensure that there are adequate numbers of properly trained and motivated teachers in order to achieve the government's ambitious goal of Universal Basic Education (UBE) for all children aged 4 to 18 years old and to create a world-class education and training system.

1.1.2 Terms of reference

This study examines the current and future supply and demand of teachers at primary and secondary schools in Tonga over the period 2012-2021. The main objectives of the study are as follows:

- to give a brief overview of the teaching force in primary and secondary schools. This focuses on the numbers of teachers by each major type of employer (government and church schools), gender, teacher qualification and experience profiles.
- to make projections of the number of trained primary and secondary teachers required over the next 10 years, including the upgrading of currently untrained teachers.
- to calculate the costs of any additional teaching posts and teacher training that are required.

1.2 STUDY DESIGN AND IMPLEMENTATION

1.2.1 Data collection and analysis

Information on all aspects of the current employment, supply and demand of school teachers was collected for the study. The major data collection activities were as follows:

- interviews with all departmental directors and other key personnel in the Ministry of Education and Training (MET),¹ management of the Tonga Institute of Education (TIOE), the Public Services Commission (PSC), statisticians at the National Statistics Office, the director of budget at the Ministry of Finance, church education directors, and the President of the Friendly Islands Teacher's Association.
- site visits to small representative samples of four primary and seven secondary schools in Tongatapu and Ha'apai in order to discuss a range of pertinent issues relating to the quality and relevance of teacher training, teacher commitment and motivation, and teacher deployment, workloads, subject shortages and other staffing matters.

¹The Ministry of Women's Affairs and Culture (MEWAC) changed its name to the Ministry of Education and Training (MET) in July 2012.

-
- a questionnaire distributed to the seven church school directors requesting information on the subjects taught and teaching loads of each teacher employed at their secondary schools, current teacher shortages/vacancies, teacher attrition, total teacher wage bill, and 2012 enrolments and repetition by grade.
 - relevant census and household surveys, in particular the 2006 National Population Census and 2009 National Household Income and Expenditure Survey.
 - a review of all relevant reports and other documentation including the Tonga Education Policy Framework, the METcorporate plan, and METannual reports from the last 10 years.

Almost all of the required data was successfully obtained, much of it during a 2-week visit to Tonga in late June 2012. Only teacher attrition from church secondary schools was generally unavailable.

1.3 REPORT STRUCTURE

The findings of the study are presented in three parts, namely teacher overview, projected teacher demand, and projected teacher supply with costings:

- In Part A, Section 2 presents the key characteristics of the teaching force in Tonga.
- Part B focuses on estimating the future demand for primary and secondary school teachers. It comprises sections on projected school enrolments and projected teaching post requirements (Section 3) and teacher replacement and target teacher recruitment (Section 4).
- In Part C, Section 5 focuses on planning teacher supply over the next 10 years. This includes an overview of enrolments and graduates from TIOE. Enrolment targets for pre-service teacher training are then presented. Section 6 presents estimates of the salary costs of the additional teaching posts required to achieve UBE targets.

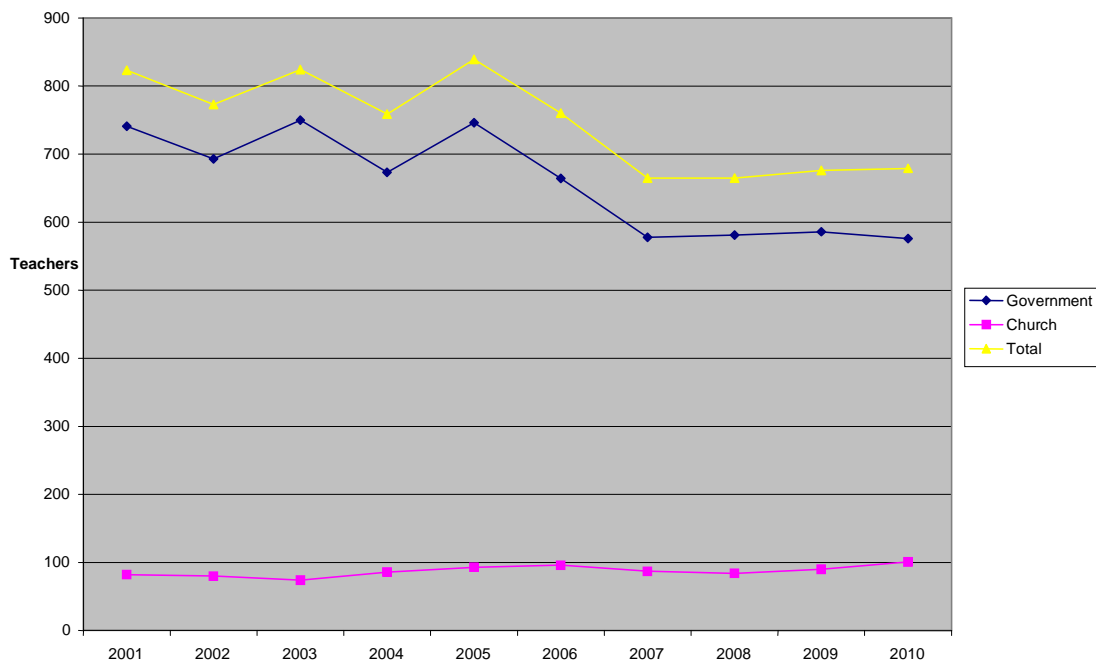
PART A: THE TEACHING PROFESSION INTONGA

2.1 TEACHING FORCE CHARACTERISTICS

2.1.1 Teacher numbers and employment status

According to the 2006 Population Census, there were 2,109 'education' workers in Tonga. Figure 2.1 shows the numbers of primary school teachers employed at government and church schools between 2001 and 2010. Teacher numbers fell considerably in 2006 and 2007 as teachers took voluntary redundancy as part of the Government of Tonga (GoT)'s public sector reform programme.² However, teacher recruitment has increased appreciably during the last 3 years in response to GoT recognition of serious teacher shortages in both primary and secondary schools. PSC records indicate that, despite a general public sector recruitment freeze, a total of 37 teachers were recruited by MET in 2009, 32 in 2010, and 112 in 2011 (63 primary and 33 secondary).³

Figure 2.1: Government and church primary school teachers, 2001-2010



Source: EMIS, MET annual reports

In mid-2012, a total of 999 primary and secondary teachers were on the government payroll.⁴ In 2010, the church schools employed a total of 794 teachers— 101 at primary schools and 693 at secondary schools. Government teachers have permanent status

² According to the 2006 MET annual report, the total number of 'redundant posts' were as follows: Primary education – 22 non-teaching and 138 teaching. Secondary education – 3 non-teaching and 31 teaching. In total, 242 MET staff took voluntary redundancy.

³ MET Human Resources Department shows that 31 teachers (16 of who are on daily paid contracts) were recruited between January and June 2012.

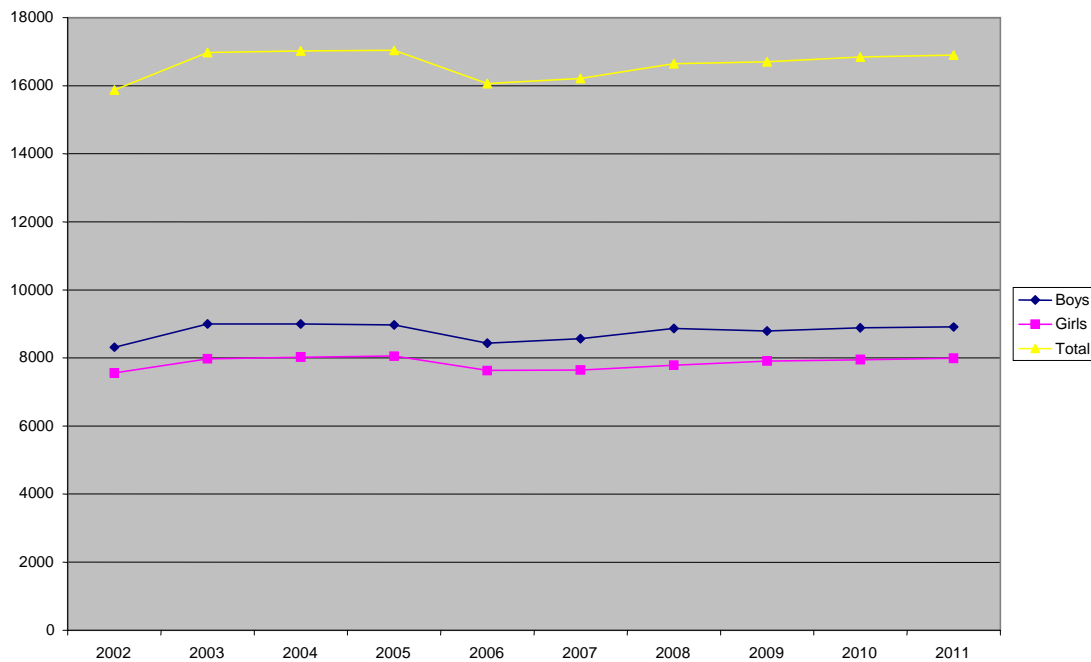
⁴ MET has also started to pay the salary costs of 'replacement teachers' for some teachers who enrol on the two qualification upgrading certificate courses at TIOE.

with less than 20 newly appointed teachers on temporary ('daily paid') contracts in mid-2012.

2.1.2 Primary education

Total enrolment at primary schools was 16,924 in 2011; almost two-thirds of students are enrolled at schools in Tongatapu, 15% in Vava'u, and 6% in Ha'apai. While total enrolments have remained relatively constant since 2002, student numbers have declined appreciably in Ha'apai (nearly 30%) and the Nuias (nearly 50%) (see Figure 2.2 and Annex Table 2.1).

Figure 2.2: Primary school enrolments by gender, 2002-2011



Source: EMIS, MET annual reports

There were 113 government and 18 church primary schools in 2011 with an average enrolment of around 129 students. A total of 666 teachers were employed at government primary schools in 2011 and 101 teachers at church primary schools in 2010 (see Annex Table 2.2). Females make up the majority of the primary school; 70% of all primary school teachers are women. The average number of teachers at a government primary school is almost six. However, around half of these primary schools have less than six teachers. Thirty schools have only one or two teachers to cover the six primary school grades. Multi-grade teaching is, therefore, very common.

Primary school teaching is generally seen as a less attractive career option than secondary for a number of reasons; teaching is class- rather than subject-based, promotion prospects and training opportunities are more limited, and teachers are likely to be posted to remote islands as part of their 'island service'.

2.1.3 Secondary education

There are 32 high schools (Forms 1-5/6/7) and 23 middle and 'side' schools (Forms 1-2/3). Total enrolments in 2011 were 5,169 and 9,669 respectively making a total of 14,838 students.⁵ Government secondary schools accounted for 31% of enrolments in 2011 (see Table 2.1 and Annex Tables 2.2 and 2.3).

Secondary schools in Tonga are generally quite small; average enrolments were 398 at high schools and 93 at middle and side schools in 2011. Seventy percent of middle/side schools and one quarter of high schools had fewer than 100 students (see Table 2.1).

Table 2.1: Size distribution of secondary schools, 2011

	<50 students	51-100	101-250	251-500	501-1000	1000>
High schools						
Government	0	1	1	2	1	2
Church	3	5	7	6	3	2
Middle/side schools						
Government	0	4	2	1	0	0
Church	4	5	2	2	0	0
All secondary schools	7	15	12	11	4	4

Source: EMIS

A total of 986 teachers (693 church and 293 government) were employed at secondary schools in 2011 (112 middle/side schools and 874 at high schools) (see Table 2.2). The number of government secondary school teachers has remained almost unchanged during the last 10 years while the number of church secondary school teachers has declined by about 50. Five high schools (Tonga HS, Tonga College, Liahona HS, Tupou HS, and Queen Salote HS) accounted for almost one third of all teachers. Ten high schools employed 53% of all teachers. Fifty-eight percent of secondary school teachers are women.

Table 2.2: Number of schools, enrolments and teachers in post at government and church secondary schools, 2010/11

	Schools			Enrolment			Teachers		
	High	Middle/side	Total	High	Middle/side	Total	High	Middle/side	Total
Government	8	7	15	4137	1032	5169	250	43	293
Church	24	16	40	8572	1097	9669	624	69	693
Total	32	23	55	12709	2129	14838	874	112	986

Notes: Teacher data is for 2010

Source: EMIS, MET annual reports

2.2 TEACHER EDUCATION, QUALIFICATION AND EXPERIENCE PROFILES

2.2.1 Education and training profiles

The amendment to the Education Act which is expected to be passed by Parliament later in 2012 stipulates that all teachers will have to apply for registration in 2015 and that only qualified teachers will be allowed to be employed in schools after this date so as to ensure that minimum standards of teaching are adhered to.

⁵Another 309 students were enrolled (during Semester 2) on preliminary and foundation courses at the College of Foundation Studies at the USP Tonga Campus.

Over 95% of primary school teachers are qualified which compares favourably to the 70-80% for other (developing) countries in the region. Whereas only one half of government primary school teachers were diplomates in 2002, this had increased to nearly 90% in 2010 (see Table 2.3). However, the negligible number of university-trained primary school teachers is noticeable.

Table 2.3: Education profile of primary school teachers, 2002 and 2010 (rounded percentages)

Ownership	Year	Degree	Diploma	Certificate	TUT/dip	Untrained
Government	2002	0	52	43	5	0
	2010	0	86	13	2	0
Church	2002	16	22	25	8	29
	2010	8	30	18	2	43

Source: MET Annual Reports

In 2010, 85% of teachers at government secondary schools were professionally qualified, but only 63% at church secondary schools. With regard to overall educational attainment, only around one third of secondary school teachers in Tonga are university graduates, which is low given the teaching standards required, especially in the senior forms. Furthermore, the proportion of graduate teachers has fallen since 2002, especially at government secondary schools. Around one quarter of teachers at church secondary schools only have certificate level training or secondary education (see Table 2.4). The weaker qualification profile of church-owned secondary schools is, in part, due to the difficulties of retaining teachers. The main reason for this is low pay (see Section 2.3).

Table 2.4: Educational attainment of teachers at government and church secondary schools, 2002 and 2010 (rounded percentages)

	2002	2010	Change
Government			
Post-graduate	7	5	-2
Bachelor	28	23	-5
Diploma	61	71	11
Certificate	3	1	-2
No post-secondary	1	0	-1
Total	100	100	
Church			
Post-graduate	5	4	0
Bachelor	28	26	-2
Diploma	40	42	2
Certificate	15	11	-4
No post-secondary	10	16	6
Total	100	100	
ALL			
Post-graduate	5	4	-1
Bachelor	29	25	-3
Diploma	46	51	4
Certificate	12	8	-4
No post-secondary	8	11	4
Total	100	100	

Source: MET Annual reports

2.2.3 Experience profiles

Around half of primary and secondary school teachers in Tonga have less than 10 years of experience(see Table 2.5).

Table 2.5: Years of service of primary and secondary school teachers (rounded percentages)

	<5	5-9.99	10-14.99	15-19.99	20-24.99	25-29.99	30>
Primary	17	31	16	11	7	5	10
Secondary	29	27	16	10	7	4	8

Notes: Missing data for 170 primary school teachers

Source: EMIS

2.3 PAY STRUCTURE

Teacher salary costs employed at government primary and secondary schools account for around 95% of the total MET recurrent budget. Government teachers were awarded 60-80% salary increases in 2006. Nearly 80% of the 999 teachers on the government payroll are diploma qualified and are on Grade 11/9. Another 10% of teachers are 'assistant graduate teachers' on Grade 9 (see Table 2.6). The current average annual pay (including all benefits) of a diploma qualified teacher at a government school⁶ is TOP19,000 and for a university graduate it is TOP22,100.⁷

Table 2.6: Main teacher positions, grades and salary ranges, 2012

Position	Grade	Number	Salary range
Assistant teacher graduate	9	96	17,762-26,043
Assistant teacher diploma	11/9	190	14,394-20,199
Senior assistant teacher diploma	11/9	534	14,394-20,199

Source: Ministry of Finance payroll data

The teacher pay structure has a number of positive features. Firstly, teachers are paid according to their qualification level so there are no large pay differentials between primary and secondary school teachers with the same qualifications. Secondly, there is quite a strong monetary incentive for diploma level teachers to upgrade their qualifications to the degree level. The main shortcoming is that career and pay progression based on regular merit-based promotions and other performance assessment is limited. The maximum pay for classroom teachers with many years of service is only 45% more than their starting pay. Consequently, the age/experience-earnings profiles of all teachers are quite flat, which can be demotivating. This is especially the case for primary school teachers where, as noted above, career advancement prospects are more limited than secondary school teachers.

Teacher pay at church schools is generally at least two times less than for government teachers. For example, average teacher pay at Free Wesleyan Church (FWC) schools is TOP10,600 per annum. One of the advantages of the strong preference of most churches to employ teachers who belong to their church is that they cost less. At some schools, teachers are employed as 'volunteers'. The Government currently pays a

⁶The Ministry of Finance cannot easily separate primary and secondary teachers who are on government payroll. It is not possible, therefore, to analyse the salary profiles of diploma level teachers at primary and secondary schools. Nor is it possible to generate pay-experience profiles.

