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Abstract

The western half of Espiritu Santo is one of the most remote, culturally diverse, and least linguistically studied areas of Vanuatu. In this article, we focus on the area along the west coast of Santo, a region we call here Western Santo, to report what languages are spoken there and in what context. Much of our data come from statistics and official documents, from the authors' knowledge about the area, and from the findings of the Western Santo Language Survey, which was launched in 2022. We approach the descriptive task using a *language ecosystem* model to cover a wide range of social, economic, and environmental factors that may be related to the vitality of languages. Our vitality assessment shows that, despite recent loss of language diversity, most of the extant languages in Western Santo perform very well in some regards, e.g. intergenerational transmission, proportion of L2/non-speakers, and speakers' attitudes, but very poorly in terms of others, e.g. response to new domains (including education, religion, social media), availability of literacy materials, and amount and quality of language documentation. The institutional attitudes are mixed and/or unclear, but the grassroots potential is stronger. We also offer a discussion of likely future developments, which may impact language vitality, including population growth, improved education and infrastructure, industrial development, higher Internet use, and increased risks associated with natural disasters/climate change. Finally, we propose urgent measures for maintaining and increasing the vitality of Western Santo's Indigenous languages to ensure the region's sustainable development.

Summary in Bislama

Weskos mo Notwes Santo hem i wan pat blong Vanuatu we hem i rimot tumas. Mo tu long ples ia i gat plante difren lanwis be i no gat tumas deskripsen mo material, olsem grama, dikseneri, buk blong skul mo baebol translesen, long ol lanwis ia. Long ripot ia mifala i stap presentem ol difren smol lanwis we ol man oli toktok long olgeta long ol difren vilij stat long Hokua vilij long not kasem Kerevinombu vilij long saot. Antap long hemia, mifala i

deskraebem ol lanwis ekosistem long ples ia. Hemia i minim se mifala i presentem fulap infomesen long saed blong ol samting we i save influensem ol lokol lanwis long Westkos mo Notwes Santo: populesen, sasaieti, kalja, relijen, edukesen, kastom, gavenans, klaemet, disasta, transpot, komunikesen etc. Mifala i tokbaot ol tingting (atitiud) blong ol man mo woman blong Weskos mo Notwes Santo long saed blong lanwis, mo ol atitiud mo aksen we ol gavmen oli bin tekem long saed blong ol smol lanwis. Afta, mifala i mekem wan vaetaliti asesmen; hemia i minim se mifala i wantem luk se ol lanwis ia bae oli lus hariap o oli sef nomo. Mifala i faenem se plante lanwis long Weskos mo Notwes Santo klosap evri pikinini long ol komuniti ia oli save toktok gud long ol lanwis ia. Be long sem taem, ol lanwis ia, ol man, woman mo pikinini oli no stap yusum tumas long joj, skul o long intanet. Hem i minim se long fiuja i maet hapen se ol lanwis ia oli nomo strong tumas long ol komiuniti olsem naoia. Mifala i tokbaot wanem nao fiuja blong ol lanwis blong Weskos mo Notwes Santo mo influens blong ol posibol fiuja developmen olsem populesen i kam antap, edukesen, intanet akses, infrastrakja, disasta mo klaemet jenj.

Keywords

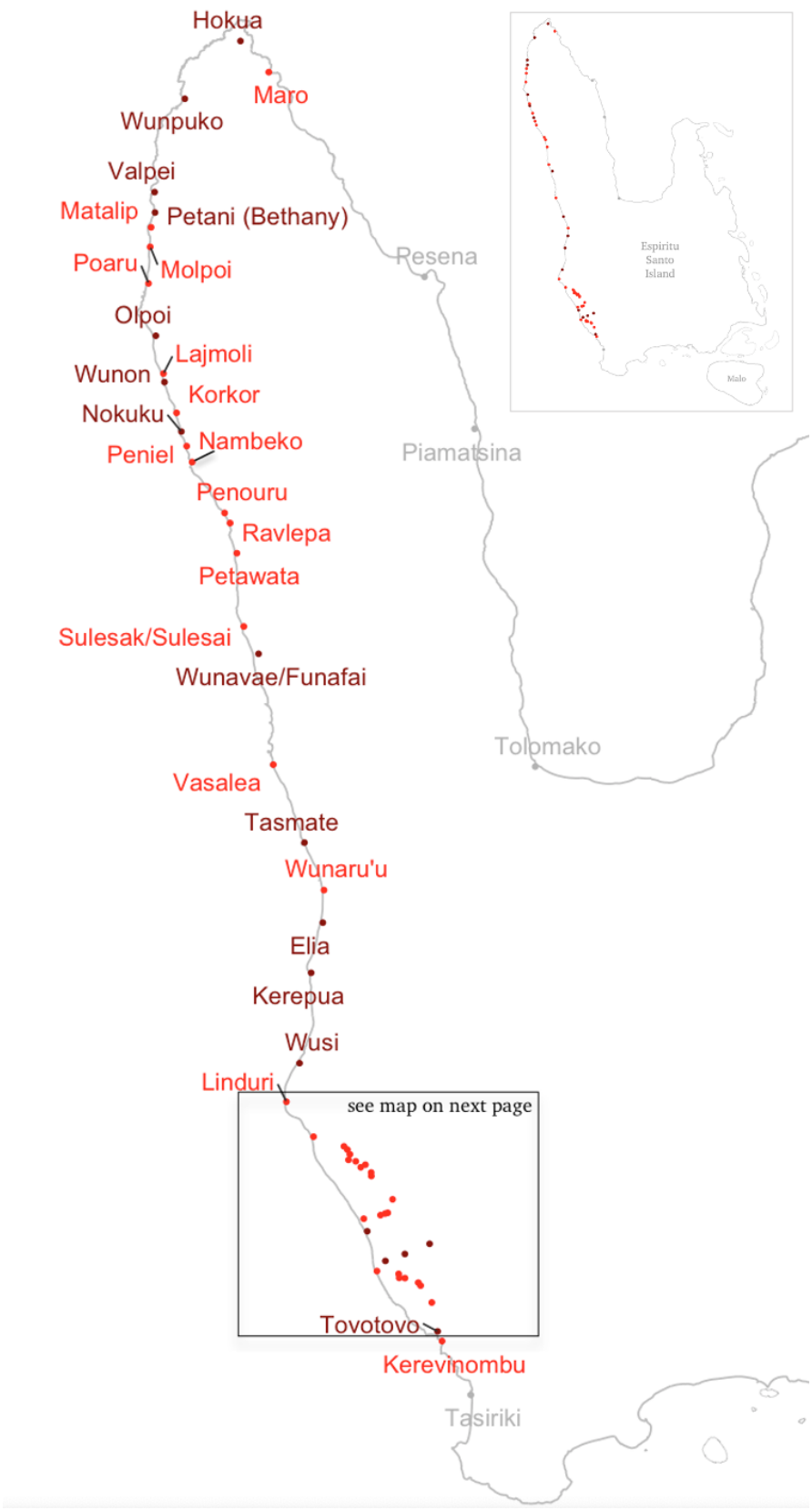
Santo, language ecosystem, language ecology, documentation, language endangerment, conservation, language attitudes, language vitality, climate change

