



RE-BOUNDARY PLAN 2020-2021

Statistical Administrative Boundary Revision



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Background

Statistical geography is an important aspect of data collection, analysis and presentation. It allows information to be linked to location. The statistical geographical framework is mostly set by national statistical offices who are responsible for producing statistics, however aligning to existing geographical administrative boundaries. The framework is unique for each country where the geographical setting contributes significantly to it.

Tonga Statistics Department (TSD) current framework is structured into five geographical levels. This framework has been used ever since the department was established with minor alteration over the years. The administrative framework is shown in figure 1 below consist of Tonga, division, district, village and census block. Tonga is the national geographically defined land border of the country and is the highest level of the framework. Division or island division captures the division of Tonga to five separate island groups: Tongatapu, Vava'u, Ha'apai, 'Eua and Ongo Niua. Districts divide divisions into multiple smaller-scale areas base on geographical proximity. Village level reflects the boundaries of the many communities in each district. Census block is the smallest building block of the framework and was designed to consist of an average of 50 households.

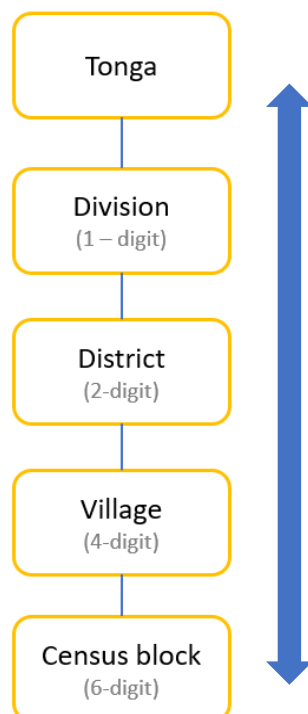


Figure 1: Structure of the administrative boundary

A coding system was established to uniquely identify each geographical boundary at different levels. Each census block is assigned a unique 7-digit code identifying its geographical location regarding the village, district and division where its located. Figure 2 is an illustration of what a block code comprises. The first digit (yellow) identifies the division it's located within. The second digit refers to the district (blue), the fourth and fifth identifies the village (red) and the last three digits are the block number (green). Appendix 1 provides a list of codes for each geographical level.

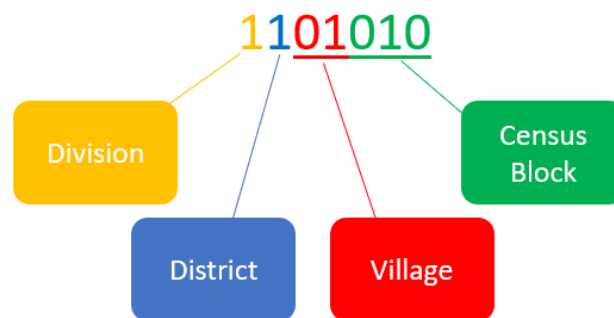


Figure 2: Census block coding structure

Although the framework enabled comparability of time series data and organizing fieldwork, it brings about issues on the workload of enumerators during data collection. Census blocks with a number of households over 50 have become a burden for enumerators given that only one enumerator is assigned to one CB, and data collection is becoming more timely and larger in volume. Census blocks with over 60 households illustrated in figure 3 indicate that majority of these blocks are located in Tongatapu and proximity to the urban area. Thus, there is a need to decrease the average household number in CBs to a manageable size to improve the collection process.

In addition, unofficial semi-villages border within large villages are not captured in this framework, however, they have become commonly known therefore, demand for data to be reported at these geographical levels continues to increase. Hence it is crucial to incorporate these geographical boundaries so that the department will be able to cater to the data demand. Thus, the move to revise the existing framework to resolve these issues.

Some boundaries are difficult to physically identify which confuses enumerators during data collection. Other boundaries are vague with the possibility of causing future confusion which may be due to physical terrain over time. Henceforth, there is a need to re-delineate explicit boundaries to account for the physical changes and avoid confusion.