⁷1 AUD equals 1.85 TOP as of the 15 August 2012.

monthly salary subsidy of TOP400 for teachers at church secondary schools. Most school fee income is also allocated to teacher salaries.

PART B: TEACHER DEMAND

3.1 TEACHING POST REQUIREMENTS 2012-2021

3.1.1 Projected enrolments

This section presents enrolment projections for primary and secondary schooling between 2012 and 2021. Robust projections should be based on detailed research and planning, which examines all the key determinants of enrolments and expenditures. As will be discussed in this section, there is always a degree of uncertainty in making projections of this kind. With regard to primary schooling, this is less the case in Tonga where most children already complete primary school, and enrolment rates in secondary education are also high. Repetition rates are also quite low.

The enrolment simulations presented in this report are based on a slightly adapted version of the widely used UNESCO model. Two sets of scenarios have been adopted for the current exercise, which have been called 'status quo' and 'target UBE'. The status quo scenario assumes that no changes occur in any of the basic parameters that determine overall enrolment rates for both primary and secondary schooling, in particular, intake, repetition, drop-out and transition rates. The target UBE scenario, on the other hand, changes these parameters over time in accordance with specific educational policy objectives, particularly with regard to the attainment of UBE.

3.1.2 Key determinants

The two key determinants of the size of school enrolments are the current and likely future size of the primary and secondary school-age populations and, secondly, the proportions of these populations that will attend and complete school. The critical population parameter for modelling purposes is the number of children aged 6 who will enrol in primary school.⁸ The actual number of children who will attend school depends crucially on the implementation of national educational policies, especially with regard to compulsory school attendance (currently up to 14 years old), progression to and completion of secondary school, and grade repetition.

The five main school-level parameters that determine the numbers of children who will attend primary and secondary schools are the annual gross intake/admission rates of 6-year-old children into primary school, grade-specific repetition and (permanent) drop-out rates, and the transition rates from primary to junior secondary (Forms 1-5) and from junior to senior secondary school (Forms 6-7). Target values have to be set for each of these parameters for each year over the next 10 years, which are in line with the current or likely⁹ education policy goals in Tonga.

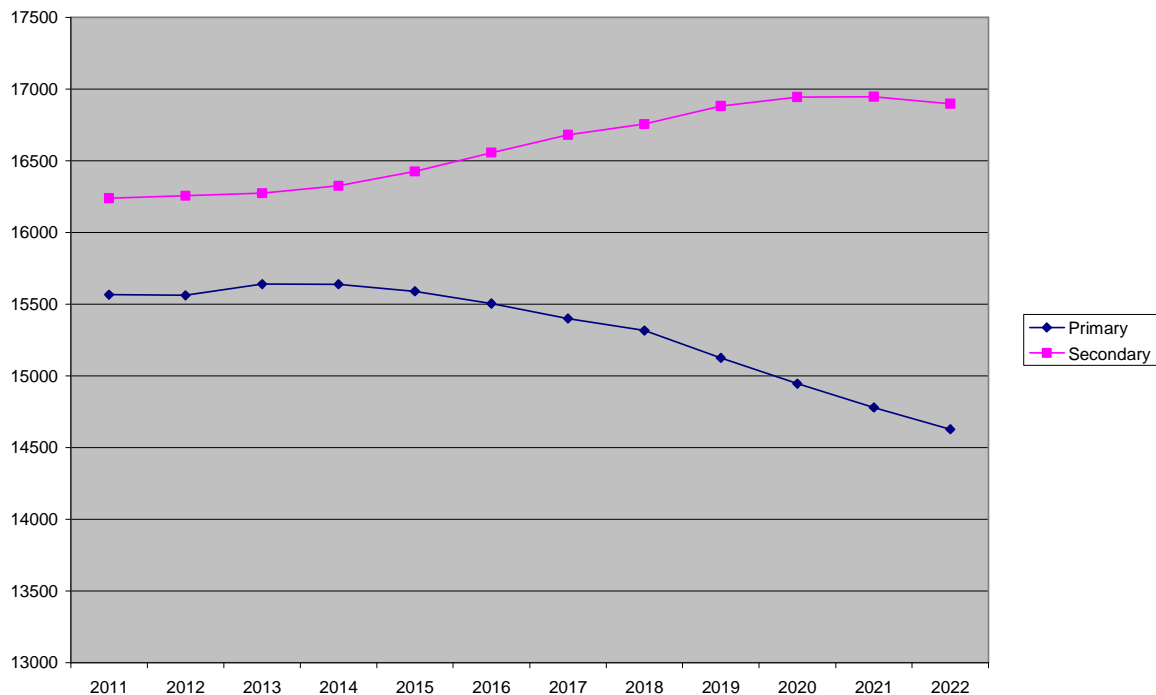
⁸ Many children in Tonga enrol in Class 1 at the age of 5 and many also do not enrol until they are 7 or even 8-years-old, but this does not make a great deal of difference with respect to the overall requirements for teachers.

⁹ Key policy objectives including the implementation of the 4-18 UBE target and the introduction of vocational pathways have not been finalised.

3.1.3 The school age population

Estimates of the future growth of the school-age population are based on population projections made by demographers using data from the most recent national population census in 2006.¹⁰ According to these projections, the size of 6-yearold primary school intake will decline by nearly 9% between 2012 and 2022. This is mainly because of projected high net emigration from the island. The overall primary school age population (6-11 years) will decline by 6.0% while the secondary school age population (12-18 years) will increase slightly by 4.4% during this period (see Figure 3.1).

Figure 3.1 : Projected primary and secondary school-age populations, 2011-2022



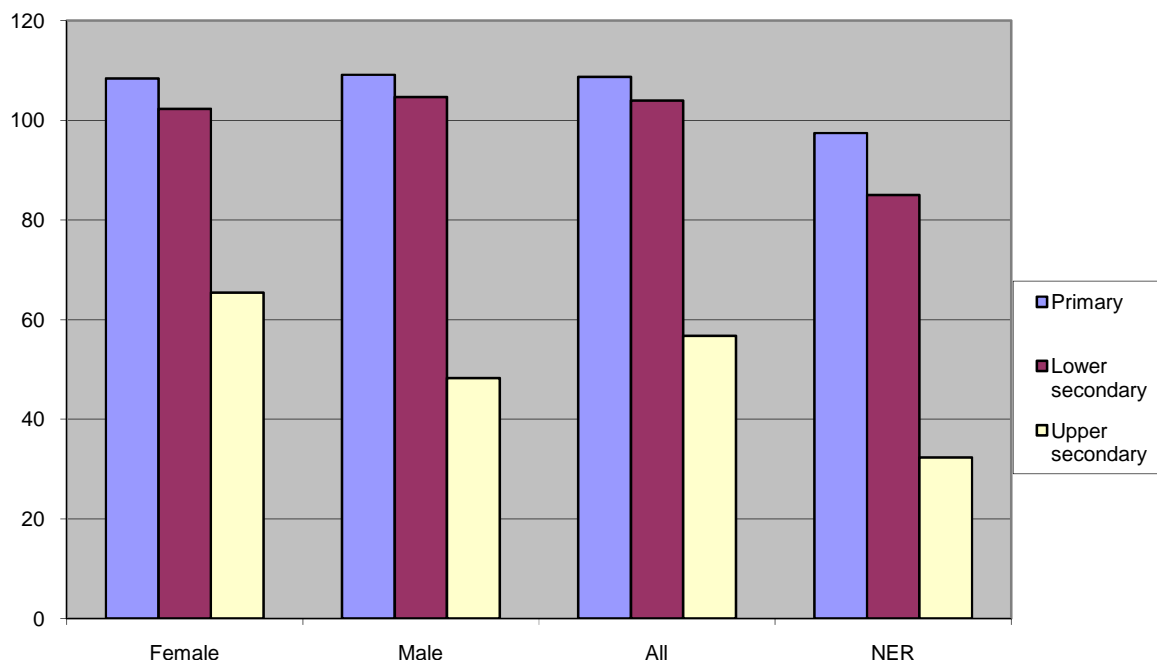
3.1.4 Key school parameters

Gender differences with respect to schooling are fairly small for nearly all key enrolment and other key schooling parameters in Tonga (with the exception of enrolment rates in upper secondary schooling). Thus, in order to simplify the analysis, aggregate statistics are used throughout this report.

In 2011, the gross enrolment rates (GER) for both primary (Classes 1-6) and lower secondary schooling were above 100% (see Figure 3.2). However, the GER for upper secondary schooling (Forms 6-7) was only 58%. The net enrolment rates (NER) for these three levels of schooling were 99%, 82% and 47% respectively.

¹⁰Data from the 2011 Population Census was not available in time for the completion of this report.

Figure 3.2: Gross and net enrolment rates for primary and lower and upper secondary education, 2011



3.1.5 Gross intake rates

All children in Tonga are expected to start primary school at the age of 6. The primary school gross intake rate was 108.5% in 2011. This rate is over 100% due to early and late entry to primary school.

Almost all children in Tonga complete primary school. The universal primary education Millennium Development Goal has, therefore, already been met in Tonga. For both the target UBE target enrolment scenarios, it has been assumed that the intake rate declines steadily to 100% by 2016/17 as government progressively enforces compulsory enrolment of all children into primary education starting from the age of 6.

3.1.6 Repetition rates

Grade repetition is generally low in primary schools in Tonga. Automatic progression is enforced in all government primary schools, but up to 20% of children repeat Class 6 in the hope of getting better results in the secondary school entrance examination. According to Examination Department records, 570 students repeated Class 6 in 2010 (latest year available). Data is somewhat fragmentary, but it would appear that Class 6 repetition rates have decreased quite appreciably during the last 10 years.¹¹ Repetition data collected for the Education Management Information System (EMIS) have been used for Class 1 to Class 5 for the simulation modelling.¹²

¹¹ Class 6 repeaters were reported to be 1,171 in 2002 and 727 in 2007.

¹² EMIS data indicate that there were only 156 repeaters in Class 6 in 2011, which would appear to be an under-estimate.

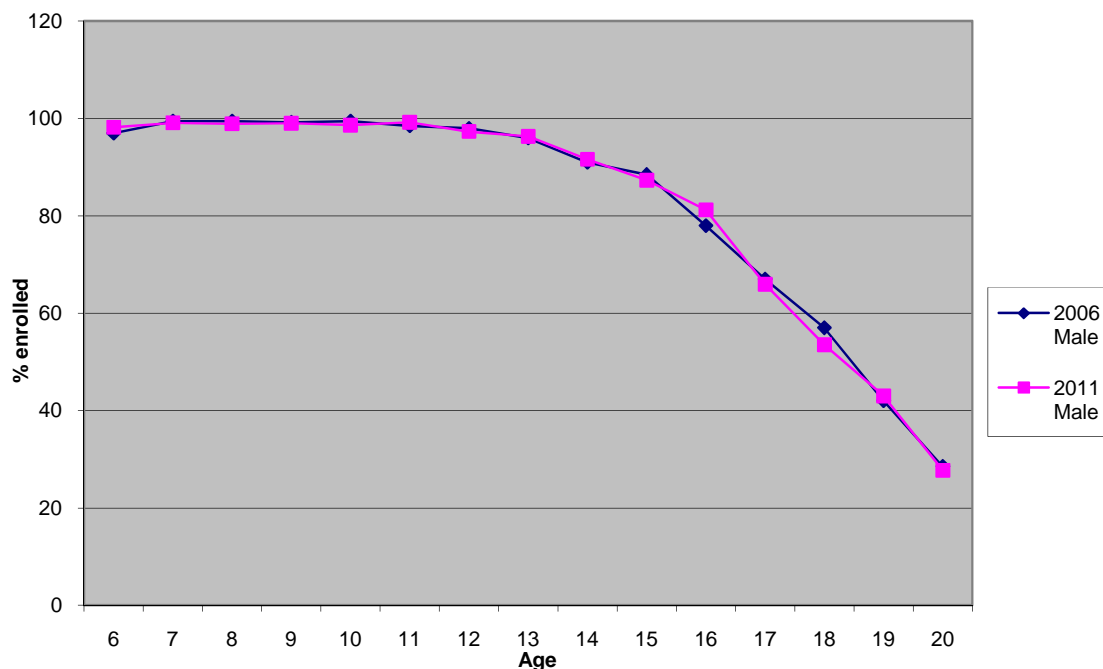
Repetition rates are also low in secondary schools in Tonga. Again, the main exceptions are the relatively large numbers of Form 5 and Form 6 students who decide to re-sit the Tongan School Certificate (TSC) and Pacific Senior Secondary Certificate (PSSC) examinations respectively. For Form 5, this repetition rate was 20% in 2009 and 17% in 2010 and for Form 6 students it was 15% in 2010. EMIS has not collected repetition data for government and church secondary schools since 2006. This data has been specifically requested, therefore, as part of the church secondary school survey and, for government schools, directly from the Deputy Director Schools.¹³ Until this information is available, the simulation modelling is based on the 2006 repetition data.

MET does not have any specific policies and related time-bound targets with regard to grade repetition. Under the target UBE enrolment scenario, therefore, it is assumed that, given continued strong competition to obtain places in government high schools, repetition rates in Class 6 will only gradually reduce to zero by 2017 and repetition rates in the secondary school grades will be halved by 2016 and only become zero in 2021.

3.1.7 Never-attenders and drop-outs

Virtually all children attend primary school in Tonga. According to the 2011 Population Census, only 0.5% of the 15-19 age group had never attended school. These are likely to be children with more serious disabilities/special needs. Drop-out rates in primary school also appear to be minimal (see Figures 3.3 and 3.4).¹⁴ For the target and target constrained UBE enrolment scenarios, it has been assumed, therefore, that primary school drop-out rates remain at zero over the next 10 years.

Figure 3.3: % males in education aged 6-20 years old, 2006 and 2011

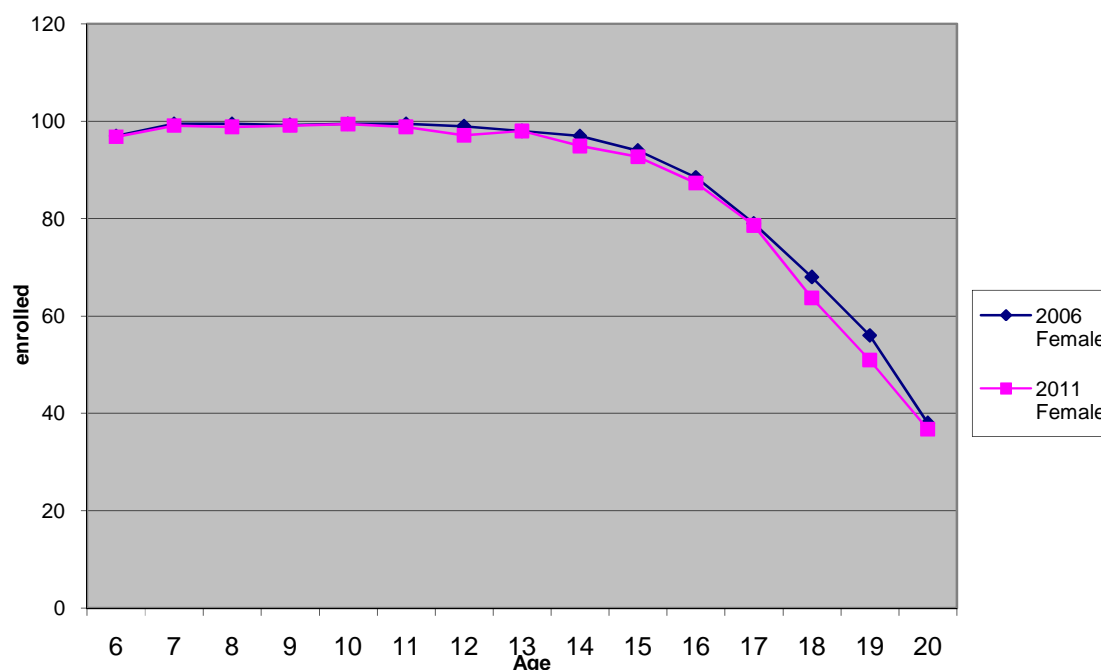


¹³ Based on monthly enrolment returns submitted by all schools.

¹⁴ However, UNESCO statistics report a survival rate to Class 6 of 91% in 2005 (i.e. an overall drop-out rate of 9%.)

Source: 2006 and 2011 Population Censuses

Figure 3.4: % of females aged 6-20 enrolled in school, 2006 and 2011



Source: 2006 and 2011 Population Censuses

No reliable estimates of secondary school dropouts are available in Tonga.¹⁵ The age-specific drop-out rates that can be derived from the 2011 Population Census educational attainment profile indicate that dropout is relatively low in the 12-14 age group, but then increases markedly in the 15-17 age group (especially for boys) (see Figures 3.3 and 3.4).¹⁶ Cohort analysis can also be used to derive grade-specific drop-out rates, but the lack of recent repetition data for secondary schools makes it difficult to derive robust estimates. However, if it is assumed that repetition rates have remained at their 2006 levels for Forms 1-4 and are 17% for Form 5 and 15% for Form 6, drop-out rates are as follows: Form 1 9.1%, Form 2 10.5%, Form 3 13.2%, Form 4 8.0%, Form 5 30.5% and Form 6 45%.