1 Introduction

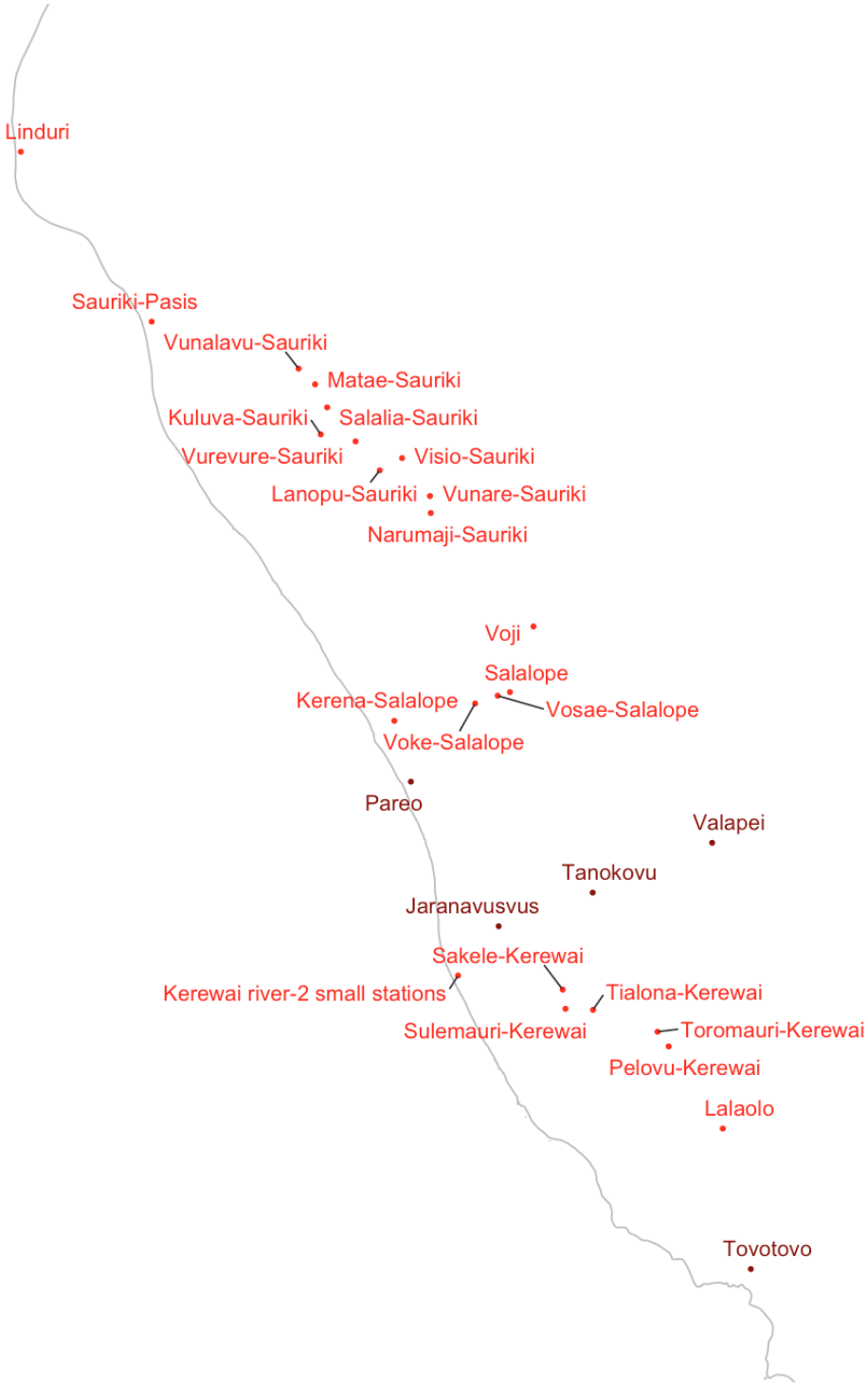
Espiritu Santo (normally referred to as Santo) is the largest island in the Republic of Vanuatu. Its western, mountainous half is one of the most remote and sparsely populated areas of Vanuatu due to its geography and lack of infrastructure. Linguistically, western Santo is also by far the least well studied area of Vanuatu (Rangelov et al., 2025, this issue).