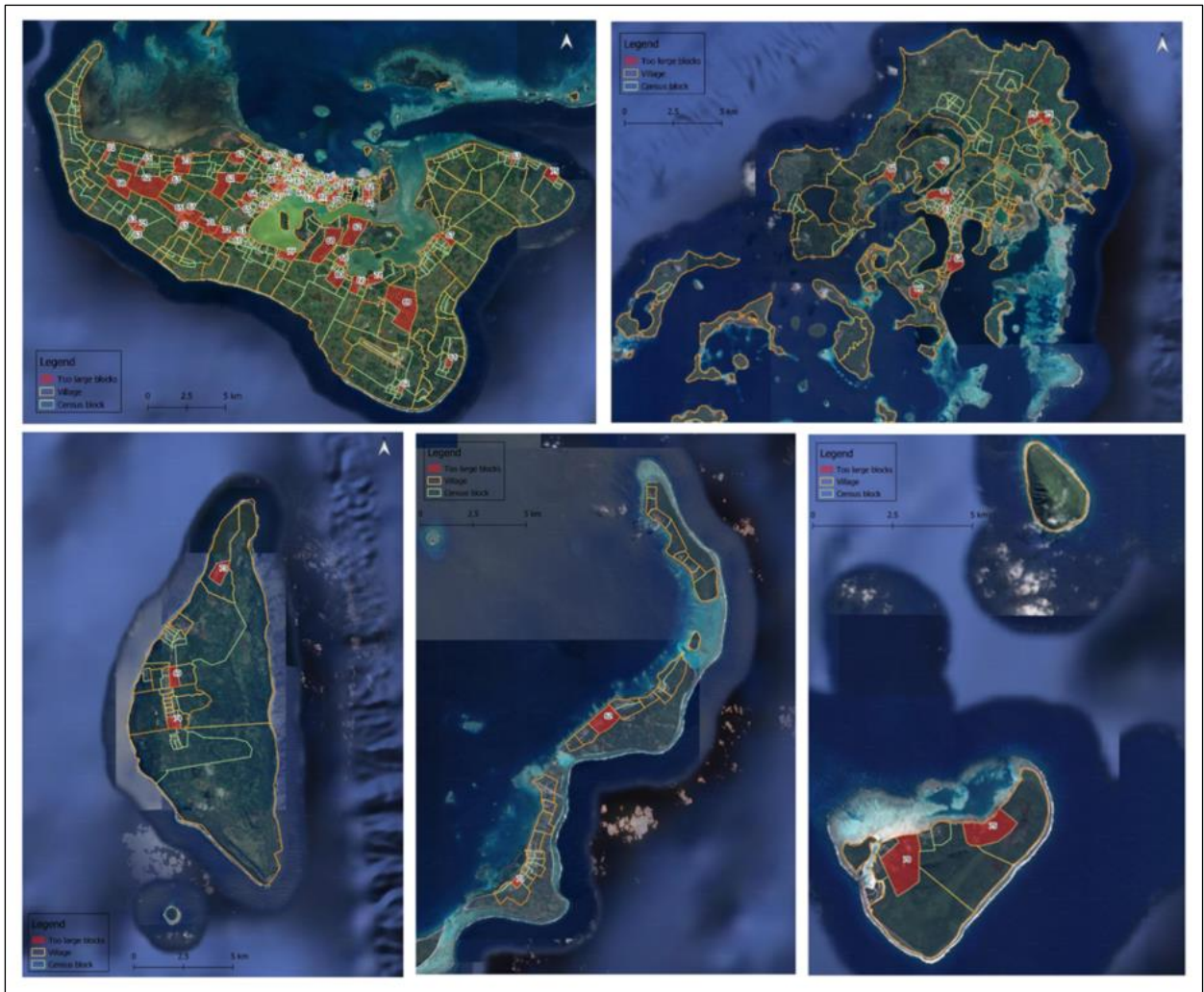


Figure 3: Maps of each group indicating census blocks with over 60 households in red.

Aim

To develop a statistical geographical framework that will contribute to efficient, timely and accurate data collection and is able to reflect settlement patterns of the population.

Objectives

1. Reduce the number of households per census block (CB) to a more efficient unit size for data collection.
2. To preserve geographical comparability between new and old administrative boundaries.
3. To capture existing semi-village settlement boundaries required for data dissemination and reporting.

Methodology

The overall re-boundary task is summarized into five phases shown in figure 3. Each phase will be explained later. SPC (The Pacific Community) contributes technical assistance to establishing a solid approach to create the revised framework.

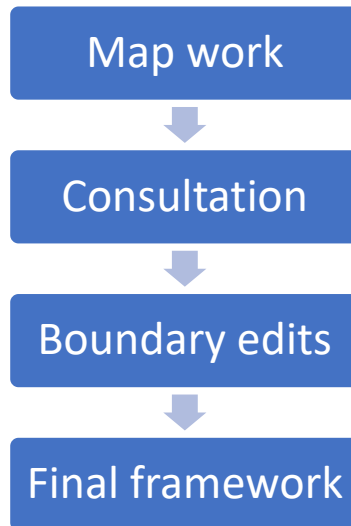


Figure 4: Summarized process of conducting the re-boundary.