Under the UBE target scenario with an NER of 100% in the secondary school age group 12-18 by 2021, repetition and drop-out rates will be zero for all forms. However, the relatively high direct and indirect (opportunity) costs of secondary education will continue to be a major factor constraining the attainment of UBE in Tonga. The findings of the 2009 Household Income and Expenditure Survey show that household expenditure on education still remains substantial. Moreover, on the supply side, it is unlikely that government and church providers would be able to provide sufficient secondary school places for the entire 12-18 age group. For the UBE target enrolment scenario, it is assumed, therefore, that for all grades, drop-out rates halve by 2016, and then decline to zero by 2021 (see Table 3.1).

¹⁵ The few EMIS drop-out estimates include transfers to other schools.

¹⁶ Again, the 2011 Population Census will enable an up-to-date assessment of educational attainment and dropout, which will be invaluable for planning and policymaking.

Table 3.1: Status quo and UBE target enrolment scenario parameters

	Intake/transition rate			Repetition rate		Drop-out rate	
	2012	2017	2022	2017	2022	2017	2022
PRIMARY							
Status quo	109	109	109	no change	no change	0	0
Target UBE	109	105	100	Half 2012	0	0	0
JUNIOR SECONDARY							
Status quo	89	89	89	no change	no change	no change	no change
Target UBE	89	94	100	Half 2011	0	Half 2011	0
SENIOR SECONDARY							
Status quo	70	70	70	no change	no change	no change	no change
Target UBE	70	85	100	Half 2011	0	Half 2011	0

3.1.8 Transition rates

The transition rate from primary to junior secondary education (i.e. the percentage of (non-repeating) children in Class 6 who then proceed to Form 1) was 89% in 2010.¹⁷ This figure was reported by UNESCO to be 77% in 2005. The costs and perceived quality of secondary education are probably the main barriers preventing a small minority of children from advancing to Form 1 although the accessibility of secondary schools may also be an issue in some remoter locations.

For the target UBE enrolment scenario, it has been assumed that the primary to secondary transition rate will increase steadily to 94% in 2017 and then reach 100% in 2021/22. The transition rate from lower secondary (Form 5) to senior secondary (Form 6) was 70% in 2010. The projected increase in Form 5 enrolments will lead to a significant increase in the demand for senior secondary school places and thus, just maintaining the transition rate at its current level, will be challenging. Consequently, the target UBE scenario assumes that the junior to senior secondary transition rate increases steadily to 85% by 2017 and reaches 100% by 2021 (see Table 3.1).

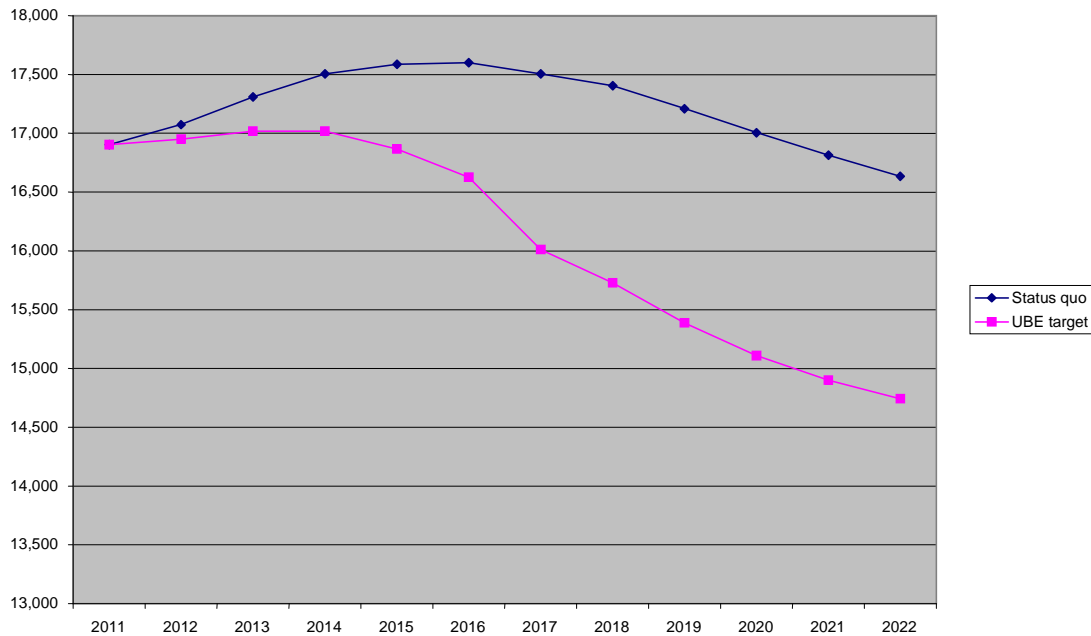
3.2 PROJECTED ENROLMENTS

3.2.1 Primary education

Figure 3.5 presents the projected national enrolments for primary schooling for the 10-year period 2012 to 2021. The projected UBE target enrolments are considerably lower than the status quo scenario enrolments (by around 1,500 in 2017 and around 2,000 in 2021) because of the lower admission (gross intake) rate, and, in particular, the assumed reductions in repetition rates by 2021.

¹⁷ Educational attainment data from the 2006 Population Census indicates that 95% of all 20-24 year olds had completed some secondary education, so that the overall progression rate from Class 6 to Form 1 for this group was 95% and that only 5% did not make this transition.

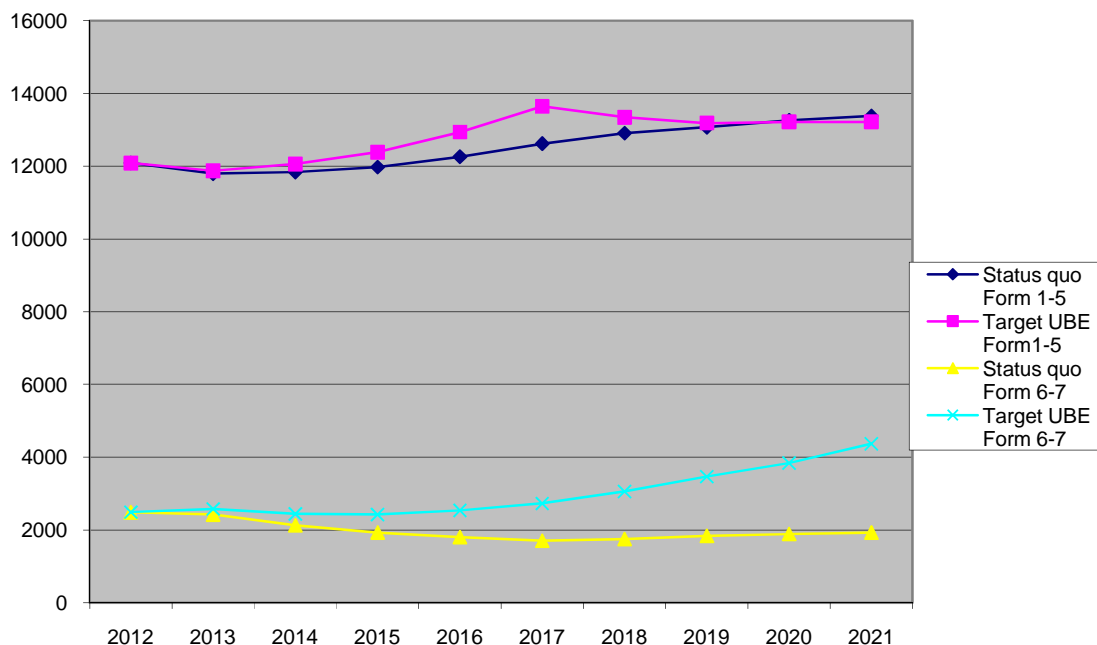
Figure 3.5: Projected primary school enrolments for status quo and UBE target scenarios, 2012-2022



3.2.2 Lower and upper secondary education

For lower secondary education (Forms 1-5), projected target UBE enrolments are quite similar to projected status quo scenario enrolments, mainly because the assumed lower repetition and drop-out rates under the target UBE scenario roughly cancel each other out with respect to their impact on future enrolments (see Figure 3.6). Over the next 10 years, for both scenarios, lower secondary enrolments will increase by around 12% from 12,000 to 13,500.

Figure 3.6: Projected secondary school enrolments under the status quo and UBE target scenarios, 2012-2021



Projected enrolments for upper secondary schooling (Forms 6 and 7) remain largely unchanged under the status quo enrolment scenario. By contrast, under the UBE target scenario, projected enrolment rate increases for senior secondary education are very large mainly because of the assumed sizeable increase in transition rates and reductions in drop-out rates. Under this scenario, total enrolment is projected to double from 2,500 in 2011 to 5,000 by 2021. The affordability of such an expansion (especially if GoT takes on more of the financial burden) is, therefore, a major issue.

3.3 TEACHER UTILISATION

In addition to projected enrolments, the other major set of determinants of future teacher demand is how teachers are utilised in schools. The key staffing parameter is the STR. This has two components, namely teaching load and class size. The lower the teaching load and the smaller the classes taught, the greater the number of teachers that will be required for any given group of students and vice-versa.

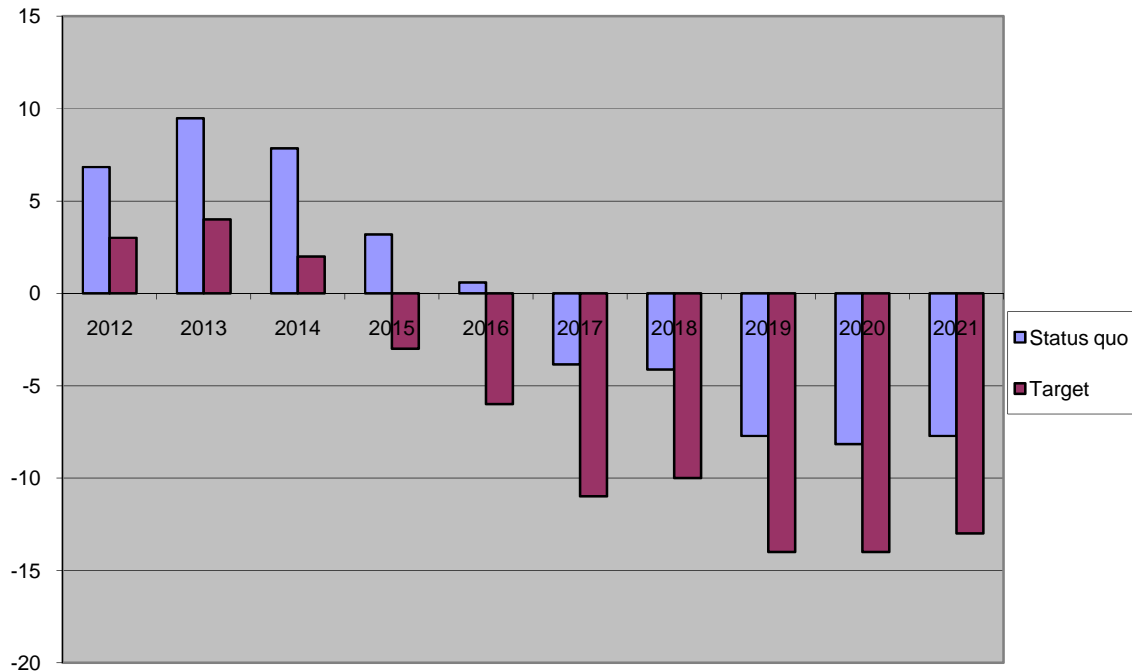
3.3.1 Teaching post requirements based on current STRs

Primary education: There are no specific policy objectives/targets with regard to future student-teacher ratios in primary and secondary schools in Tonga. The overall STR for primary education is currently around 25:1. Assuming that this continues to be the *de facto* overall staffing norm for primary schooling over the next 10 years,¹⁸ 10 fewer teaching posts will be required by 2021 for the status quo enrolment scenario and 76 fewer posts for the UBE target scenario. A limited number of new posts would need to

¹⁸ The staffing norm for primary schools adopted for countries benefiting from the Fast Track Initiative (FTI) is 30:1. The more general UNESCO norm is 25:1.

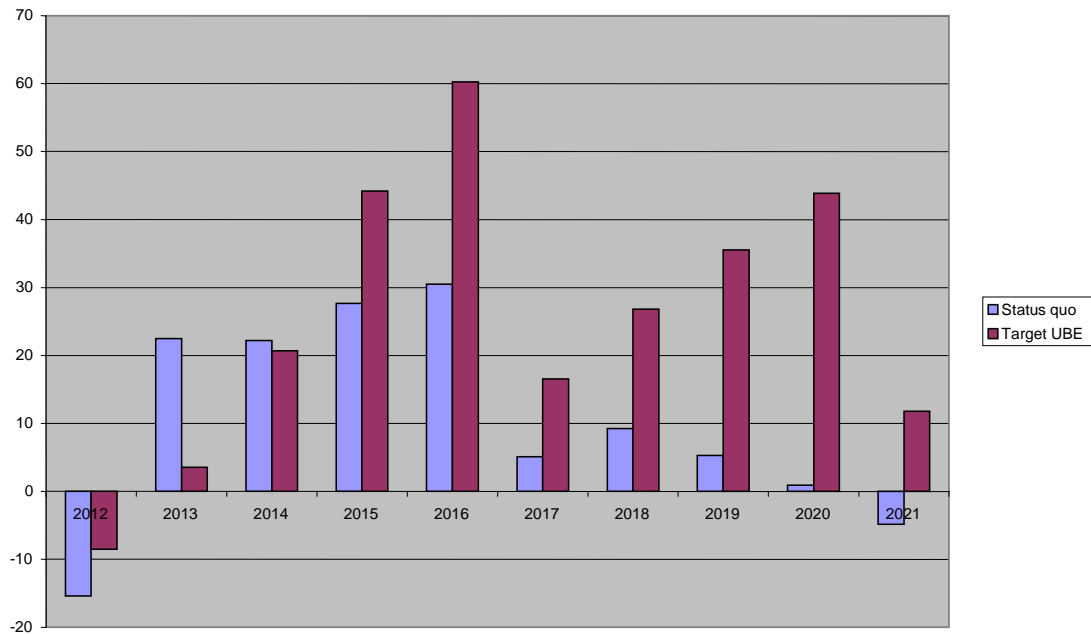
be created over the next 3-4 years, but thereafter fewer posts would be needed as a result of declining total enrolments, especially under the target UBE scenario (see Figure 3.7).

Figure 3.7: Additional teaching posts required for primary schools under the status quo and target UBE scenarios, 2012-2021



Secondary education: The current STR for secondary education is 15:1. Again, assuming that this continues to be the *de facto* staffing norm for secondary education over the next 10 years, then the total additional teaching posts under each of the two enrolment scenarios can be readily calculated (see Figure 3.8). For lower secondary education (Forms 1-5), under the UBE target scenario, an average of 21 additional posts will be required each year between 2012 and 2016 and an average of six fewer posts each year between 2017 and 2021. The corresponding figures for upper secondary schools are three posts and thirty posts per year for these two periods. For secondary schools as a whole, under the UBE target enrolment scenario, an average of around 25 posts a year would need to be created during the next 10 years compared to only 10 for the status quo enrolment scenario.

Figure 3.8: Additional teaching posts required for secondary schools under the status quo and target UBE enrolment scenarios, 2012-2021

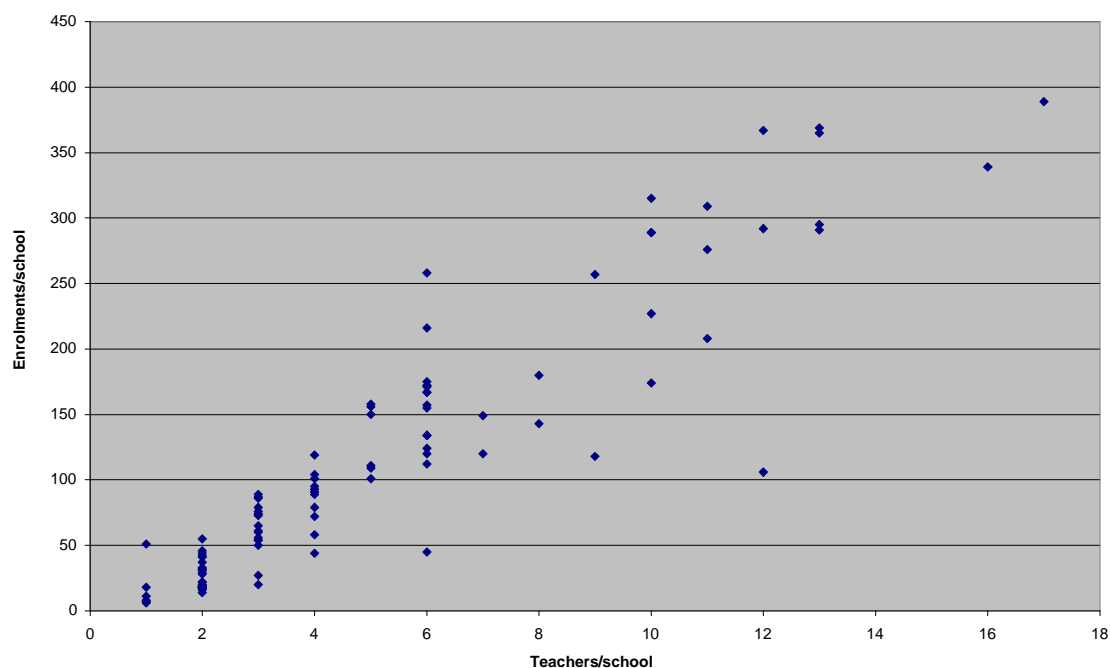


3.3.2 Proposed staffing norms for primary education

The current overall STR of 25:1 for primary schools conceals some sizeable variations in the individual STRs of the 111 government primary schools (see Figure 3.9 and Table 3.2). For example, schools with enrolments of between 140 and 160 students have anything between five and eight teachers. To some extent, such dispersion in primary school STRs is to be expected given the exceptional staffing needs of very small schools, which are typical in countries such as Tonga with widely dispersed islands, the majority of which have tiny primary school-age populations. But, there are still variations in STRs, which cannot be accounted for by school size¹⁹.