In this paper, we aim to describe in detail the contexts in which the Indigenous languages of the communities living along the western coast of Santo are spoken, as well as to assess the vitality of these languages and the prospects for their future. We adopt a linguistic-ecological approach to the descriptive task – we first define the components of the local language ecosystems and describe them in detail. Based on this, we then perform an analysis of the vitality of the languages and their prospects for the future. The area we cover is from the Cape Cumberland area (the tip of the Cumberland Peninsula) in the north to Kerevinombu village in the south (see Map 1a). The populations living on the eastern and southern slopes[1] of the Santo Mountain Chain are not covered here.

[1] The areas on the eastern slopes of the mountains are part of the Big Bay region (or "Big Bay Bush" when referring specifically to the areas that are at higher altitudes and further from the sea shore). The areas on the southern slopes are part of the South Santo region or "South Santo Bush", when referring specifically to inland areas.



Map 1a. All villages of Western Santo covered in this article. Villages with more than 100 inhabitants are in darker red. Villages in grey are larger neighbouring villages that are not part of the region described here. See also the interactive map in the supplementary material in the Appendix.



Map 1b. A zoom-in of the southern part of Western Santo with villages along the Sauriki, Pareo, and Kerewai river valleys (from north to south), and adjacent hills. Villages with more than 100 inhabitants are in darker red. See also the interactive map in the supplementary material in the Appendix.

We chose to define the boundaries of the region as described above because the language ecosystems here have a few things in common that distinguish them from other parts of Santo. All villages in this region are situated along the sea coast or fairly near it, as opposed to some other nearby areas (the less steep southern and eastern slopes of the mountain chain) where many communities live further inland (cf. Footnote 1). Access to the sea is crucial here also

because of the lack of ground transport infrastructure (see §3.4.1) which has a huge impact on lifestyles, demographics, the economy, education, healthcare, migration etc., defining the region's remoteness mentioned earlier. We do not include the village of Tasiriki (and neighbouring hamlets) in the southwestern corner of Santo, which can be reached by road from Luganville.

Tasiriki is also part of a different administrative unit than the rest of the western coast. The region that we are describing is administered by two area councils: the North West Santo Area Council (spanning from Maro to Wunavae) and the West Coast Santo Area Council (from Vasalea to Kerevinombu). These two area councils have a joint Western Santo Sustainable Development Plan 2030 (WSSDP2030; NWSAC & WCSAC, 2021) and this region is the area of operation of the local NGO Santo Sunset Environment Network (SSEN, www.santosunset.org). Both of these facts have implications for the access to data for this article, as well as for the region's development and language attitudes and planning (see §3.8, §3.10).

A note is due here on the geographic terms that we are going to use. We will refer to "Western Santo" to mean only the region as defined above. When we mean the wider region encompassing the entire western half of the island, or parts thereof, we will specify this explicitly. When we write about "North West Santo" (NWS), and "West Coast Santo" (WCS), we refer to the regions administered by the respective area councils.

The rest of this paper is organised as follows: In §2, we elaborate on our choice of descriptive methodology and the definition of the *language ecosystem* concept that we employ, and on our data sources and related limitations. The bulk of the paper is in §3, where we describe the different components of the Western Santo language ecosystems, how these components relate to each other, and the implications that the facts presented have for the vitality of Western Santo's Indigenous languages. In §4, we perform a vitality assessment for Western Santo languages based on the EGIDS (Lewis & Simons, 2010) and UNESCO (Brenzinger et al., 2003) scales, and we discuss likely future developments and their possible impact. We summarise the results and conclude the paper in §5.

2 Methodology and Data

2.1 Methodology

The first goal of this paper is to document and describe the contexts in which Western Santo languages are spoken in as much detail as possible. To achieve this goal, we adopt a language ecosystem model (Rangelov, in prep.), which is based on research in the field of language ecology in the tradition of Einar Haugen (1972) and later works, and further explores the ecology metaphor underlying those works. We aim at encompassing as wide a range of external factors (i.e. not language-internal processes) as possible that may affect a language's evolution and vitality. The goal of this paper is to contribute to the description of these factors in relation to the Indigenous languages of Western Santo, and to discuss their vitality/endangerment, rather than to assess how they may be affecting the shape of these languages (e.g. changes in the grammar and lexicon).

The term *ecosystem* is used to describe the environment of biological species and how they interact with this environment. This includes interactions between different components of the environment (e.g. water, soil, air, climate etc.) and between species (including plants, animals, fungi). Thus, ecosystems can be described in terms of their components, as well as the processes that take place between these parts. Building on this metaphor and on previous

theoretical work in the field of language ecology and related fields by Haugen (1972), Mufwene (2001), Brenzinger et al. (2003), Grenoble & Whaley (2006: §2), Ravindranath (2015), Marten (2019), among others, here we adopt a general model of the ecosystem that aims to encompass as wide as possible a range of external factors, in order to capture the context in which languages are spoken broadly and in detail. Here, we identify nine general components of language ecosystems:

i. geography,
ii. demography,
iii. technology and infrastructure,
iv. social organisations and structure,
v. speaker competence and literacy,
vi. the languages spoken in the area and multilingualism,
vii. the attitudes of speakers and institutions,
viii. the domains of language use,
ix. and the languages' documentation and standardisation status.

In §3.2 to §3.10 we offer a detailed description of Western Santo language ecosystems by focusing on each component (in the order in which they appear above).