Map work

The revised framework will become *Tonga Statistical Geography Framework (TSAF)*. The approach taken to establish the new framework focuses on re-drawing the boundaries at the CB level. This is because CBs are modifiable area units and mainly its purpose is for organizing fieldwork thus, reporting is not normally done at this level. Village to division boundaries will not be changed since the majority of data reports are done at these levels. Changes at CB is sufficient to address the aim and objectives of the task. Henceforth, data collected using the new framework will be comparable to that of the old. Furthermore, laws and regulations that bind the official existing boundaries at the village and division level limit the ability of the department to make changes at these levels.

TSAF structure intends to preserve the structure of the original framework with an additional geographical level called census unit (CU). CU is the smallest geographical unit which its boundary was delineated to contain an average of 20-30 households. This unit size will become the enumerator's working boundary during data collection and provides a sufficient workload. CB is to maintain its original definition of an average household of 50 households while CU provides nearly half the size.

Drawing the new CB and CU boundaries were done using QGIS software. The boundaries will be delineated base on the following criteria:

- Each CB to preserve an average of 50 households.
- Each CU contained within a CB will contain an average of 20-30 households.
- Boundaries are to be drawn using a stable physical feature such as roads to avoid confusion.

SPC will proceed with conducting the map work, delineating the new CB and CU boundaries based upon the agreed criteria and approach. Each week SPC will send the new CBs and CUs aligned with villages boundaries to TSD for review and feedback. This will be done on a village by village basis. All map work will be done using QGIS software.

Consultation

The consultation phase is estimated to begin in July 2020 where related stakeholders and communities will be given the chance to provide their views on the proposed framework. Also, this will be where sub-village settlement boundaries will be identified and drawn as well as an opportunity for issues with the framework to raise. About 16 consultations will be held at a different location.

Consultations are scheduled to begin with the first round of stakeholder meeting on the 24th July 2020 were relevant stakeholders such as Ministry of Lands, Survey and Natural Resources (MLSNR), Planning and Urban Management Agency (PUMA), and the Electoral Commission will be involved.

Furthermore, consultation to villages will be conducted by district where district and town officers, as well as constituency and village council representatives, will be called together with relevant local people to discuss the proposed boundaries. Also, this is an opportunity to extract local knowledge of semi-village boundaries. Resources such as maps of the proposed boundaries of the relevant areas will be provided to aid the drawing of the semi-village boundaries. Appendix 2 provides the program that will be conducted in each location.

All matters arising from the consultation phase and feedback will be recorded for later reference.

Following the consultation program, site visit and fieldwork will be conducted to raised concern areas during the program to assess and physically identify the boundaries for certainty.

Boundary edits

This phase focuses on incorporating priority issues and matters raised during the consultation. Records from the consultation will help identify what pressing issues to be incorporated into the framework. Moreover, the identified semi-village boundaries from the consultation will also be delineated into the existing boundaries. Choosing which semi-village to prioritize will depend upon data demand by users. The boundary revision will be done by TSD staff assisted by SPC expert.

Final framework

Once all modification has been done and all boundaries set, the entire framework will be finalized. The theoretical structure of the framework is shown in figure 4. All other associated geographical boundaries such as constituency and Greater Nuku'alofa will remain the same since changes will only focus on CB and CU level. A final stakeholder meeting will be called presenting to them the final framework on June 28th 2021. Maps will be provided to visualize the TSGF.