¹⁹It is possible that some of the more extreme outlier schools may be based on inaccurate data.

Figure 3.9: Scatter plots of enrolments and teachers at government primary schools, 2011



Source: EMIS

Table 3.2: Enrolments and teachers at government primary schools by school size (students), 2011

School size (students)	Number schools	Total enrolment	Teachers in post	Average enrolment	STR	Recommended teachers
1 to 20	19	308	35	16	9	34
21-50	17	604	42	36	14	41
51-100	23	1,620	72	70	23	82
101-150	18	2,178	115	121	19	98
151-200	12	2,004	76	167	26	75
201-300	12	3,143	122	262	26	125
301-400	10	3,386	130	339	26	128
400>	4	2,684	109	671	25	109
Totals	115	15,927	701	138	23	692

Source: EMIS

The proposed staffing norms for primary schools, which are presented in Table 3.3, are based on the considerably lower STRs that are needed in small schools where multi-grade teaching is the norm.

Schools with 1-40 students have been allocated two teaching posts and schools with 41-90 students have three posts. The STR staffing norm for schools with larger enrolments is 25:1. If teacher deployment is undertaken according to these staffing norms, then the enrolment-teacher primary school scatter plots are less dispersed (see Figure 3.10) and the overall STR is slightly lower at 23:1. The main impact of these staffing norms would be to reallocate teachers from relatively well-staffed schools with enrolments in the range

of 101-150 to under-staffed schools in the 51-100 enrolment range (see Annex Figure 3.1).

Figure 3.10: Scatter plots for enrolments and teachers based on the proposed staffing norms for primary schools

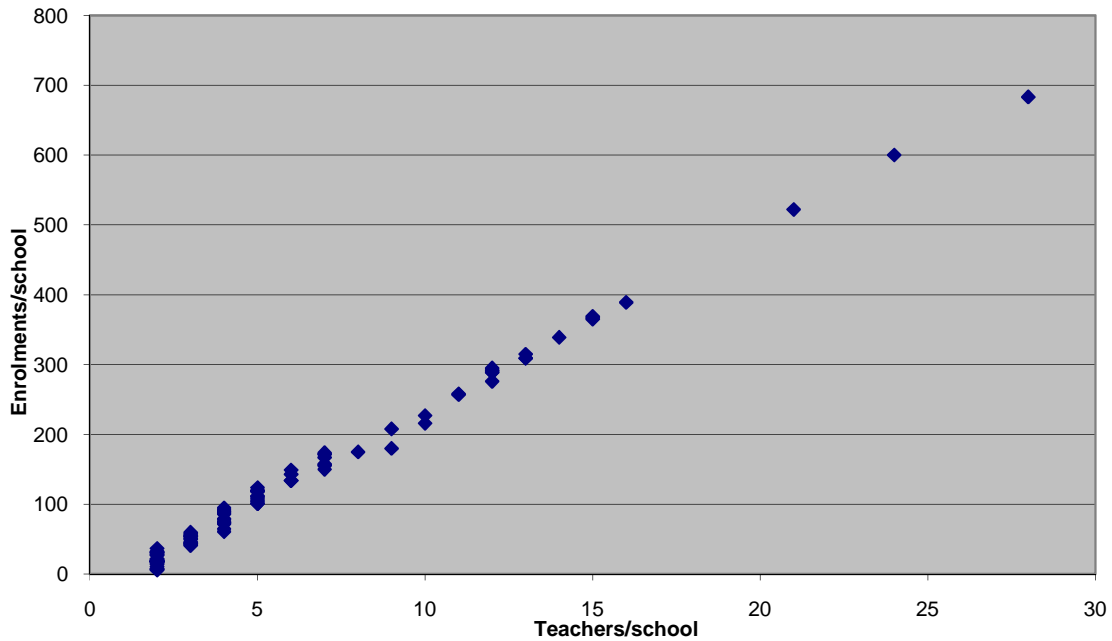


Table 3.3: Proposed staffing norms for primary schools according to school size/enrolment

School size (students)	Number teachers	STR range
1-40.	2	1-20.
41-60	3	13-20
61-100	4	15-25
100-124	5	20-25
125-150	6	21-25
150>	6>	25

Given the current patterns of internal migration within Tonga,²⁰ the larger schools which are mainly located in Tongatapu will account for a growing share of primary school enrolments and, consequently, the overall STR is likely to increase (by as much as three to four) over the next 10 years. But, the STR staffing norm should be maintained at around 25 so as to allow for additional posts needed for specialist early grade teachers.

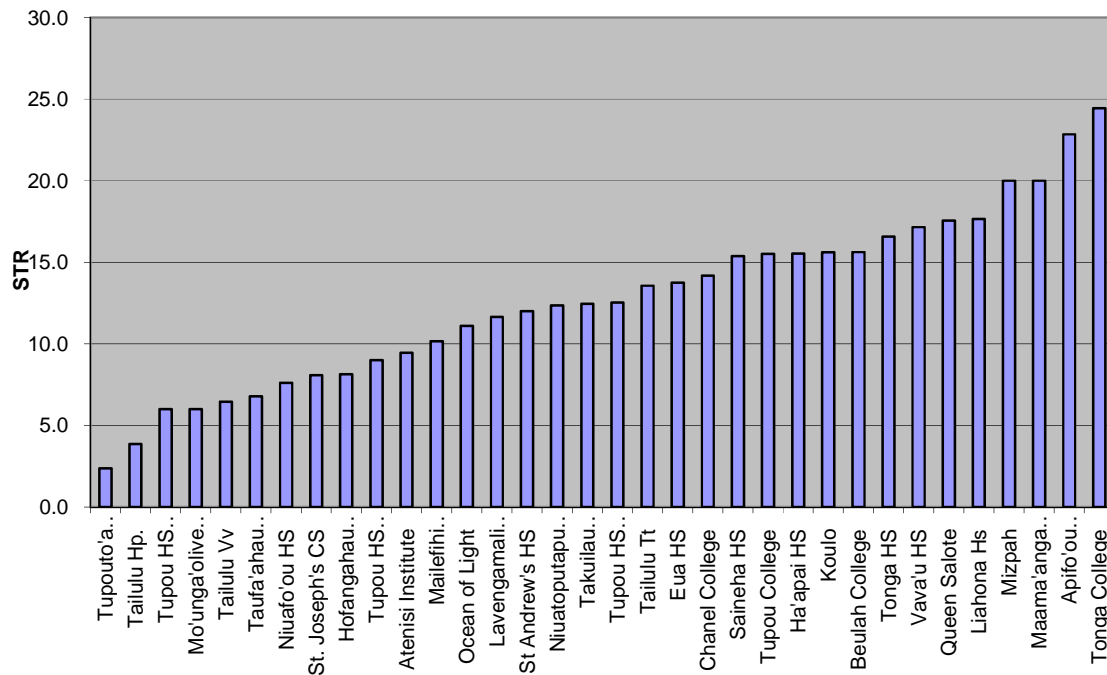
²⁰ The preliminary results of the 2011 Population Census show that annual population growth rate for the country as a whole is only 0.2% (Tongatapu 0.8%, Ha'apai -2.6%, Vava'u -0.7%, Eua -0.8% and the Nuias -5.2%).

3.3.2 Proposed staffing norms for secondary education

Current student-teacher ratios: Many countries have an overall STR staffing norm for secondary schools. For example, in Vanuatu, the prescribed STR norm is 25:1. In practice, these types of norms are too crude to be able to take into account the complexities of subject-based teaching in secondary schools with a relatively large number of core and elective subjects. Thus, as is commonly the case, the number of teaching posts in each high and middle school in Tonga is determined by the number and size of classes/streams in each school, the teaching loads of teachers, and the number of elective subjects that are offered in Forms 3-7.

This said, the overall secondary school STR in Tonga is quite low compared to other developed and developing countries²¹ so consideration should be given to how this could be increased thereby achieving major improvements in teacher utilisation and thus resource efficiency. This is especially important if GoT succeeds in taking on more of the responsibility for the funding of secondary education. Low teaching loads, low teacher flexibility (with respect to number of subjects and grades taught), small class sizes, and curricula with relatively large numbers of elective subjects are typically the main reasons for low STRs.

Figure 3.11: Student-teacher ratios at high schools in Tonga, 2010



Source: MET annual report

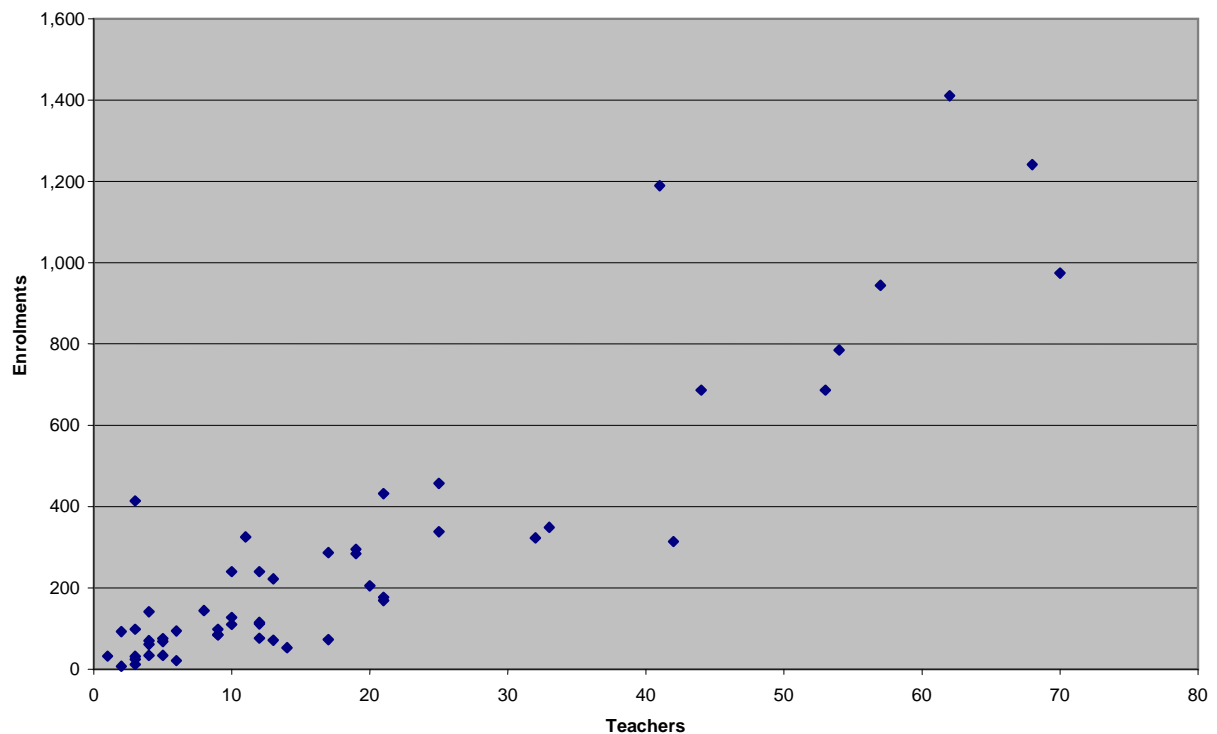
The low secondary school STR conceals large differences in the STRs of individual schools, and high schools in particular. Figure 3.11 shows that 11 high schools have STRs of less than 10 whereas four schools have STRs of over 20. School size and school ownership are the key reasons for these large inter-school STR variations. Small schools, especially those with less than 100 students, have particularly low STRs. These

²¹ The secondary STR is 17 in Kirabati, 22 in Vanuatu, 19 in Fiji, 21 in Nauru, Western Samoa and Papua New Guinea.

small schools employ relatively large numbers of teachers because of the need to teach the core compulsory subjects as well as at least some (typically around half) of the 17 elective subjects that are prescribed in Forms 3-5 and are examined for the TSC. This has been further exacerbated by the decline in enrolments at the majority of church secondary schools during the last decade (see Annex Figure 3.2).

The high dispersion of enrolment-teacher scatter plots also indicates that the way the secondary schools are staffed varies considerably from one church to another (see Figure 3.12).

Figure 3.12: Teacher-enrolment scatter plots for secondary schools, 2010



Source: EMIS

Teaching loads: Primary education is based on class (as opposed to subject) teaching so all teachers spend the entire day with their own allocated classes. Their teaching load is, therefore, around 30 periods per week. By contrast, subject teaching is the norm in secondary school classes from Forms 1 to 7. The prescribed teaching load norm for government secondary school teachers in Tonga is 85% of the 30-period teaching week i.e. 25-26 (mostly 45-minute) periods per week. No maximum teaching load is prescribed. There is considerable dispersion in the mean number of periods taught each week by teachers at high and middle schools in 2011 for which data are available (see Figure 3.13). Also, no strong relationship (either negative or positive) is apparent between school size and teaching load. The aggregate teaching load for all secondary school teachers is 22 periods²²(around 16 hours), which is relatively low compared with teaching loads for secondary teachers in other countries (see Table 3.4). Again, there is very considerable variation in mean teaching loads between high schools.

²²This excludes principals and other teachers in senior management positions (such as heads of departments).

Figure 3.13: Mean weekly teaching periods at high schools, 2012

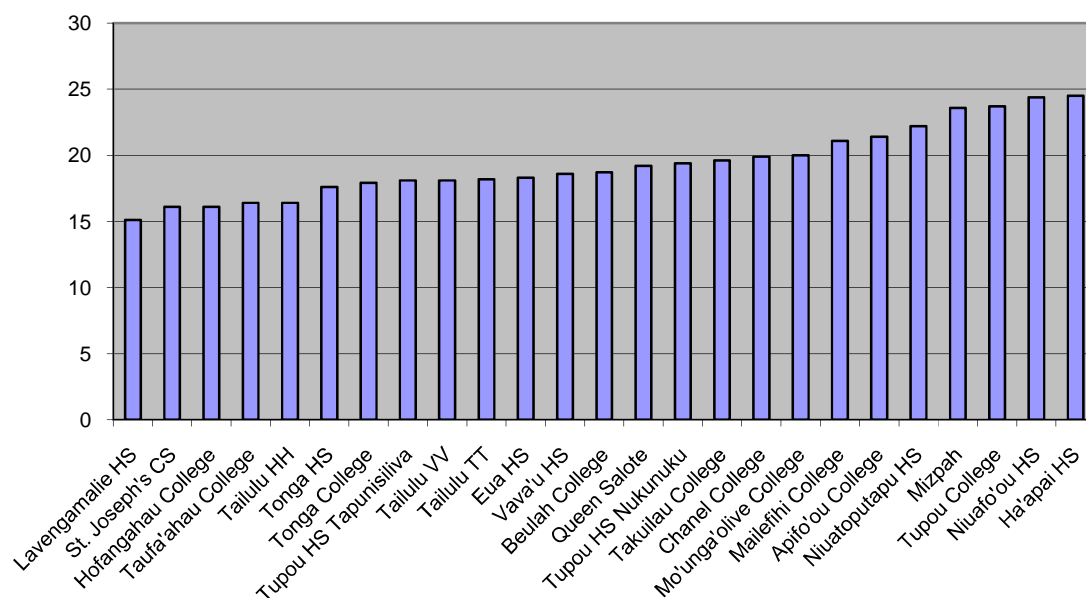


Table 3.4: Teaching loads for secondary school teachers in selected countries, 2003 (rounded hours/week)

Country	Junior Secondary	Senior Secondary	Country	Junior Secondary	Senior Secondary
Ireland	22	22	Jordan	22	22
New Zealand	25	25	Malaysia	20	20
Scotland	23	23	Paraguay	21	24
USA	31	31	Peru	32	32
OECD mean	19	19	Philippines	29	29
Other countries			Russia	27	27
Argentina	24	24	Thailand	16	16
Brazil	24	24	Tunisia	18	18
Chile	20	20	Uruguay	12	12
Egypt	22	22	Zimbabwe	26	26
India	21	21	Vanuatu		
Indonesia	17	17			
Jamaica	25	25			

Source: UNESCO, OECD

Teacher flexibility: Most secondary school teachers teach both their major and minor subjects and, if need be, are also required to teach English and Tongan. Teacher flexibility is, therefore, relatively high in Tonga. Diploma teachers are not supposed to teach higher grades (Forms 5-7), but shortages of university graduates means that they frequently have to do so.