Such a holistic model provides for comprehensive organisation of the empirical evidence regarding the relationship between languages and their environment. It also enforces a broad but detailed approach and ensures comprehensive description and multi-faceted subsequent analysis, which also has to take into account the general and specific relationships between these factors. The description we offer here can be used as reference for future work.

We also use the relevant details to assess the vitality of Western Santo's languages; the qualitative methods we use for this assessment are explained in detail in §4.1.

2.2 Data

The data we use in this paper come from various sources. Here we provide an overview of the major sources we used:

- The Vanuatu 2020 National Population and Housing Census (VBOS, 2020, 2025). For brevity, hereinafter this will be referred to as "the 2020 Census". The census provides data on population numbers, technology use, education, language use, among other things.
- The Western Santo Sustainable Development Plan 2030 (WSSDP2030) (NWSAC & WCSAC, 2021). This plan is a joint initiative of the two area councils, aided by local NGO Santo Sunset Environment Network (SSEN) and it was prepared in consultation with, and with the assistance of, local chiefs, women, churches, people living with disabilities, youth, environment rangers, and local businesses. WSSDP2030 contains detailed demographic data (collected in 2021) and outlines attitudes towards language use and proposes language planning measures. The list of settlements used in this paper is based primarily on the list provided by WSSDP2030 with the addition of one hamlet that was not included in WSSDP2030, Wunaru'u, for which we have detailed data. All 55 settlements appear on Maps 1a,1b and are listed in the Appendix, and in the supplementary material. Note that the total population numbers in WSSDP2030 and the 2020 Census are different (2,265 vs 1,594 for NWS, and 2,639 vs 3,211 for WCS, respectively). These differences are likely due to at least three factors: (1) a change in population during the time between the two population counts, (2) differences in data

collection methodology, and, (3) in the case of WCS, a different definition of the reported area.[2]

- The National Sustainable Development Plan 2016-2030 (NSDP2030) (DSPPAC, 2016, 2017). This is a document prepared by Vanuatu's Department of Strategic Policy, Planning and Aid Coordination. It outlines the vision and policy framework for achieving national priorities in accordance with global sustainable development goals. One of the main goals outlined in the Society Pillar section of the plan is to maintain the vibrant cultural identity of Ni-Vanuatu.
- Previous linguistic surveys and overviews including Western Santo languages: Tryon (1976, 2010a, 2010b), Clark (1985, 2009a), Lynch & Crowley (2001), François et al. (2015), and Hammatrstöm et al. (2024).
- The Western Santo Language Survey (WSLS), led by Rangelov, which started in 2022. This survey includes the collection of sociolinguistic information and a list of around 500 basic and culturally-significant vocabulary items and aims to cover each larger village and some hamlets in Western Santo. So far, the area from Nokuku in the north to the Sauriki valley in the south have been covered by the survey. These data were a main source of information regarding local language names, self-reported mutual intelligibility by various community members, population in diaspora, etc.
- Authors Allan Taman and Sabrina Taman, who were born, raised and reside in Northwestern Santo, also conducted consultations with their contacts in various villages in Western Santo not covered by the survey during the work on this report to collect relevant data. The authors acknowledge that they have been able to collect comparatively less detailed information on the languages spoken in the southernmost part of the region (the Pareo and Kerewai river valleys). Thus, many of the facts discussed without citations reflect the general knowledge of authors Allan Taman and Sabrina Taman about the area based on their own experience, contacts, and knowledge passed down through generations. Allan Taman has travelled extensively and has had contact with people throughout Western Santo as SSEN Chairman.

3 Western Santo Language Ecosystems

3.1 Brief history of Western Santo

In this subsection, we offer a brief account of the history of Western Santo to serve as context for the discussions on the components of Western Santo language ecosystems.

People have been living in Western Santo for millennia, likely since the first settlers arrived in Remote Oceania around 3000 years ago. There is archaeological evidence of terraced taro cultivation in Western Santo dating back to at least 1000 years ago (Galipaud, 2004).

Before European contact, the people of Western Santo traded mats and pigs, and exchanged women with communities living as far away as the Banks and Ambrym. Western

[2] In relation to (3), as per an administrative reform, which entered into force between the data collection for the 2020 Census and the WSSDP2030 population count, the territory of the former West Santo Area Council was amended so that its western part is now the West Coast Santo Area Council (including the territory relevant to this article), while its territories on the eastern and southern slopes of the mountains have been incorporated in other area councils. This means that the 2020 Census data cited in this article for WCS include data for a number of villages in sparsely populated areas outside of the Western Santo area. We do not believe that this has substantially influenced the 2020 Census data we report in this article, e.g in §§3.4-3.6, and the conclusions based on them. The population figures reported in the Appendix are based on the WSSDP2030 data.

Santo pottery was exchanged for other goods across Santo and Malo and as far as Ambae, Malekula, and Epi (Huffman, 1996, p. 184; Pascal, 2020, p. 125).

Contact with Western Europeans intensified in the 19th century and was initially centred around sandalwood trade and blackbirding. The first missionary to visit the area was J. D. Gordon who spent a few months at Nokuku in 1889 (Miller, 1990). The first Christian mission was established at the very end of the 19th century at Nokuku by Presbyterian missionary J.N. Mackenzie (Miller, 1990). Later, mission schools were established in Tasmate, Hokua, Valpei, Perivarvar, Wusi, and other locations. Some missionary efforts to change *kastom*[3] provoked violent responses.