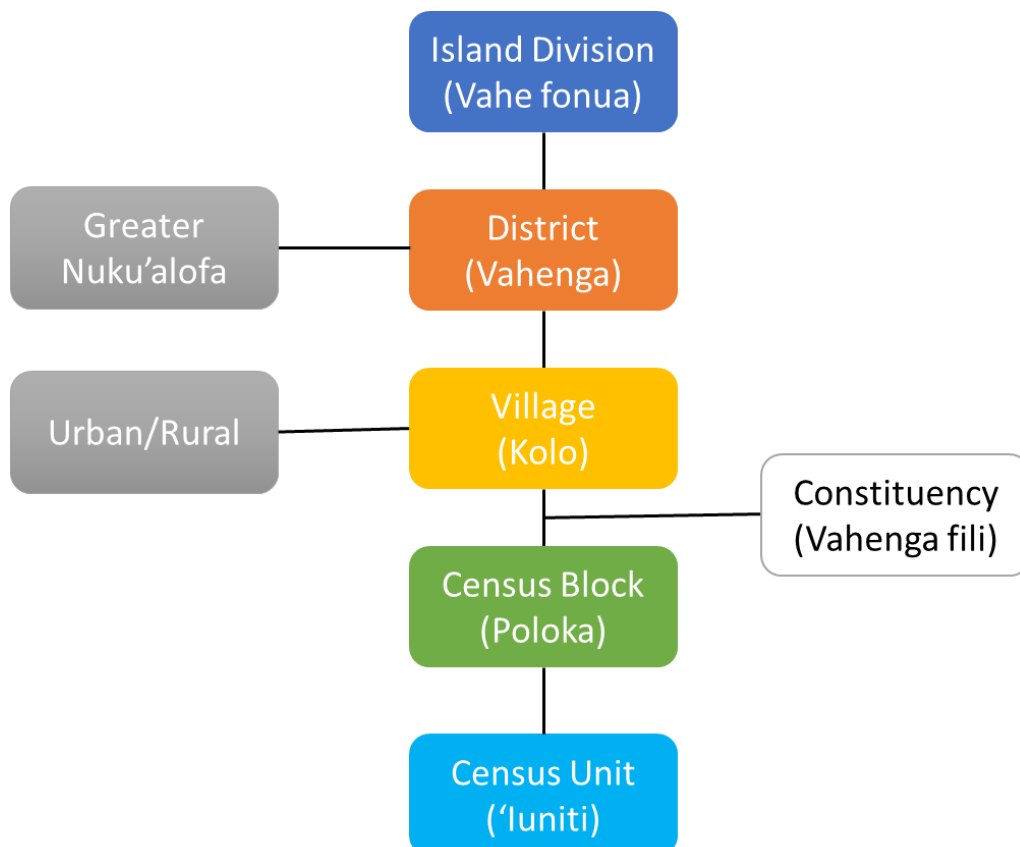


Figure 5: Tonga Statistical Geography Framework

A similar coding system to the old framework will be used to numerically identify each geographical unit. The structure of the framework is aligned according to the geographical disaggregation of the boundaries (figure 6). Each CU is assigned a unique 7-digit code which identifies its location. First digit indicates the island division containing the CU, the second digit indicates the district, third and fourth the village and so forth.

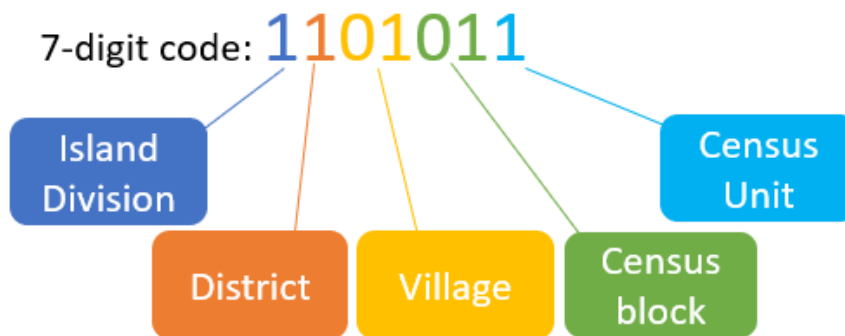


Figure 6: TSGF coding system structure.

Report writing

Once all task is completed, a written report of the entire re-boundary project will be collated explicit documenting what was done to achieve the final framework. Documentation and records of activities undertaken will be done to help the final reporting. The final report will be presented together with the finalized framework to the stakeholders on June 28th 2021.

Budget

The re-boundary project is estimated at 93,000 TOP. World Bank has offered 2,5000 USD and the Government of Tonga will fund the budget gap.

Appendices

Appendix 1

List of geographical codes

Code	Island Division
1	Tongatapu
2	Vava'u
3	Ha'apai
4	'Eua
5	Niuas

Code	District
11	Kolofo'ou
12	Kolomotu'a
13	Vaini
14	Tatakamotonga
15	Lapaha
16	Nukunuku
17	Kolovai
21	Neiafu
22	Pangaimotu
23	Hahake
24	Leimatu'a
25	Hihifo
26	Motu
31	Pangai Hp
32	Foa
33	Lulunga
34	Mu'omu'a
35	Ha'ano
36	Uiha
41	'Eua Motu'a
42	'Eua Fo'ou
51	Nuatoputapu
52	Niuafu'ou