Class size: The *de facto* class size norm for government secondary schools in Tonga is 30-35 students (which is typical for middle income developing countries such as Tonga). However, in small schools, class sizes for the core subjects are typically less than 20 and are frequently less than 10 in the senior grades. Class sizes can be even smaller for elective subjects. Annex Table 3.1 shows the number of Tongan Society and Culture

(TSC) electives offered by high schools and enrolments for each core and elective subject in Form 5.

Staffing norms: The proposed staffing norms for secondary schools are (i) a teacher work load of 25 periods per week²³ and (ii) a class size norm of 30 with classes being divided once enrolments reach 40. Using these norms it is possible to calculate the number of teachers that would be required for each school based on their current enrolments in core/compulsory and elective subjects (see Annex Table 3.4). These are not precise estimates because detailed information on individual form enrolments at every school is not currently available. For this reason, schools have been classified according to the number of streams per form based on the class size norm of 30 students and total enrolments in Form 5. Thus, schools with less than 180 students (and with fewer than 40 students in Form 5) are one-stream schools, schools with 40-79 students in Form 5 are classified as two-stream schools, 80-119 students three streams, and 120-149 four streams, etc.

Table 3.5 shows the total number of periods required to deliver compulsory and (currently offered) elective subjects in Forms 1-7 for high schools in Tonga. With the teaching load norm of 25 periods per week, this translates into a total teacher requirement of 530.

²³If it is felt that this work load norm is too high, then it can be adjusted downward and the number of teachers required also adjusted accordingly. For example, with a norm of 20 periods a week, 20% more teachers will be required than with a norm of 25 periods.

Table 3.5: Teaching period requirements for high schools based on proposed staffing norms and current number of elective subjects at each school.

High School	Total enrolment	Form 5 enrolment	Periods				Total
			Form 1-2	Forms 3-5	Form 6	Form 7	
One stream							
Beulah	222	37	0	120	70	0	190
Hofangahau	73	9	60	150	0	0	210
Mo'unga'olive	84	15	60	135	0	0	195
Niuafo'ou	76	17	60	135	0	0	195
Niuaatoputapu	115	18	60	150	0	0	210
Mizpah	144	22	60	120	0	0	180
St Joseph's	111	15	60	165	0	0	225
Tailulu HP	71	8	60	135	0	0	195
Tailulu VV	169	30	60	180	0	0	240
Nukunuku	110	13	60	120	50	0	230
Tafa'ahau	177	26	60	165	0	0	225
Tapunisiliva	35	11	60	120	0	0	180
Tupouto'a	21	3	60	75	0	0	135
Two streams							
St Andrew's	323	35	120	225	60	0	405
Chanel	284	60	120	210	60	0	390
Eua	349	68	120	285	75	0	480
Ha'apai	295	71	120	225	60	0	405
Lavengamalie	205	55	0	210	55	0	265
Mailefihi	314	52	120	240	60	0	420
Tailulu TT	432	75	120	225	65	0	410
Takuilau	338	49	120	210	60	0	390
Three streams							
Saineha	457	92	0	300	70	45	415
Tupou College	785	91	180	315	80	60	635
Vaololoa	686	104	180	315	105	0	600
Vava'u HS	686	83	180	330	125	55	690
Five streams							
Apifou'ou	1189	124	300	405	95	0	800
Queen Salote	974	161	300	450	105	55	910
Seven streams							
Tonga College	1411	210	420	600	145	60	1225
Tonga HS	1241	211	420	615	165	125	1325
11 streams							
Liahona HS	944	341	0	900	245	70	1215

Note: Form 5 TSC exam enrolment

To this should be added posts for principal and head of department. It has been assumed that each high school has one full-time principal and, on average, three (full-time equivalent) heads of department posts. Including these additional 120 management posts increases the total teaching post requirement (TTPR) to 650, which is around 230 less than the current number of 880 teachers in these 30 high schools. The gap between the target and actual STRs for some schools is striking. There is therefore, considerable scope for school rationalisation. For example, if students from the nine single-stream

schools²⁴ with STRs of less than 20 were reallocated to the 10 largest high schools with enrolments of over 450 students, this would lead to a net reduction of 92 in the number of required teaching posts. These schools also tend to have low TSC pass rates (see Figure 3.14).

Figure 3.14: TSC pass rates for high schools, 2010

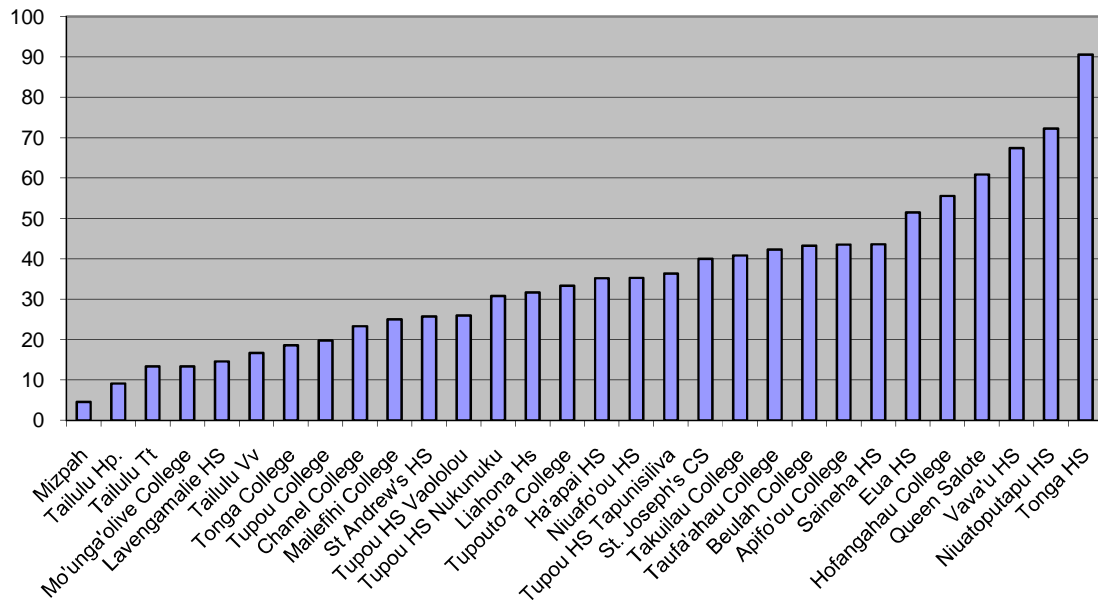


Table 3.6 presents total teaching post requirements assuming that all high schools will offer 12 TSC and 14 PSSC and 14 South Pacific Form Seven Certificate (SPFSC) electives and the proposed class size and work load norms are universally adhered to. It has also been assumed that, in addition to English and Tonga Society and Culture, mathematics is also compulsory since nearly all students are already obliged to take this subject. This increases the total number of teaching posts for high schools required to 785. The full-time equivalent breakdown of teaching posts by form groups is as follows: Forms 1-2 180, Forms 3-5 480, and Forms 6-7 125 posts. The overall target STR is 15.9. The implied target enrolment for each of these groups can be calculated by multiplying the number of streams/classes per group by the class size norm of 30. This can then be divided by the target TTPR for each group in order to derive the target STR for each group (see Table 3.7).

²⁴ The two high schools in the Nuias have not been included because each island has only one high school so it is not possible to reallocate students (unless they boarded elsewhere).

Table 3.6: Target teaching period requirements with proposed staffing and class size norms and target number of elective subjects for Forms 3-7

Schools	Forms 1-2	Forms 3-5			Form 6 14 electives	Form 7 14 electives	Total
		3 comp	12 electives	Total			
One stream							
Beulah	0	45	180	225	70	0	295
Hofangahau	60	45	180	225	0	0	285
Mo'unga'olive	60	45	180	225	0	0	285
Niuafu'ou	60	45	180	225	0	0	285
Niuatoputapu	60	45	180	225	0	0	285
Mizpah	60	45	180	225	0	0	285
St Joseph's	60	45	180	225	0	0	285
Tailulu HP	60	45	180	225	0	0	285
Tailulu VV	60	45	180	225	0	0	285
Nukunuku	60	45	180	225	70	0	355
Tafa'ahau	60	45	180	225	0	0	285
Tapunisiliva	60	45	180	225	0	0	285
Tupouto'a	60	45	180	225	0	0	285
Two streams							
St Andrew's	120	90	210	300	70	0	490
Chanel	120	90	210	300	70	0	490
Eua	120	90	210	300	75	0	495
Ha'apai	120	90	210	300	70	0	490
Lavengamalie	0	90	210	300	70	0	370
Mailefihi	120	90	210	300	70	0	490
Tailulu TT	120	90	210	300	70	0	490
Takuilau	120	90	210	300	70	0	490
Three streams							
Saineha	0	180	225	405	80	70	555
Tupou College	180	180	225	405	80	70	735
Vaololoa	180	180	225	405	105	0	690
Vava'u HS	180	180	225	405	125	70	780
Five streams							
Apifou'ou	300	225	270	495	105	0	900
Queen Salote	300	225	270	495	95	70	960
Seven streams							
Tonga College	420	315	360	675	150	70	1,315
Tonga HS	420	315	360	675	165	125	1,385
11 streams							
Liahona HS	0	495	525	1020	245	80	1,345
TOTALS	3,540	3,600	6,705	10,305	1,855	555	16,255

Table 3.7: Target streams/classes, enrolments, STRs and total teaching postrequirements (TTPRs) for high schools

	Form 1-2	Form 3-5	Form 6	Form 7	ALL
Target streams	120	228	50	14	412
Target enrolments	3600	6840	1500	420	12360
Target STR	19.9	14.3	16.7	13.5	15.9
TTPR	181	478	91	31	778

Finally, the projected enrolment increases for each of these form groups for the target UBE enrolment scenario can be divided by the target STRs in order to derive estimates of the projected TTPRs for each group over the next 10 years. These are summarised in Table 3.8 where it can be observed that nearly threequarters of the 250 new posts will be needed to meet the rapid expansion of Forms 6 and 7.

Table 3.8: Projected TTPRs by form group for secondary education, 2012-2021

	2012-16	2017-2021
Form 1-2	55	-41
Form 3-5	33	28
Form 6	-13	61
Form 7	34	94
Total posts	109	142

4.1 TEACHER REPLACEMENT AND TOTAL TEACHER DEMAND

4.1.1 Teacher replacement

The replacement of teachers due to attrition (or 'wastage') is the other main source of teacher demand. There are five main types of permanent attrition, namely resignation, normal retirement, dismissal, death/medical retirement, and localisation (i.e. the replacement of expatriate teachers). Table 4.1 summarises the available PSC data on teacher attrition at government primary and secondary schools between 2007 and 2011.²⁵ Apart from 2007, total 'exits' have been in the range 31-36 with no noticeable upward or downward trends.

Table 4.1: Teacher attrition from government primary and secondary schools by reason, 2007-2011

Reason	2007	2008	2009	2010	2011
Dismissal	36	13	12	4	2
Resignation	4	14	14	9	13
Retirement	3	2	3	14	7
Medical grounds	0	4	6	5	2
Transfer	0	0	1	0	3
Death	0	0	0	0	3
Total attrition	43	31	36	32	30

Source: PSC

4.1.2 Resignation

Resignation rates are low among teachers, which is a direct consequence of the limited alternative employment opportunities outside of teaching in Tonga. It is unlikely that resignation rates will increase significantly in the foreseeable future although this will be strongly influenced by the levels of net migration.

4.1.3 Retirement

The compulsory retirement age for teachers in Tonga is 60. Given the current age profile of primary school teachers, around eight teachers will, on average, retire each year over the next decade (see Table 4.2). EMIS data on the ages of secondary teachers is not complete, but at least 110 will retire between 2012 and 2021 i.e. an average of 11 a year.

4.1.4 Other attrition

'Dismissal' includes all teachers who have officially absconded i.e. have left their posts without official notification. The bulk of dismissals are, therefore, *de facto* resignations. Relatively large numbers of teachers were dismissed between 2007 and 2009. However, this is now negligible and it seems unlikely that the rate of dismissals will increase appreciably over the next 10 years.

²⁵ Separate figures for primary and secondary school teachers were not available.

According to the MET annual reports, around 20 non-nationals were employed as teachers in 2006 (latest year available). GoT does not appear to have any explicit localisation policy. It has been assumed, therefore, that the total number of expatriate teachers in government and private schools will remain roughly the same until 2021.

Table 4.2: Projected retirements and other attrition among primary school teachers, 2012-2021

Year	Retirement			Other attrition		Total attrition	
	Government	Churches	Total	Status quo	Target	Status quo	Target
2012	4	1	5	16	16	21	21
2013	8	1	9	17	16	26	25
2014	11	2	13	17	16	30	29
2015	14	2	16	17	16	33	32
2016	11	2	13	17	16	30	29
2017	9	1	10	17	16	27	26
2018	10	2	12	17	16	29	28
2019	21	3	24	17	15	41	39
2020	17	3	20	16	15	36	35
2021	10	2	12	16	15	28	27
Total	67	11	78	83	77	161	155

Source: EMIS (retirement data)

The replacement of uncertified teachers is also another source of demand for new teachers. However, nearly all of primary school teachers who are currently on the government payroll are certified and most secondary teachers are expected to meet the teacher registration requirements by 2015.

It is assumed that projected attrition (excluding retirements) will remain at 2% for all primary school teachers for the next 10 years. To this can be added projected teacher retirements for each year based on teacher age profiles. For the target UBE enrolment scenario, total annual attrition for primary school teachers is projected to range from 21 to 39 teachers (see Table 4.2).

Teacher attrition is likely to be higher among teachers at church secondary schools mainly because of relatively low salaries compared to those paid to government teachers.²⁶ Information was requested from church education directors on teacher attrition, but only a limited amount was furnished. Based on the available information, it has been assumed, therefore, that annual attrition (including retirements) for all secondary teachers will average 3% over the next 10 years.

4.2 TOTAL TEACHER DEMAND

Projected teacher demand comprises three components, namely, current shortages/vacancies, net additional teacher posts required, and replacements for teachers who have left permanently. Information on current teacher shortages has been requested from the relevant MET and church school managers, but most has not yet been provided.

²⁶ However, a good proportion of these teachers take up jobs in government and other church schools so these are in effect teacher transfers within the national school system rather than attrition.

4.2.1 Primary education

For the status quo enrolment scenario, target annual recruitment for primary schools averages 34 teachers for the 5-year period 2012-2016 and 26 teachers during 2017-2021. The corresponding figures for the target UBE enrolment scenario are on average 28 and 19 teachers (see Table 4.3).

4.2.2 Secondary education

For the status quo enrolment scenario, target annual recruitment for secondary schools averages 20 teachers for the 5-year period 2012-2016 and 41 teachers between 2017 and 2021. The corresponding figures for the UBE target enrolment scenario are on average 54 and 61 teachers (see Table 4.3).

Table 4.3: Total teacher recruitment targets for status quo and target UBE enrolment scenarios

	Status quo			Target UBE		
	2012-2016	2017-2021	Total	2012-2016	2017-2021	Total
PRIMARY						
New posts	28	-32	-4	1	-62	-61
Attrition	140	161	301	138	155	293
Total	168	129	297	139	93	232
SECONDARY						
New posts	-31	68	37	128	142	270
Attrition	129	138	267	140	162	302
Total	98	206	304	268	304	572
TOTAL						
New posts	-3	36	33	129	80	209
Attrition	269	299	568	278	317	595
Total	266	335	601	407	397	804

4.3 TEACHER SUBJECT SPECIALISATIONS

It is difficult to make robust estimates of future demand for teachers according to subject specialisation, mainly because it cannot be predicted with any degree of certainty just how many students will opt for each of the elective subjects in Forms 3-7.²⁷ It is assumed, therefore, that the current enrolment breakdown of electives in each form group will not change appreciably during the next 10 years. The curriculum for Forms 1-2 comprises seven compulsory subjects with prescribed period requirements so projecting future teacher demand, measured in full time equivalents (FTEs), is quite straightforward. For Forms 3-5, Table 4.4 shows the number of classes/streams for each core and elective subject according to the size of likely enrolments and the number of streams per form. This is then multiplied by the number of schools in each size group. For example, there are eight two-stream schools which, in total, require 16 English, maths, TSC, computer and science classes for each form. Larger schools require more than three classes for popular electives such as computing and science. For Forms 6 and 7, the current breakdown of enrolments by elective has been used as the basis for

²⁷ Teachers with specialist training in special needs education will also be required in order to ensure that the current inclusive education policy is fully implemented and that all these children will attend school. However, until up-to-date information on the number of these children becomes available from the 2011 Population Census, it is not possible to make robust estimates of the numbers of specialist needs teachers who will be required.

estimating future demand by subject. Ideally, the breakdown of subject specialisations in upper secondary should be strongly shaped by the goals and objectives of a detailed national human resources strategy.