Historically, there were many settlements in the high parts of the mountains, at elevations up to 800 meters above sea level, as well as other settlements on the coast (see also §3.3). Migrations from the hills to the coast started in the 19th century and happened *en masse* in the first half of the 20th century. By the 1970s all inland residents from the western slopes had moved to the coastal areas following epidemics and associated population declines, as well as Christianization efforts. In some cases, a single inland group would split, with some members moving to the western coast, and others moving to the eastern slopes of the Santo Mountain Chain – to the east coast of the Cumberland Peninsula and to the Big Bay area (both coastal and inland). This means that language varieties from the inland areas came into contact with coastal varieties along the western coast, as well as with other varieties on the eastern side of the mountains.

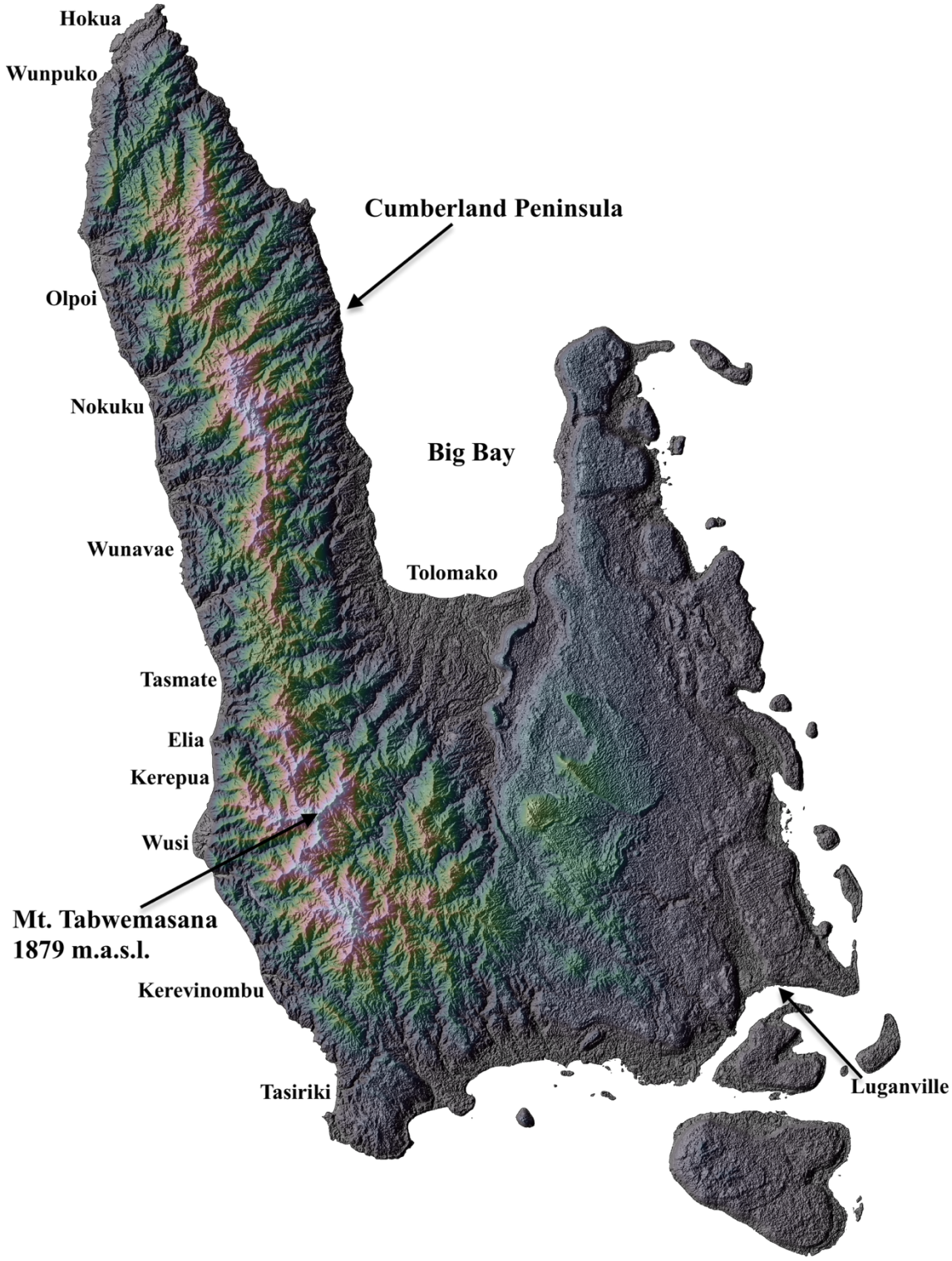
Before Vanuatu's Independence in 1980, a few foreign plantations were established in Western Santo. During WWII, there was a military base at Wunpuko, where US soldiers were based.

Western Santo remained relatively isolated from the tumultuous events that took place in the eastern half of Santo before Vanuatu's Independence in 1980. Most people of Western Santo welcomed Independence.

3.2 Geography

Santo Island covers 3,955.5 sq. km and lies at around 15 degrees south of the equator and 167 degrees east of the Greenwich meridian. It is approximately 120 km long (north-south, at its longest stretch in the west) and 60 km wide (east-west). It can be topographically split into two main parts: the eastern half, which is dominated by a low plateau and outlying islands off the east and southern coasts, including Malo Island - the largest offshore island; and the western half, dominated by the Santo Mountain Chain, which runs from the top of Cumberland Peninsula and widens out in the south (see Map 2). The highest peak, Mt. Tabwemasana, at 1879 meters above sea level, is the highest peak in Vanuatu and also the highest peak west of Samoa, east of Australia, south of the Solomon Islands and north of New Zealand. This unique position means that the Santo Mountain Chain is home to many endemic species and is a globally recognized biodiversity hotspot (NWSAC & WCSAC, 2021; Bouchet et al., 2011).

[3] The term *kastom* in Vanuatu refers broadly to Melanesian traditions. It is both the lived tradition of local cultural practice and a broader ideological claim to Indigenous identity, authority, and continuity.