Code	Village
1101	Kolofo'ou in Tongatapu
1102	Ma'ufanga
1103	Nukumotu
1105	Popua
1106	Tukutonga
1107	Pangaimotu in Tongatapu
1108	Fafaa
1109	Oneva
1110	Ataa
1201	Kolomotu'a
1202	Havelu
1203	Tofoa
1204	Hofoa
1205	Puke
1206	Sia'atoutai
1301	Vaini
1302	Malapo
1303	Longoteme
1304	Folaha
1305	Nukuhetulu
1306	Veitongo
1307	Ha'ateiho
1308	Pea
1309	Tokomololo
1401	Tatakamotonga
1402	Holonga in Tongatapu
1403	Pelehake
1404	Fua'amotu
1405	Nakolo
1406	Ha'asini
1407	Lavengatonga
1408	Haveluliku
1409	Fatumu
1501	Lapaha
1502	Talasiu
1503	Hoi
1504	Nukuleka
1505	Makaunga
1506	Talafo'ou
1507	Manuka
1508	Navutoka
1509	Kolonga
1510	Afa

Code	Village
1511	Niutoua
1512	Eueiki
1513	Fukave
1601	NUkunuku
1602	Matahau
1603	Matafonua
1604	Fatai
1605	Lakepa
1606	Vaotu'u
1607	Utulau
1608	Ha'alalo
1609	Ha'akame
1610	Houma in Tongatapu
1701	Kolovai
1702	Te'ekiu
1703	Masilamea
1704	Fahefa
1705	Ha'utu
1706	Kala'au
1707	Fo'ui
1708	Ha'avakatolo
1709	Ahau
1710	Kanokupolu
1711	Ha'atafu
1712	Atata
2101	Neiafu
2102	Makave
2103	Toula
2104	Utui
2105	Ofu
2106	Okoa
2107	Olo'ua
2201	Pangaimotu in Vavau
2202	Utulei
2203	Nga'unoho
2204	Utungake
2205	Tapana
2301	Ha'alaufuli
2302	Ha'akio
2303	Houma in Vavau
2304	Mangia
2305	Ta'anea
2306	Tu'ane kivale

Code	Village
2307	Koloa
2308	Holeva
2401	Leimatu'a
2402	Holonga in Vavau
2403	Feletoa
2404	Mataika
2501	Longomapu
2502	Taoa
2503	Tefisi
2504	Vaimalo
2505	Tu'anuku
2601	Kapa
2602	Falevai
2603	Otea
2604	Lape
2605	Matamaka
2606	Nuapapu
2607	Ovaka
2608	Taunga
2609	Hunga
2610	Foeata Island
2611	Vaka'eitu
2612	Mounu
2613	Eueiki
2614	Mala
2615	Fofoa Island
3101	Pangai in Ha'apai
3102	Hihifo in Ha'apai
3103	Holopeka
3104	Koulo
3201	Fangale'ounga
3202	Fotua
3203	Lotofoa
3204	faleloa
3205	Ha'afakahenga
3206	Ha'ateiho Si'i
3301	Ha'afeva island
3302	Tungua
3303	Fotuha'a
3304	O'ua

Code	Village
3305	Matuku
3306	Kotu
3401	Nomuka
3402	Mango
3403	Fonoifua
3501	Fakakai
3502	Pukotala
3503	Ha'ano
3504	Muitoa
3505	Mo'unga'one
3601	Uiha
3602	Felemea
3603	Lofanga
4101	Ohonua
4102	Tufuvai
4103	Pangai in Eua
4104	Houma in Eua
4105	Ha'atu'a / Kolomaile
4106	Ta'anga
4201	Angaha
4202	Futu
4203	Esia in Eua
4204	Sapa'ata in Eua
4205	Fata'ulua in Eua
4206	Mu'a in Eua
4207	Tongamama'o in Eua
4208	Petani in Eua
4209	Mata'aho in Eua
5101	Hihifo Ntt in Ongo Niua
5102	Vaipoa
5103	Falehau
5104	Tafari
5201	Esia in Ongo Niua
5202	Kolofo'ou in Ongo Niua
5203	Sapaata in Ongo Niua
5204	Fata'ulua in Ongo Niua
5205	Mata'aho in Ongo Niua
5206	Mu'a in Ongo Niua
5207	Tongamama'o in Ongo Niua
5208	Petani in Ongo Niua

Appendix 2



Re-boundary Consultation

Location:

Date:

Program

Time	Activity
10:45 – 11:00am	Registration
11:00 – 11:05am	Prayer
11:05 – 11:10am	Opening remark
11:10 – 11:20am	Introduction to re-boundary
11:20 – 11:40am	Showcasing boundaries by villages
11:40 – 12:00am	Discussion/group work (identifying boundaries of semi-village)
12:00 – 12:10pm	Wrap-up discussion
12:10 – 12:15pm	Vote of thanks
12:15 – 12:20pm	Benediction
12:20 – 1:20pm	Lunch break
2:00pm	Site visit and fieldwork

Malo 'aupito