Table 4.4: Total classes/year required in forms 3-5 in all secondary schools for compulsory and elective subjects

School stream size	Classes/forms/school						Total classes/form all schools						% total	
	1	2	3	5	7	11	1	2	3	5	7	11	Total	FTE teachers
Compulsory subjects														
English	1	2	3	5	7	11	13	16	12	10	14	11	76	11.3
Tongan	1	2	3	5	7	11	13	16	12	10	14	11	76	11.3
Maths	1	2	3	5	7	11	13	16	12	10	14	11	76	11.3
Elective subjects														
Accounting	1	1	2	2	2	3	13	8	8	4	4	3	40	5.9
Computing	1	2	2	3	4	10	13	16	8	6	8	10	61	9.0
Science	1	2	2	3	7	11	13	16	8	6	14	11	60	8.9
Economics	1	1	1	2	2	2	13	8	4	4	4	2	35	5.2
Geography	1	1	1	2	2	2	13	8	4	4	4	2	35	5.2
History	1	1	1	1	1	1	13	8	4	2	2	1	30	4.4
Biology	1	1	1	2	2	2	13	8	4	4	4	2	35	5.2
Industrial arts	1	1	1	1	1	1	13	8	4	2	2	1	30	4.4
Home economics	1	1	1	1	1	2	13	8	4	2	2	2	31	4.6
Agriculture	1	1	1	1	1	1	13	8	4	2	2	1	30	4.4
Music	1	1	1	1	1	1	13	8	4	2	2	1	30	4.4
Art	1	1	1	1	1	1	13	8	4	2	2	1	30	4.4

Note: There are 13 1-stream, eight 2-stream, four 3-stream, two 5-stream and two 7-stream schools, and one 11-stream school.

Future recruitment targets for each subject are presented in Table 4.5. The column 'no subject coverage' refers to subjects that are not currently offered by individual schools. For example, fine art is not offered by 26 schools in Forms 3-5 and 14 schools in Form 6 (see Table 4.6). If every one of these schools should offer at least one class in art for these two form groups then 18 FTE teachers will be required.

Table 4.5: Recruitment targets by subject for secondary school teachers for the target UBE enrolment scenario (FTEs rounded), 2012-2021

Subject	No subject coverage	New recruitment					New recruitment					Grand Total
	2010	Forms 1-2	Forms 3-5	Form 6	Form 7	Total	Forms 1-2	Forms 3-5	Form 6	Form 7	Total	
English		17	12	6	6	41	1	13	17	22	53	94
Tongan		14	12			26	1	13			14	40
Maths		14	12	5	9	40	1	13	14	26	54	94
Science	1	14	9			23	1	9			10	34
Tonga Society & Culture		14		2		16	1		6		7	23
Creative Technology		14				14	1				1	15
Movement & Fitness		14				14	1				1	15
Accounting	1		7	2	2	11		7	4	6	17	29
Agriculture	6		5	1	1	7		5	2	1	8	21
Art	18		5	1		6		5	1		6	30
Biology	10		6	2	3	11		5	5	9	19	40
Chemistry	0			2		2			5	8	13	15
Computing/computer studies/IT	0		9	5	5	19		9	12	17	38	57
Economics	0		6	2	2	10		6	4	6	16	26
Geography	3		5	2	2	9		5	5	6	16	28
History	11		5	1	1	7		5	2	3	10	28
Home economics	8		5			5		5			5	18
Industrial arts/design technology	8		5	1		6		5	3		8	22
Music	14		5			5		5			5	24
Physics	1			2	6	8			4	8	12	21
Tourism	0				1	1				1	1	2
TOTAL	81	101	108	34	38	281	7	110	84	113	314	676

Notes: Modern languages, development studies and biblical studies not included

Table 4.6: Number of schools without any subject teacher by form group, 2010

School	Schools	English	Tongan Soc&Cult	Maths	Science	Biology	Chemistry	Physics	Agriculture	HomeEconomics	IndArts/DesignTech	Accounting	Economics	Geography	History	Computing	Music	Japanese	French	Art	Tourism
Forms 3-5	30	0	0	0	1	17			7	13	12	2	0	4	16	0	23	26	28	26	0
Form 6	19	0	1	0		0	0	2	6		6	0	0	2	4	0		14	18	14	0
Form 7	7	0		0		0	0	1	4			0	0		3	0			5		0
Number schools		0	1	0	1	17	0	3	7	13	18	2	0	6	19	0	23	25	28	25	0
FTE required		0	0.2	0	0.7	10	0	0.7	6	8	8	1	0	3	11	0	14	18	21	18	0

4.3.1 Technical and vocational subjects

There were around 200 students enrolled on vocational courses at high schools in 2011. Enrolment growth has been limited during the last 10 years. These courses are not currently accredited

GoT is keen to develop new vocational training 'pathways' at high schools, especially for students who drop-out before completing Form 5. Senior managers of some of the church school systems are also enthusiastic.²⁸ As yet though, no explicit targets have been set by MET with regard to the type and range of courses or the number of students who will be catered for. Furthermore, a comprehensive and coherent national strategy and policy framework for technical and vocational education and training (TVET) still needs to be developed based on a detailed national training needs assessment. It is not possible, therefore, to make robust projections of teacher requirements for TVET subjects at this stage.

A new school TVET programme is currently being piloted in eight schools. Five main trades (automotive, carpentry, construction, home economics, and secretarial), are being offered. However, there are already a number of quite serious problems with this pilot programme; funding (mainly from AusAID) is not sufficient, good quality instructors are hard to find, and students are expected to complete the first year of the Tonga Institute of Science and Technology(TIST) certificate course over 2 years (Forms 5 and 6) while at the same time continuing with normal academic subjects. TVET coursework has, therefore, to be done after school and at weekends.

Efforts to introduce school-based, pre-employment training for skilled manual occupations generally have a poor track record, especially in developing countries. There are numerous reasons for this. The overall quality and relevance of training is low and capital and recurrent unit costs are high. Operational unit costs are typically two-three times higher than traditional academic courses, it is difficult to find good industrial placements for students, skilled instructors are in short supply with high rates of turnover, and students often have limited vocational commitment to their chosen trades. Training-employment outcomes are generally poor.²⁹ Consequently, the overall cost-effectiveness of the training is low.

The key policy lesson that emerges from this long and diverse experience with school-based TVET is that it is much better to focus on improving basic academic competencies while at the same time promoting good quality pre-vocational education, especially in core skills such as computing, business/enterprise, industrial arts/design and technology, and home economics. Pre-employment occupational training should be left to specialist post-secondary TVET institutions. Any attempt to introduce a full-blown vocational training pathway in secondary schools should be thoroughly trialled with a small number of pilot schools over at least a 5-7 year period.

²⁸ Three stated that they would like to see half of their secondary school students enrolled on TVET courses in 10 years time.

²⁹ There is reported to be a chronic shortage of skilled artisans in Tonga, which should encourage students to become skilled workers, but it also makes the staffing of school-based TVET programmes especially difficult.

5.1 PLANNING TEACHER SUPPLY

Planning the future supply of teachers has both qualitative and quantitative dimensions. There are two key questions. First, how many new teachers should be trained to meet the demand for additional teaching posts (as a result of expanding enrolments) and the replacement of existing teachers? Second, what kind of teachers should be trained in the future? While this report focuses on the first of these two questions, it is clear that these two questions are closely inter-related. A detailed review of TIOE is currently being undertaken by the USP Institute of Education. It is also being accredited by the Tonga National Qualifications and Accreditation Board (TNQAB).

5.1.1 Current training provision

It is important that the future supply of trained teachers closely matches the projected annual recruitment demand for teachers. To date, however, there has been limited detailed planning with respect to teacher training. TIOE students have been (and still continue to be) free to choose their own areas of subject specialisation and the size of overall enrolments in the two main pre-service teacher training programmes, namely the primary and secondary school teaching diplomas, have not been based on robust estimates of teacher demand.

5.1.2 The Tonga Institute of Education

Course provision: TIOE's two main courses are the (pre-service) primary and secondary teaching diplomas, which are 3 threeyears in duration.³⁰The first diplomates graduated in 1986. Students major in two subjects and are also expected to teach English and Tongan classes when the need arises. A Graduate Diploma in Teaching and Learning was introduced in 1999. This is a 20-week course intended for university graduates without teaching qualifications. A second upgrading certificate course is also now run for untrained teachers who do not have degrees. The intake for this course is expected to increase to 50 this year so that currently untrained teachers will be able to meet the new teacher registration requirements which are to come into place in 2015. Only teachers from Tongatapu are usually able to register on these upgrading courses.

There are fairly pervasive concerns about the quality and relevance of teacher training at the TIOE and discussions are currently underway about the need to establish a new degree-level teacher training institution.

Student intake, enrolments and graduates: Given the shortage of places available at post-secondary education and training institutions, TIOE received around 300 eligible applications in 2011 for 100 places. All students are selected on merit and minimum academic entrance standards are quite high.³¹ There are no geographical intake quotas and, as a result, there tends to be a 'bias' towards students from Tongatapu. Over 80% of students are 'privately sponsored' and pay fees of TOP528 per year. Most of the remaining places are taken up by quotas for students sponsored by the main churches.

³⁰ Teachers with a Grade 1 teaching certificate complete the diploma course in 2 years.

³¹ Students must have at least a grade 3 in their subject specialisation and an overall Grade 14 in the PSSC and an average of three Grade Bs in the SPFSC. Entrance requirements are occasionally lowered where it is difficult to find students for particular shortage subjects and also to meet church student quotas.

Given its classrooms and other facilities, the current enrolment capacity of TIOE is around 400 students. Enrolments on the core diploma courses have been at around 300 for the last 3 years. There are usually almost twice as many secondary diploma graduates as there are primary diplomates (see Table 5.1). The overall completion rate is around 80-85%. Enrolments on the two teacher upgrading course are around 50 (20 post-graduate diploma in education (PGDE) and 30 non-graduates).

Table 5.1 : Diploma enrolments and graduates by level at TIOE, 2002-2012

	2002	2004	2006	2008	2009	2010	2011	2012
Enrolments								
Primary			110	91	94	119	109	159
Secondary			140	148	173	181	174	222
Total	322	311	260	239	267	300	283	381
Graduates								
Primary		45		28	28	26		
Secondary		77		39	44	48		
Total	91	122	43	66	72	72		

Source: TIOE, MET annual reports

Employment outcomes: In the past, sponsored TIOE graduates used to be guaranteed employment as teachers by MET. Now, however, there is open competition for all vacancies. MET continues to recruit the top 15 graduates every year for its primary schools.

A tracer survey of TIOE graduates is currently being undertaken by the USP's Institute of Education. For this study, random samples of 20% of TIOE graduates from 3 years (2002, 2006 and 2010) were selected in order to establish what proportions are currently working as teachers. The findings are summarised in Table 4.3. In overall terms, 70% could be located at schools in Tonga. The overall effectiveness of TIOE with regard to training-related employment outcomes is, therefore, high. However, with regard to overall cost-effectiveness, there is still a concern, that (as is the case in many developing countries), teacher training at TIOE can be an 'expensive backdoor to the university' since a significant number of its graduates go on to study at universities or other higher education institutions for another 3 or 4 years (and some at government expense). This is, therefore, a costly form of teacher training.

Staffing, funding and unit costs: With regard to the education and training profiles of the 25 full-time management and teaching staff at TIOE, 19 have teaching qualifications, but only five have B.Ed. degrees and only eight have post-graduate degrees (doctorates and/or masters). As a department of MET, with no formal institutional autonomy, TIOE has little control over staffing. Lecturers are posted to the institute in the same way as any other government school and they are on the same salary scales as high school teachers. As a result, turnover of teaching staff tends to be high; six left in 2011 alone. Teaching loads of full-time lecturing staff currently average around 16 hours per week,³² the overall student-lecturer ratio is around 13:1, which is typical of teacher training colleges in developing countries.

³²There are however sizeable variations in teaching loads among TIOE lecturers.

Table 5.2: Activity/location status of TIOE primary and secondary diplomates, September 2012 (rounded percentages)

Activity	Year graduated		
	2002	2006	2010
PRIMARY DIPLOMATES			
Teacher	88	44	100
Other wage employment	0	22	0
Full-time training	0	0	0
Self-employed	0	0	0
Overseas	0	22	0
Not known	12	11	0
TOTAL	100	100	100
SECONDARY DIPLOMATES			
Teacher	45	88	100
Other wage employment	0	0	0
Full-time training	9	0	0
Self-employed	9	0	0
Overseas	36	0	0
Not known	0	12	0
TOTAL	100	100	100

Source: Samples drawn from TIOE graduation records

TIOE staff are directly paid from the MET budget. Funding for operational and other expenses is seriously limited. TIOE only retains the annual student registration fee of TOP60. It has no other major sources of income. Its unit costs are likely, therefore, to be lower than the large government high schools.

5.1.3 Other relevant training

University of the South Pacific, Tonga campus: Table 5.3 shows total enrolments on education courses offered at the USP Tonga Campus. The bulk of students are serving teachers. For the B.Ed., teachers normally take two courses per semester,³³ which means that it takes 3 to 4 years to complete their degree.

Table 5.3: Enrolment on education courses at the USP Tonga Campus, mid-2012

Course	Number
Bachelor of Education	52
Bachelor of Education (Early childhood)	4
Bachelor of Education (Primary)	32
Diploma (Early childhood)	10
Master of Arts	11
Masters of Education	14
PGCE/PGDE	9
Total	136

Source: USP

The church tend to rely quite heavily on their own tertiary training institutions to upgrade their teachers, in particular, the Church of the Latter Day Saints (Brigham Young University in Hawaii, Salt Lake City), the Tokailolo Church (Pentecostal church

³³Diploma teachers are required to take 14 out of the prescribed 20 B.Ed. courses.

universities mainly in the US), and the Seventh Day Adventists (education degree courses in Fiji and Papua New Guinea). The Free Wesleyan Church runs the Tonga Training Institute, which has a two-year teacher training course, which is accredited by and has visiting lecturers from the Bethlehem Institute in Tauranga, New Zealand. The current intake is 32, the majority of who are primary school teachers from FWC schools. Other churches are also showing interesting in sponsoring students on this course. The Tokailolo Church also has its own (non-accredited) 'university', which graduates around 10 teachers each year mainly for its own schools.

Despite the serious shortages of technical, industrial arts, home economics and agriculture teachers, there is no local training provision in these areas. Tonga Institute of Science and Technology (TIST) used to run a pre-service training course for industrial arts teachers, but this was discontinued when the new Ministry of Employment Creation and Training took over responsibility for TVET in the early 2000s.

5.1.4 Overseas scholarships

As part of the overall national scholarship programme, GoT sponsors teachers and school leavers to study for education-related degrees and other qualifications at overseas institutions, in particular at the Faculty of Education at USP Suva, Fiji and in New Zealand and Australia. The bulk of education scholarships are donor-funded (especially NZ MFAT). The Scholarship Committee (which has donor representatives) prioritises the available scholarships according to national development priorities. Most education scholarships are awarded to teachers who have education diplomas. An average of 10 education scholarship holders returned between 2009 and 2011. A total of 43 are expected to return between 2012 and 2014.

All scholarship holders are bonded (by both GoT and the donor partner funder) and, those on education courses, are expected to work as teachers for 2 years on their return. Church school providers used to be awarded overseas education scholarships for their own teachers, but this has now been discontinued and all applications are decided strictly on merit. In the past, most education scholarship holders were not enrolled on B.Ed. courses, which meant that they had to then do an additional PGDE course in order to become qualified teachers. However, there has now been a switch towards B.Ed. courses. This is sensible given that a B.Ed. degree provides a thorough professional teacher training and helps to ensure that scholarship returnees are more likely to pursue a life-time career in teaching. It is more cost-effective because graduates do not have to study for another year in order to obtain the PGDE.

Of the 31 individuals who completed their training in education between 2009 and 2011, only 13 appear to be currently working as teachers in Tonga (see Table 5.4).

Table 5.4: Returning teacher scholarship awardees employed as teachers in mid-2012

Year returned	MET sponsored		Church sponsored		ALL	
	Returned	Teaching	Returned	Teaching	Returned	Teaching
2009	7	5	1	0	8	5
2010	6	2	4	2	10	4
2011	3	1	10	3	13	4
Total	16	8	15	5	31	13

Source: MET Scholarship data, EMIS

5.2 A LONG-TERM VISION FOR THE TEACHING PROFESSION

Considerable progress has been made in the development of teacher policy in Tonga in recent years. However, there are some areas that could be strengthened. In particular, there is a need for a clear, long-term vision of what kind of teachers should be trained in the future and, in particular, what kind of qualification profiles primary and secondary teachers should have. Teaching is now a predominantly graduate profession in developed countries, but it is also increasingly the case in developing countries as well. The relatively small numbers of university-trained teachers in Tonga is particularly noticeable, not only in Forms 5-7 (where, for a long time, there has been a clear expectation that teachers should be university trained), but, also, in the junior secondary and primary education cycles as well.