Map 2. A topographic map of Espiritu Santo Island and offshore islands, with some larger villages along the western coast. Map base: European Space Agency (2024); © DLR e.V. 2010-2014 and © Airbus Defence and Space GmbH 2014-2018 provided under COPERNICUS by the European Union and ESA

In the southeast of Santo is Luganville, Vanuatu's second largest town and commercial centre, featuring an international airport, an international port, tourism facilities, and trade facilities. Luganville's population of 17,719, as per the 2020 Census, includes people from different ethnic groups from Santo, Northern and Central Vanuatu, the rest of Vanuatu and overseas, and is thus one of the cultural "melting pots" of Vanuatu. Luganville gained prominence during World War II when a major US military base existed there for a few years. From Luganville, a paved road follows the more developed eastern coast. Unpaved roads of varying quality follow the south coast to Tasiriki, as well as in a northerly direction from Luganville through the plateau to the shores of Big Bay. Contrasting with the relative accessibility of the east, south and north, Western Santo has no road access is characterized by its remoteness (see also §3.4.1).

The largest rivers on Santo run east and north into Big Bay and down the southern slopes of the Santo Mountain Chain. The steeper western slopes of the mountain chain are intersected by many smaller rivers and streams with the mountains rising steeply from the sea shore. Most people reside very close to these rivers and streams. Gardens are located near the villages or further inland in the hills. The lowest pass over the mountains, at 1080 meters above sea level, is east of Elia.

The shore line along the western coast varies from steep cliffs dropping into the sea in the southern one third of the area to an almost uninterrupted narrow ribbon of relatively flat sandy beach and land, which widens at river mouths, in the northern two thirds. The seabed drops rapidly to depths that do not allow the sustenance of substantial coral reef systems. There are few naturally sheltered boat passages and when the weather is not calm, large waves break onto the shore.

Figure 1. A sunset view north from the beach near Kerepua, showing the rugged coastline of Western Santo. Photo taken on 2023-06-29. Photograph by: Tihomir Rangelov

Figure 2. A view of the Sauriki river where it meets the sea, and its lower valley. Photo taken on 2023-07-02. Photograph by: Tihomir Rangelov

Figure 3. The twin summit of Mt. Tabwemasana. Photo taken on 2023-06-24. Photograph by: Tihomir Rangelov

3.2.1 Climate, climate change, and natural disasters

Western Santo is in the rain shadow and is drier than most other areas of Vanuatu. This, in combination with poor soils at lower altitudes, is a challenge for food security, and forces people to plant gardens at higher altitudes, which significantly increases the labour costs of food production. Rivers and streams provide fresh water all year round.

Droughts, bushfires, cyclones, landslides, and floods are the most common natural disasters. Weather extremes are exacerbated by the effects of climate change. Climate change is also responsible for ocean acidification and the bleaching of the few coral reefs. Coastal erosion has been a growing concern. Tsunamis are another potential threat.

The most recent natural disaster events include El Niño droughts in 2015-2016 and 2019, the devastating Cyclone Harald in 2020, and land- and mudslides at Molpoi, which have been occurring annually since 2019 (Figure 4).

Many villages have established Community and Disaster Climate Change Committees (CDCCCs) to address these problems.