A long-term vision for the teacher training system in Tonga should also be founded on the creation of a world-class teaching profession. This is directly in line with the GoT's long-term development goal of building an educated and informed nation. A key reason for the success of nearly all successful developing countries during the last four decades has been the outstanding performance of their education and training systems. A high quality national labour force is essential in order to become competitive in global markets, especially for non-agricultural products and services. More generally, human resources increasingly are the key determinant of economic growth and overall development.

5.2.1 A unified, graduate teaching profession

Nearly all OECD and other developed countries have unified, university-trained teaching professions (see references for recent reviews of teacher education reform). The long-term goal for the schooling system in Tonga should, therefore, be that all primary and secondary school teachers are professionally trained university graduates. This is clearly ambitious, but, with a concerted effort, could be attained within the next 15-20 years.

The prevailing degree-diploma-certificate qualification segmentation among primary and secondary school teachers in Tonga is commonly found in developing countries. It is the consequence of the under-developed state of most education systems especially at the time of the rapid expansion in enrolments during the last 2-3 decades. There are now relatively few certificate-level teachers in Tonga, but a start should be made to address the diploma-degree qualification divide, which, in particular, continues to exacerbate the inferior status of junior secondary and primary education.

Primary school teaching should increasingly become a graduate profession. Clearly, with so few teachers with university degree training currently in post, this is a long-term goal.

However, it is recommended that there should be an immediate and marked increase in the recruitment of university trained education graduates. It is also equally important that competent and committed serving teachers should be encouraged and supported to study for professional teaching degrees (either by full-time attendance on conventional degree courses or as part of distance learning programmes).

Aggressively pursuing this vision of the teaching profession will mean that diploma level training at TIOE should be phased out over the next 5 years or so and be replaced by B.Ed. training at a new university-level teacher training institute or faculty of education which is part of a new national university. A realistic timetable would be to admit the last intakes for the diploma course in 2014 and admit the first intake of B.Ed. students in 2015.

5.2.2 Qualification upgrading

The GoT has stipulated that all teachers must be qualified to teach by 2015. Those who are not will be replaced. MET has, therefore, embarked on a major upgrading programme. In 2010, there were 303 unqualified secondary school teachers in Tonga. The bulk of these are employed at church schools (see Table 5.5). There were only 45 unqualified primary school teachers, almost all of who were at church schools. In addition, 90 primary school teachers only had teaching certificates.

Table 5.5: Secondary school teachers without teaching qualifications, 2010

Educational level	Government	Church	Total
Post-graduate degree	6	7	13
Bachelor degree	39	72	111
Diploma	0	66	66
Certificate	2	34	36
No post-secondary	0	77	77
Total	47	256	303
% teachers	15.5	36.5	30.3

Source: MET Annual report

All unqualified teachers should be encouraged and supported to gain the required minimum teaching qualification by 2015. In addition, the most able and committed primary and secondary school teachers with education diplomas should be given the opportunity and support to study for B.Ed. degrees. Given the likely numbers, most of this training should be based on open distance learning modalities.

5.3 TRAINING TARGETS

Pre-service training targets can only be precisely established once annual recruitment targets have been agreed upon and all possible sources of available teachers have been identified and quantified. There are two main sources of teachers:

- (i) unemployed (certified) teachers who are actively seeking employment as teachers;
- (ii) the current group of teacher trainees, most of who will qualify over the next 3 years.

The numbers of unemployed teachers in Tonga is not known. If the results of the rapid tracer survey of TIOE graduates show that most of them are currently employed as teachers, this would suggest that teacher unemployment is low.

5.3.1 Primary education

Training targets have been derived according to the status quo and target UBE enrolment scenarios with the proposed new staffing norms and subject electives.

For the next 3 years (2012-2014), the annual numbers of primary education diploma graduates from TIOE will be fixed. Assuming a completion rate of 80-85%, around 90 of this group of students will have successfully graduated over the next 3 years. For the 5-year period 2012-17, average annual recruitment demand for primary school teachers averages 34 for the status quo and 28 for the target UBE enrolment scenarios. Consequently, the current output of primary education diplomates will have to be increased to 40 in 2015 and 2016 under the status quo scenario, but reduced to 25 in both of these years for the UBE target scenario (see Table 5.5).

Table 5.5: Target numbers of diploma and B.Ed. graduates needed in order to meet projected total teacher demand, 2012-2021

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
PRIMARY											
Status quo	Diploma	30	30	30	40	40	0	0	0	0	0
	B.Ed.	0	0	0	0	0	20	25	25	25	35
Target UBE	Diploma	30	30	30	25	25	0	0	0	0	0
	B.Ed.	0	0	0	0	0	20	20	20	20	20
SECONDARY											
Status quo	Diploma	50	50	50	15	15	0	0	0	0	0
	B.Ed.	0	0	0	0	0	30	40	50	50	50
Target UBE	Diploma	50	50	50	100	100	0	0	0	0	0
	B.Ed.	0	0	0	0	0	40	50	65	75	75
TOTAL											
Status quo	Diploma	80	80	80	55	55	0	0	0	0	0
	B.Ed.	0	0	0	0	0	50	60	60	75	85
Target UBE	Diploma	80	80	80	125	125	0	0	0	0	0
	B.Ed.	0	0	0	0	0	60	70	85	95	95

Notes: Bold figures are expected output of TIOE graduates based on current enrolments.

Expected annual demand is estimated to be somewhat lower between 2017-2021 (status quo 26 and target UBE 19). Assuming that diploma training at TIOE is phased out by 2017, the proposed B.Ed. course should cater for this demand (see Table 5.5).³⁴

5.3.2 Secondary education

For the next 3 years (2012-2014), the annual numbers of secondary education diploma graduates from TIOE will also be fixed. Assuming a completion rate of 80-85%, around 150 of this group of students will have successfully graduated over the next 3 years. For the 5-year period 2012-17, average annual recruitment demand for secondary school teachers (including the current shortage of 80 teachers) averages 30 for the status quo and 77 for the target UBE enrolment scenarios. Consequently, the current output of secondary education diplomates will have decreased to 15 in 2015 and 2016 under the status quo scenario, but increased to 100 in each of these years for the UBE target scenario (see Table 5.5).

³⁴However, adjustments will need to be made for teachers on overseas scholarships and others completing equivalent (accredited) training at overseas institutions.

5.3.3 Qualification upgrading

Untrained teachers: There are around 20 untrained primary school and 250 untrained secondary school teachers who still need to obtain the basic teaching certificate at TIOE. In order, therefore, for all teachers to be qualified by the end of 2015, the two upgrading certificate courses at TIOE will need to have a combined average intake of around 90 teachers over the next 3 years. The costs of replacement teachers will also need to be budgeted for in order to avoid undue disruption in schools while these teachers are away.

Diploma upgrading: There are almost 1,000 diploma teachers (525 primary and 440 secondary). Already, around 130 teachers are enrolled on B.Ed., PGDE and masters courses at the USP Tonga campus. It is recommended that MET (if necessary with the support of its donor partners) should provide financial assistance (in particular course fees, textbooks and other course materials, and transport and accommodation costs in order to attend courses at the campus during vacations) for up to 200 diploma teachers to be enrolled on B.Ed. courses at any one time. At least half of these students should be primary school teachers and priority should be given to teachers outside of Tongatapu, especially those who are working on remote islands.

Overseas scholarships: Most overseas education scholarships should continue to be awarded to the most able diploma teachers who have clearly demonstrated strong vocational commitment to teaching and have the academic ability to do well on demanding B.Ed. degree courses. It is recommended that the number of new teaching scholarships is increased to 25 each year for the next five years with at least 10 scholarships being awarded to primary school teachers. Coupled with the proposed large increase in the number of teachers enrolled at USP, this level of B.Ed. training would make a major impact on the overall qualification profile of serving teachers. Such a 'big push' in the overall training effort is urgently needed in order to improve teaching performance and learning outcomes.

PART C: PROJECTED COSTS

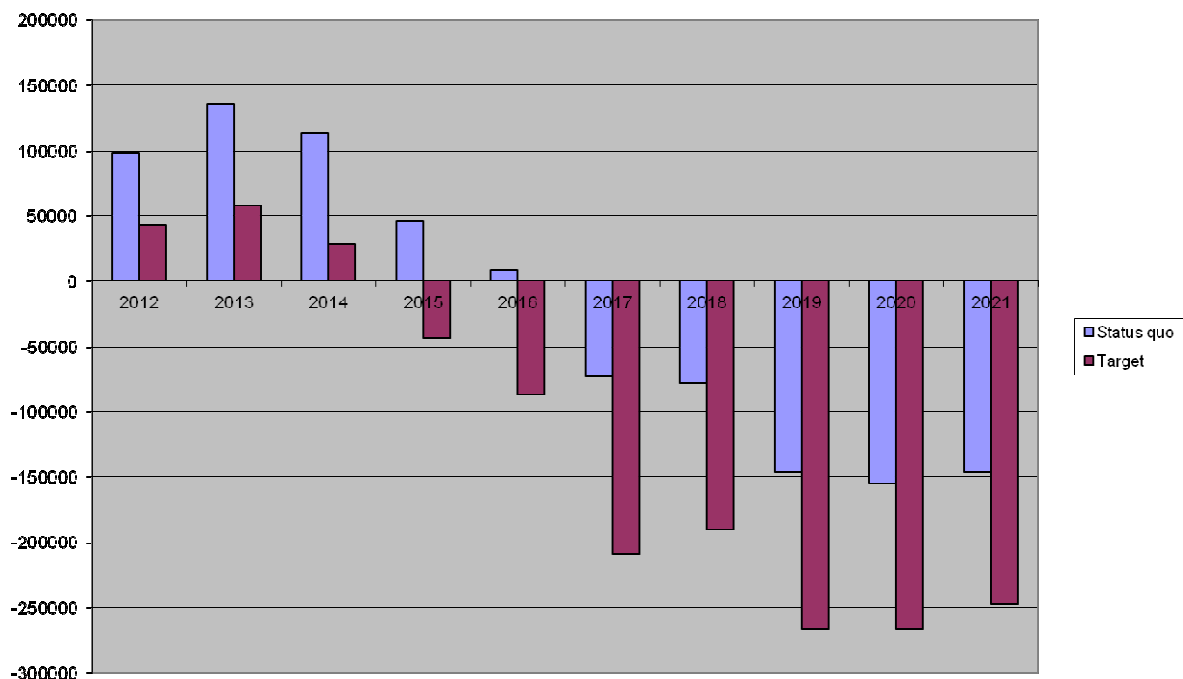
6.1 ADDITIONAL TEACHING POSTS

6.1.1 Primary school teachers

Most primary school teachers are employed at government schools, so it is relatively straightforward to make projections of future salary costs. If it is assumed that the number of church primary schools remains at current level with no significant increase in enrolments then the costs of funding new teaching posts will have to be met by GoT. The annual starting salaries for diploma and university graduate teachers are TOP14,394 and TOP17,762. It is assumed that the annual increase in teacher salaries averages 3% over the next 10 years.

Figure 6.1 presents the annual costs/savings of the projected changes in teaching posts at primary schools for the status quo and target UBE enrolment scenarios for the period 2012-2021. Over this 10-year period, the overall cumulative salary savings are TOP333,000 and TOP148,000 for the two scenarios respectively. Recruiting more university-trained teachers to primary schools will increase annual salary costs (over and above employing diploma teachers) by around TOP3,500-5,000 per teacher/year. However, the rate of return from this additional expenditure in terms of improved teacher performance and learning outcomes is likely to be high.

Figure 6.1: Projected salary cost/savings from projected changes in teaching posts at primary schools by enrolment scenario, 2012-21



6.1.2. Secondary school teachers

The salary costs of additional teaching posts at secondary schools will depend on the future breakdown of net increases in enrolments between government and church schools. If the share of enrolments of these two groups of schools remains the same over the next 10 years, then 35% of the additional posts will be at government schools and 65% at church schools. It is further assumed that up to 2017, all teacher recruits are diplomates, but thereafter these are university graduates. The incremental annual costs of creating new teaching posts at government secondary schools are substantial, especially for the target UBE scenario after 2017 (see Table 6.1). The affordability of the projected expansion in secondary education is, therefore, a critical issue.

Table 6.1: Salary costs for additional teaching posts at government secondary schools, 2012-2021 (TOP'000 rounded)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Status quo	-120	-84	-21	53	88	83	81	54	28	2	164
Target UBE	-43	18	104	223	304	84	135	179	221	59	1,283

It is difficult to predict the salary costs of additional posts at church secondary schools given all the uncertainties surrounding future salary levels and the size of enrolments in each of the church school sub-systems. However, if it is assumed that the average salary of a new teacher recruit to church secondary schools is TOP10,000 per year, then the costs of funding additional teaching posts can be calculated (see Table 6.2).

Table 6.2: Salary costs for additional teaching posts at church secondary schools, 2012-2021 (TOP '000 rounded)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Status quo	-155	-108	-27	68	113	108	105	70	36	2	212
Target UBE	-56	23	134	287	392	108	174	231	285	77	1,655

The level of future salary subsidy for church secondary schools is another key cost factor. If it is assumed that the current subsidy increases from its current level of TOP400 to TOP600 in 2013 and from TOP800 to 1,200 in 2017 then total salary subsidy costs will increase from TOP4.5 million in 2013 to TOP6.8 million in 2017 under the UBE target enrolment scenario (see Table 6.3). If the GoT took full responsibility for paying all secondary teachers with parity between government and church salary levels by for example 2017, then, under the target UBE enrolment scenario, the total government salary bill for secondary teachers would increase from its current level of TOP19.5 million to TOP35.3 million in 2017.

Table 6.3: GoT salary subsidy costs for projected teaching posts at church secondary schools, 2012-2021 (TOP million nearest 100,000)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Status quo	3.0	4.4	4.4	4.3	4.4	6.0	6.1	6.2	6.3	6.4	51.5
Target UBE	3.0	4.5	4.5	4.6	4.8	6.8	6.8	6.9	7.1	7.3	56.5

6.2 TRAINING COSTS

6.2.1 TIOE

Teacher training in Tonga urgently needs to be transformed. TIOE should become affiliated to or part of a university so that it can be accredited to train at both the undergraduate and post-graduate degree levels. This will require the major refurbishment of the current buildings and other infrastructure or, alternatively, the construction of a new campus. The existing teaching staff also needs to be upgraded and new, appropriately qualified and experienced staff recruited. High quality (long and short-term) technical assistance will also certainly be needed. At this stage, therefore, it is not possible to derive any meaningful estimates of future unit training costs.

6.2.2 Overseas degree training

International donors currently fund most of the overseas and local education scholarships. Hopefully, therefore, this will continue in the future. Given likely fiscal constraints, it is recommended that the financial assistance needed for the proposed increase in teaching scholarships be provided by MET's donor partners.

6.2.3 Qualification upgrading

Again, given the likely major changes in teacher training provision in Tonga over the next five years or so, it is difficult to make detailed projections of the costs of teacher upgrading. The two key cost items will be the two courses for untrained teachers at TIOE (along with the costs of employing replacement teachers) and financial support for serving teachers enrolled on USP degree and post-graduate education courses. The unit costs of part-time B.Ed degree courses at the USP Tonga campus is a useful benchmark. This is currently in the region of TOP6,650 for the B.Ed. primary degree and TOP11,500 for the B.Ed. secondary degree.³⁵

³⁵This includes the cost of face-to face instruction during the long school vacation in January.

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ANNEXES TABLES AND FIGURES

Annex Table 2.1: Primary school enrolments by class and gender, 2002-2011

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Boys										
1	1,415	1,564		1,543	1,468	1,652	1,517	1,450	1,515	1,522
2	1,397	1,355		1,470	1,476	1,431	1,498	1,472	1,417	1,465
3	1,433	1,336		1,410	1,467	1,426	1,413	1,459	1,453	1,392
4	1,392	1,389		1,360	1,356	1,430	1,385	1,366	1,431	1,438
5	1,326	1,484		1,331	1,363	1,334	1,389	1,432	1,353	1,414
6	1,350	1,869		1,862	1,301	1,291	1,666	1,611	1,716	1,681
Total	8,313	8,997		8,976	8,431	8,564	8,868	8,790	8,885	8,912
Girls										
1	1,330	1,298		1,336	1,345	1,444	1,338	1,407	1,335	1,378
2	1,339	1,303		1,299	1,282	1,327	1,338	1,289	1,369	1,301
3	1,298	1,288		1,244	1,259	1,256	1,269	1,330	1,248	1,357
4	1,278	1,265		1,253	1,225	1,247	1,190	1,305	1,304	1,216
5	1,233	1,237		1,265	1,260	1,191	1,197	1,212	1,252	1,233
6	1,081	1,585		1,659	1,262	1,177	1,449	1,366	1,442	1,506
Total	7,559	7,976		8,056	7,633	7,642	7,781	7,909	7,950	7,991
ALL										
1	2,745	2,862		2,879	2,813	3,096	2,855	2,857	2,850	2,900
2	2,736	2,658		2,769	2,758	2,758	2,836	2,761	2,786	2,766
3	2,731	2,624		2,654	2,726	2,682	2,682	2,789	2,701	2,749
4	2,670	2,654		2,613	2,581	2,677	2,575	2,671	2,735	2,654
5	2,559	2,721		2,596	2,623	2,525	2,586	2,644	2,605	2,647
6	2,431	3,454		3,521	2,563	2,468	3,115	2,977	3,158	3,187
Total	15,872	16,973		17,032	16,064	16,206	16,649	16,699	16,835	16,903

Source: MET annual reports, EMIS

Annex Table 2.2: Enrolments, teachers and student-teacher ratios at government and church primary schools, 2001-2011

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Enrolment											
Government	n/a	15,444	16,472	16,462	15,648	15,489	15,390	15,005	15,005	14,951	
Church	n/a	1,498	1,419	1,505	1,384	1,452	1,502	1,662	1,714	1,897	
Total	n/a	16,942	17,891	17,967	17,032	16,941	16,892	16,667	16,719	16,848	16,903
Teachers											
Government	741	693	750	673	746	664	578	581	586	576	666
Church	82	80	74	86	93	96	87	84	90	101	
Total	823	773	824	759	839	760	665	665	676	679	
Student-teacher ratio											
Government	n/a	22.3	22.0	24.5	21.0	23.3	26.6	25.8	25.6	26.0	
Church	n/a	18.7	19.2	17.5	14.9	15.1	17.3	19.8	19.0	18.8	
All	n/a	21.9	21.7	23.7	20.3	22.3	25.4	25.1	24.7	24.8	

Source: MET annual reports, EMIS

Annex Table 2.3: Primary school enrolments by location, 2002, 2006, and 2011

District	2002	2006	2011	change
Central	5,987	6,239	5,935	-52
Eastern	3,291	3,274	3,116	-175
Western	2,223	2,267	2,040	-183
Eua	869	879	883	14
Ha'apai	1,441	1,334	1,044	-397
Vava'u	2,880	2,645	2,482	-398
Niuaotoputapu	234	178	98	-136
Niuafo'ou	126	125	94	-32
Total	17,051	16,941	16,766	-285

Source: MET annual reports and EMIS

Annex Table 2.4: Secondary school enrolments by form and gender, 2002-2011

	2002	2003	2005	2006	2007	2008	2009	2010	2011
Boys									
Class 7	274	269	94	0	0	0	0	0	0
1	1,348	888	1,049	1,066	1,185	1,285	1,387	1,462	1,374
2	1,278	1,021	1,034	963	1,171	1,392	1,272	1,393	1,345
3	1,163	1,168	948	1,087	1,004	1,220	1,261	1,175	1,245
4	939	963	802	943	1,055	1,186	1,257	1,177	1,043
Lower 5			68	67	69	8	86	74	49
5	1,203	1,048	771	1,022	1,007	1,345	1,131	1,306	1,267
6	417	442	346	413	516	648	675	662	834
7	75	67	91	110	73	106	131	170	258
Total	6,697	5,866	5,203	5,671	6,080	7,190	7,200	7,419	7,415
Girls									
Class 7	222	195	74	0	0	0	0	0	0
1	1,197	1,112	1,061	1,055	1,147	1,156	1,255	1,204	1,180
2	1,100	928	1,163	986	1,106	1,296	1,183	1,272	1,169
3	1,056	1,041	1,074	1,241	910	1,163	1,152	1,210	1,080
4	1,025	1,133	935	1,098	902	1,184	1,243	1,144	1,063
Lower 5	0	0	191	111	80	83	84	83	0
5	1,327	1,351	1,073	871	964	1,292	1,368	1,377	1,274
6	609	731	536	441	676	854	858	851	987
7	104	79	143	96	105	145	184	217	407
Total	6,640	6,570	6,250	5,899	5,890	7,173	7,327	7,358	7,160
ALL									
Class 7	496	464	168	0	0	0	0	0	0
1	2,545	2,000	2,110	2,121	2,332	2,441	2,642	2,666	2,554
2	2,378	1,949	2,197	1,949	2,277	2,688	2,455	2,665	2,514
3	2,219	2,209	2,022	2,328	1,914	2,383	2,413	2,385	2,325
4	1,964	2,096	1,737	2,041	1,957	2,370	2,500	2,321	2,106
Lower 5	0	0	259	178	149	91	170	157	49
5	2,530	2,399	1,844	1,893	1,971	2,637	2,499	2,683	2,541
6	1,026	1,173	882	854	1,192	1,502	1,533	1,513	1,821
7	179	146	234	206	178	251	315	387	665
Total	13,337	12,436	11,453	11,570	11,970	14,363	14,527	14,777	14,575

Notes: Excludes students enrolled on vocational courses; 2004 data not available

Source: MET annual reports and EMIS

Annex Table 2.5: Enrolments at government and church secondary schools, 2002-2011

	Ownership	Location	2002	2003	2005	2006	2007	2008	2009	2010	2011
Government											
Tonga HS	Government	TT	810	897	1,095	1,237	1,123	1,250	1,094	1,241	1,215
Tonga College	Government	TT	863	907	1,124	1,160	1,200	1,366	1,393	1,411	1,376
Vava'u HS	Government	VV	747	708	831	773	745	786	806	686	625
Ha'apai HS	Government	HP	329	413	403	373	371	297	295	295	293
Eua HS	Government	EUA	688	476	536	487	521	456	440	349	348
Niuaotoputapu HS	Government	NTT	191	217	209	134	162	155	136	115	107
Niuafo'ou HS	Government	NF	131	109	103	102	99	76	76	202	80
Talafo'ou MS	Government	TT	159	221	196	213	220	121	148	127	93
Tonga Side School	Government	TT	308	331	265	337	329	359	459	287	460
Houma MS	Government	E						59	88	389	67
Lotolu MS	Government							59	31	98	61
Kolovai MS	Government			103		413	468	79	83	31	89
Neiafu MS	Government							88	98	414	112
Vaini MS	Government							156	105		141
Non-government											
Atenisi Institute	Private	TT	108				100	115	85		
St Andrew's HS	Anglican	TT	724			423	396	326	300	323	348
Lavengamalie HS	Tokailolo	TT	464			317	305	235	233		215
Lavengamalie MS	Tokailolo	TT						110	109		133
Maama'anga Christian	Tokailolo								20		41
Ofamo'oni MS	Tokailolo							7	13		7
Beulah College	SDA	TT	333	290	170	199	176	200	203	222	268
Hilliard Memorial MS	SDA	TT	163	184	74	63	79	96	78		84
Mizpah	SDA	VV	224	171	148	137	234	144	160		128
Tailulu Tt	Church of Tonga	TT	336	407	341		490	480	488	432	381
Tailulu Vv	Church of Tonga	VV	164	146	97		100	119	142	169	186
Tailulu Hp.	Church of Tonga	HP	63	41	81		82	57	54	71	43
Liahona Hs	Latter Day Saints	TT	922	1,049	1,086	1,083	1,057	1,181	988		963
Liahona MS	Latter Day Saints	TT	267	261	268	239	280		193		256
Havelu MS	Latter Day Saints	TT	373	340	344	249	314	272	272		99
Pakilua MS	Latter Day Saints	TT	232	237	224			222	263	240	265
Eua MS	Latter Day Saints	EUA	47	53	69	98	86	90	20	61	61
Pangai MS	Latter Day Saints	HP	103	68	79	104	100	75			
Saineha HS	Latter Day Saints	VV	451	406	517		524	410	461	457	548
Koulo	Latter Day Saints								78		54
Vaini MS	Latter Day Saints	TT				321	249				141
Apifo'ou College	Catholic	TT	1,497	1,188	1,091	819	945	1,012	1,073		1,187
Takuilau College	Catholic		442	363	184	244	252	295	299	338	376
St. Joseph's CS	Catholic	HP	165	150	115	126	121	114	113	121	168
Chanel College	Catholic	VV	375	370	249	251	248	265	340	312	341
Queen Salote	Free Wesleyan	TT	740	705	833	924	916	946	1,000	995	1,036

Tupou College	Free Wesleyan	TT	730	503	684	774	637	793	682	883	974
Tupou HS Fasi	Free Wesleyan	TT	301		179	194	58				
Tupou HS Tapunisiliva	Free Wesleyan		104		53	57	62	44	54	60	63
Tupou HS Vaololou	Free Wesleyan		626		647	622	502	655	626	673	541
Tupou HS Nukunuku	Free Wesleyan		265		105	118	120	130	108	99	124
Mo'unga'olive College	Free Wesleyan	TT	88	75	81	97	94	71	60	78	88
Pea MS	Free Wesleyan	TT	39	45	19	18	21	30			
Vaini MS	Free Wesleyan	TT	21	19	13	21	28	20	11		11
Houma MS	Free Wesleyan	TT	33	22	22	15	14	16	16		67
Hofangahau College	Free Wesleyan	EUA	188	142	83	86	92	92	114	104	94
Mailefihi College	Free Wesleyan	VV	397	416	380	328	331	370	386	319	190
Taufa'ahau College	Free Wesleyan	HP	282	236	210	169	157	149	183	177	159
Peteli MS	Free Wesleyan							11	31	20	39
Maamaloa Side School	Free Wesleyan					18	5	37	38		49
Tupouto'a College	Free Wesleyan	HP	83	64	55	48	44	30	19	20	30
Ocean of Light	Bahai	TT	41			95	93	117	111		65

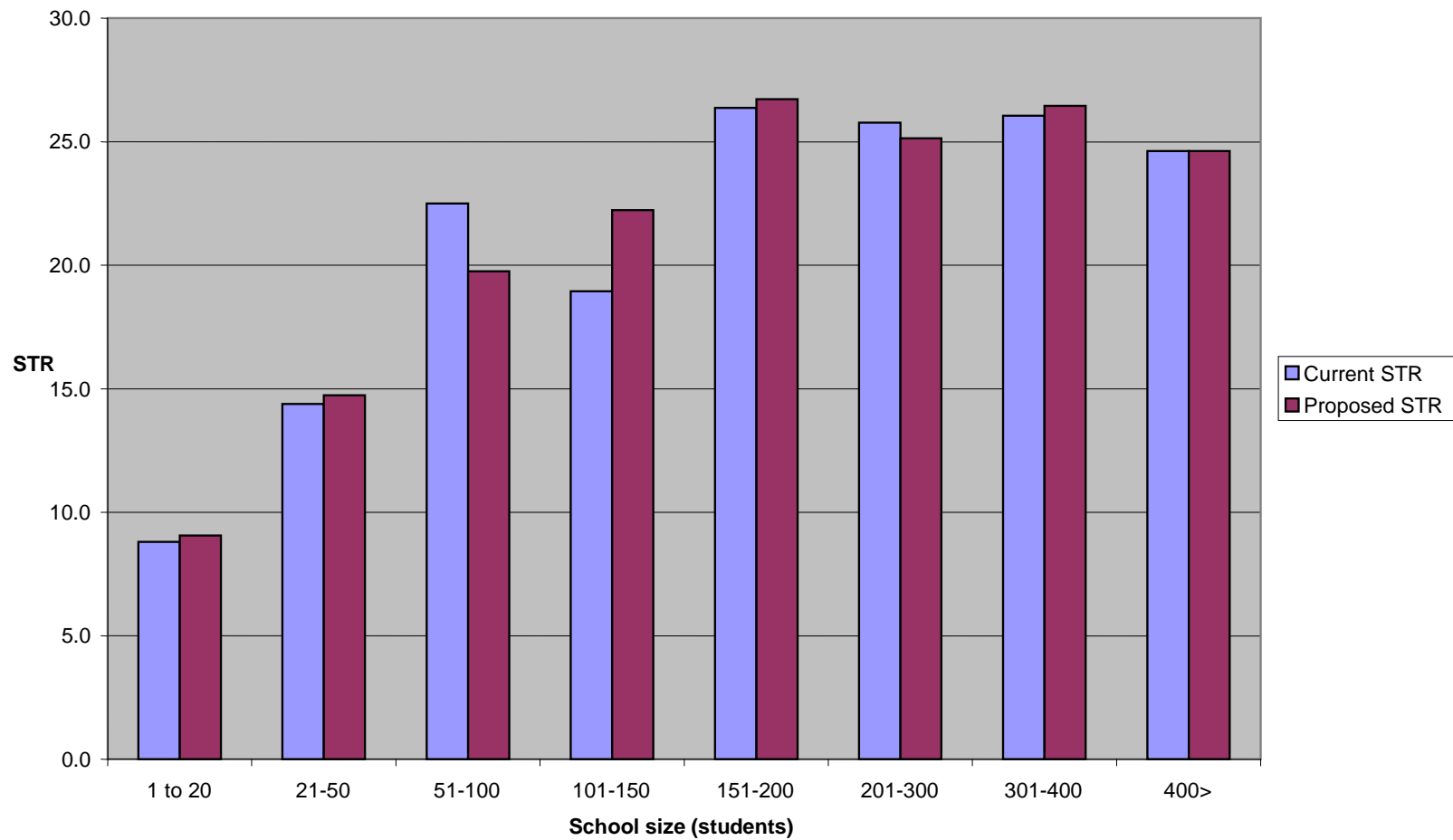
Source: MET annual reports and EMIS

Annex Table 3.1: Form 5 students enrolled in TSC examinations, 2010

School	Number electives	English	TongSt ud	Maths	Science	Agr	HomEc on	IndArts	Account	Econ	Geog	History	Computi ng	Biology	Music	Japane se	Art	French
Apifo'ou	12	124	118	124	35	16	7	6	15	24	50	11	58	15	11	0	0	0
Beulah	6	37	37	37	13	0	0	0	16	9	14	0	36	0	0	0	0	0
Chanel	9	60	59	60	21	22	6	0	10	8	21	0	23	9	0	0	0	0
Eua HS	12	68	68	68	67	17	2	8	7	11	20	4	47	15	0	5	0	0
Ha'apai HS	8	71	71	71	71	12	17	0	9	15	40	0	49	0	0	0	0	0
Hofangahau	8	9	9	9	3	2	0	0	1	1	5	2	5	0	0	0	0	0
Lavengamalie	9	55	54	45	31	0	0	0	6	5	19	6	26	16	2	0	0	0
Liahona HS	10	341	321	337	299	9	46	0	71	38	16	16	244	0	0	0	33	0
Mailefihi	11	52	52	48	23	10	8	8	5	5	9	3	33	0	6	0	0	0
Mo'unga'olive	8	15	15	15	2	4	8	3	0	4	6	0	5	0	0	0	0	0
Niuafo'ou	7	17	17	14	17	3	0	0	9	8	5	0	9	0	0	0	0	0
Niuaotupu	8	18	18	18	18	9	0	5	4	3	9	0	6	0	0	0	0	0
Mizpah	6	22	22	22	9	0	0	0	4	4	7	0	20	0	0	0	0	0
Queen Salote	9	161	155	153	61	0	25	0	31	36	62	31	153	50	0	0	0	0
Saineha	10	94	92	88	59	10	0	18	15	16	0	6	71	0	0	0	16	0
St Andrew's	11	35	33	22	7	4	7	3	9	13	6	0	18	3	0	0	15	0
St Joseph's	9	15	15	13	10	4	2	1	3	2	1	0	8	0	0	0	0	0
Tailulu TT	12	75	75	75	70	11	3	5	11	16	11	4	47	10	5	0	0	0
Tailulu HP	7	8	8	8	1	1	0	0	4	1	3	0	6	0	0	0	0	0
Tailulu VV	10	30	30	30	7	5	5	9	6	1	9	0	13	0	4	0	0	0
Takuilau	10	49	47	32	12	7	3	7	15	11	16	9	36	0	0	0	0	0
Tafa'ahau	9	26	24	13	7	8	5	3	6	6	6	0	18	0	0	0	0	0
Tonga Col	11	210	207	208	196	18	0	23	57	31	57	18	93	15	4	0	0	0
Tonga HS	12	211	165	213	211	0	4	10	53	65	67	33	147	67	0	8	0	7
Tupou Coll	11	91	85	91	35	22	0	6	6	4	28	11	42	11	6	4	4	0
Nukunuku	6	13	13	11	0	0	0	2	6	5	0	0	10	5	0	0	0	0
Tapunisiliva	6	11	11	10	5	5	0	0	1	2	0	0	10	0	0	0	0	0
Vaololoa	12	104	103	75	22	14	10	6	27	14	27	6	83	15	4	0	0	0
Tupouto'a	3	3	3	3	3	0	0	0	0	3	0	0	0	0	0	0	0	0
Vava'u HS	11	83	82	83	83	18	7	12	18	14	27	0	48	22	0	1	0	0
Enrolled		2,108	2,009	1,996	1,398	231	165	135	425	375	541	160	1,364	253	42	18	68	7
Number schools		30	30	30	29	23	17	18	28	30	26	14	30	13	7	4	4	2
Av class size		70	67	67	48	10	10	8	15	13	21	11	45	19	6	5	17	5

Source: MET Examination Department

Annex Figure 3.1: Current and proposed student-teacher ratios for government primary schools by school size categories, 2011



Annex Figure 3.2: % change in enrolments at high schools between 2002 and 2011