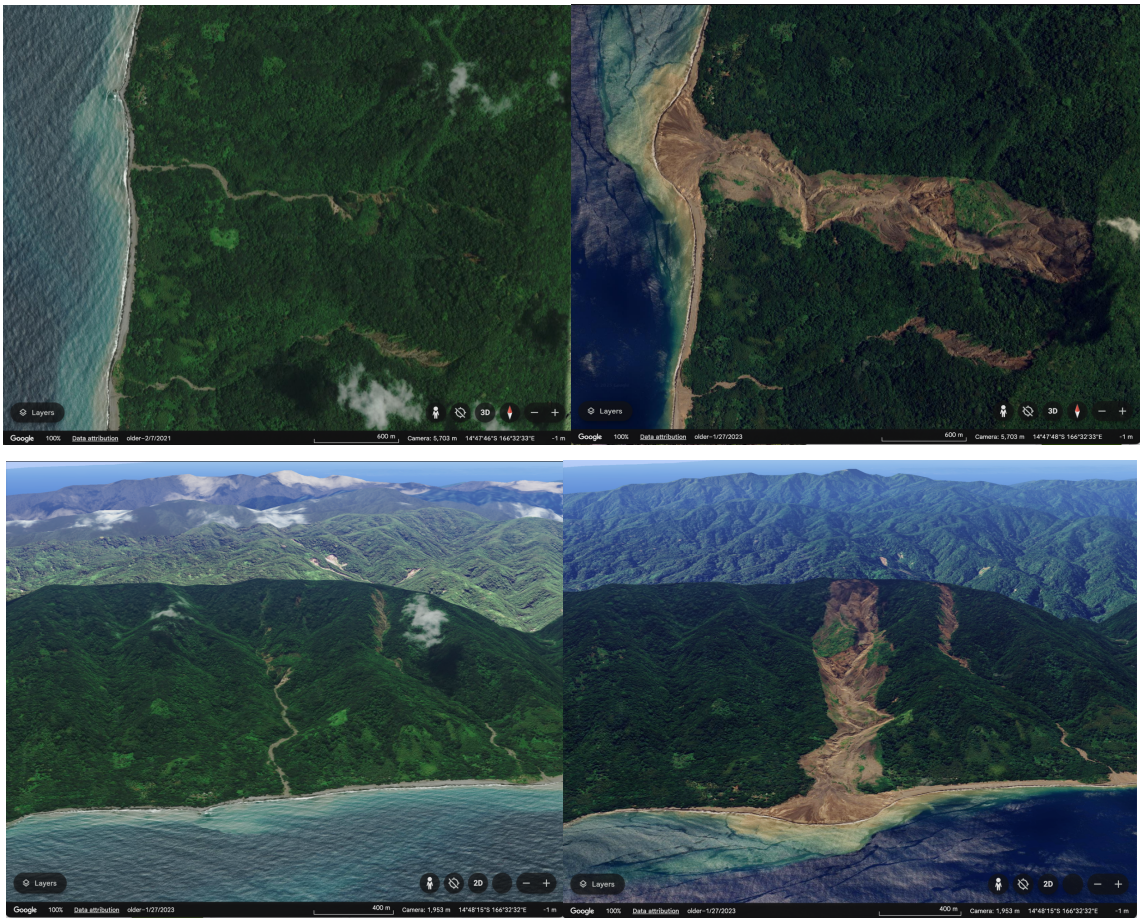


Figure 4. "Before and after" satellite images and 3D renders of an identical area taken less than two years apart (the images on the left are dated 2021-02-07, the right images – 2023-01-27), demonstrating the effects of major land- and mudslides next to Molpoi. The village is located immediately to the north (left on the 3D renders) of the river mouth/the new land created by the mudslides. The latest mudslide in the area happened in January 2025. The images are screen captures from Google Earth; they contain data from Landsat/Copernicus, Airbus, and Maxar Technologies. Used under Google's fair use policy, as per 2025-03-17.

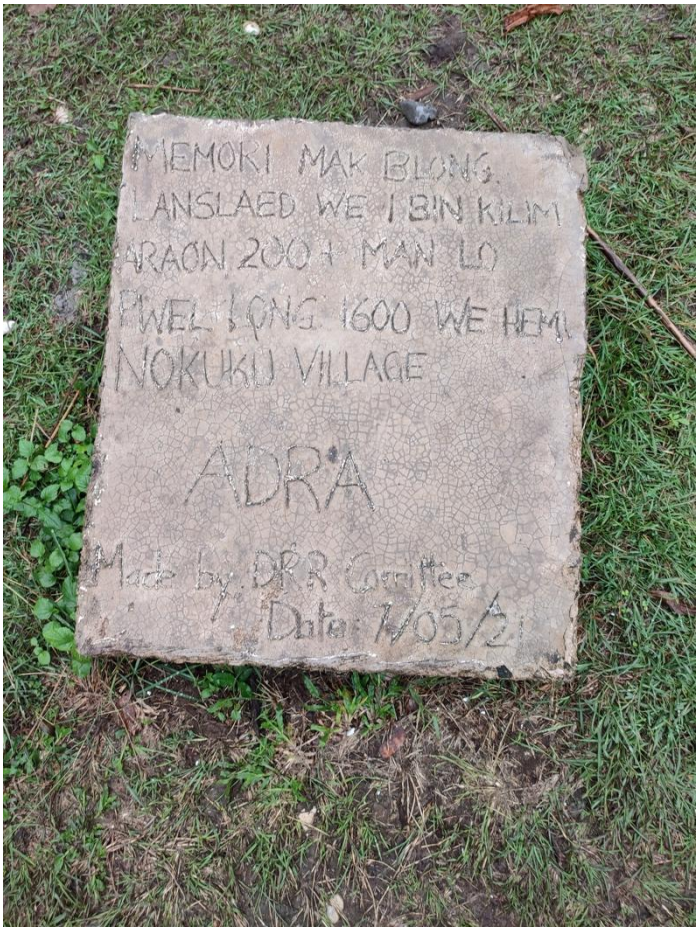


Figure 5. A monument commemorating the victims of a large landslide that happened at Nokuku a long time ago. The text, mostly in Bislama, reads "Memori mak blong lanslaed we i bin kilim araon 200+ man lo *pwel* lo 1600 we hemi Nokuku village. ADRA. Made by DRR Committee. Date: 7/05/21' (English translation: "Memorial to the landslide which killed around 200+ people in [the] 1600[s], in the ancestral village, at the location where Nokuku village is now. ADRA. Made by DRR Committee, Date 7/05/21." Note: *Pwel* is a Tanokuk term, which refers to one's ancestral place.) Photo taken on 2025-06-03. Photograph by: Tihomir Rangelov

3.2.2 Environment protection

There are 42 customary taboo areas in Western Santo, as well as five Community Conservation Areas (at Penouru, Tasmate, Eden Hope-Tasmate, Elia, and Kerepua) registered with the Department of Environment.

The NGO Santo Sunset Environment Network (SSEN) was established in 2017 for the purpose of environment protection. It has quickly grown to play a major role in the development of the region, and is involved in the protection of biodiversity, sustainable development, customary governance, gender justice, and climate/disaster resilience in Western Santo. It is a decentralized organisation with each village operating its own Environment Committee and rangers. Eden Hope is another local NGO which operates a land lease for conservation near Tasmate.

Figure 6. An information board at Penouru by the NGO Santo Sunset Environment Network raising awareness of environment protection. Photo taken on 2022-11-07. Photograph by: Tihomir Rangelov

3.3 Demography

According to the 2020 Census, Sanma Province (comprising Santo, Malo and other smaller offshore islands) is home to over 60,000 people with an annual population growth of 2.6% during the period 2009-2020. The rural parts of Sanma, i.e. excluding the urban area around Luganville, had a population of 43,165 in 2020, with an average annual growth of 2.3%. This population growth is fuelled by high birth rates, among other factors – 59% of Sanma's population is aged 24 or lower.

According to the 2020 Census, the total population of Western Santo was 4,805 in 2020 (1,594 in NWS and 3,211 in WCS)[4], of which 2,860 (59%) were under 24 years of age (896 in NWS and 1,964 in WCS), which is in line with the national trend of a relatively young population.

In the past, the population was likely higher than today, having been reduced by different factors, including blackbirding (Bryard, 2022) and introduced diseases, with outbreaks continuing into the 1970s. This is in line with the general trend in Vanuatu for a steep population decline following the more intense contact with Western Europeans – in some areas over 90% of the population was lost (Sand, 2023). For Santo as a whole, the estimated population loss between first contact and 1954 could have been as high as 97% (Sand, 2023, §8). It is difficult to know exactly how much the population of Western Santo declined.

[4] See §2.2 regarding population figures in WSSDP2030.

Missionary records, for example, reported a population decline by 25% in the North West Santo mission district only between 1900 and 1920 (Miller, 1990, p. 295). Rivers (1922, p. 84–85) noted that "the inhabitants of several villages on the west coast have entirely disappeared and their places have been taken by a few wretched people who have moved down from the interior." But in the northern half of Western Santo, only Valpei, Nokuku, and Tasmate may have existed on the coast before the 19th century (Pascal, 2020, p. 177).

In the Appendix, we list 55 settlements – villages, and hamlets (*stesen* in Bislama) – with a breakdown of the population by settlement, as per WSSDP2030 data.

In more recent decades, migration into Western Santo has been mostly limited to marriages where one spouse (usually the wife) moves to live at the other spouse's village. Similarly, women, and some men, from Western Santo have moved out to marry into other areas. The number of people from Western Santo who have moved to urban areas is lower than the average for the rest of Santo and most other islands in Vanuatu. Of those who moved to urban areas, the vast majority reside in Luganville, and relatively few reside in Port Vila. The number of people from Western Santo who have moved or travel abroad is very limited (see also §3.5.4).

3.4 Technology and infrastructure

3.4.1 Transportation

The remoteness of Western Santo is mostly due to the severely underdeveloped infrastructure in the area. Transportation from Luganville to Western Santo is challenging. Western Santo is not connected by road with the outside world and there are no significant roads that allow a motorized vehicle to be used within the region. This is due to the challenging geography (§3.2) and the lack of investment in infrastructure.

Western Santo is normally reached by open outboard engine boats when the weather allows (Figure 7). Strong winds and high seas mean that sometimes transportation is impossible for a few days at a time. One challenge is the lack of natural or man-made landing points or piers. Boat travel is also very unaffordable. Outrigger canoes are normally used for fishing or traveling over short distances.

The road along the south coast of Santo from Luganville to Tasiriki is only suitable for sturdy 4WD vehicles (Figure 8), but road upgrade works have been underway since 2022, including bridging the main river crossings. Boats up the west coast usually start from Tasiriki.

A cargo ship passes irregularly, usually once every 2-4 weeks, and can carry passengers and cargo.

Travel on foot or on horseback (Figure 9) on traditional paths along the coast and across the mountains is also possible, albeit challenging and weather- and/or tide-dependent.

There is a grass airstrip at Lajmoli (IATA code: OLJ; ICAO code: NVSZ), but flights have been suspended there since 2008 after two fatal accidents.

Figure 7. Open outboard engine boats travelling up and down the coast of Western Santo. Photo taken on 2022-11-04. Photograph by: Tihomir Rangelov

Figure 8. A section of the road leading to Tasiriki along the southern coast of Santo. Photo taken on 2023-06-22. Photograph by: Tihomir Rangelov

Figure 9. In many areas, walking along the beach between villages is the only reasonable land route. Travelling on horseback means one can travel faster and limit the risks of sun exposure. Photo taken on 2024-05-12 near Penouru. Photograph by: Tihomir Rangelov

3.4.2 Communications

There are a few mobile service towers installed by Vanuatu's telecom operators. The service coverage is, however, quite limited due to the rugged terrain. Most settlements are not covered, but connection may be accessible on hilltops, at headlands, or out at sea. Telecom services are generally considered unreliable, as there are relatively frequent malfunctions and it normally takes weeks before the network is back in operation after a malfunction. Another method of communication for a few communities is by satellite internet connection through community WiFi networks (Figure 10). These are normally paid-for and can be accessed by purchasing a voucher, which impacts their accessibility. This satellite Internet access programme has been implemented by SSEN. The most used services are social media, chat applications, and weather services, which provide information essential for travel.

In terms of Internet access, in the 2020 Census, 230 people (aged 5 years and over) in NWS (17% of all respondents) and 162 people in WCS (6% of all respondents) reported having access to the Internet. This is very low Internet penetration by global standards, and relatively low to very low compared to the rest of Vanuatu (26% for the entire country, 20% for rural Vanuatu). Besides, in Western Santo there is a significant discrepancy in the sex distribution of these figures with around twice as many men as women with Internet access. Of those who access the Internet in Western Santo, 50% use it to access social media, 18% for email or messaging, 15% for entertainment, 8% for news, 6% for work/business, and 3% for education.

Traditional media appear to have a weak impact in Western Santo. Radio reception can be poor and TV reception or technology is virtually unavailable. In the 2020 Census, only 29 out of 392 respondents (7.4%) reported the radio as their main source of information and news; no respondents informed themselves primarily through television.

Figure 10. A view of Kerepua with a satellite dish used to provide Internet connection to the community. Photo taken on 2024-05-19. Photograph by: Tihomir Rangelov

3.4.3 Housing

Most people live in traditional houses made of bamboo with thatch roofs (Figure 11). Houses with cement walls and corrugated iron roofing are becoming more common.

Figure 11. A traditional house and gardens, and the morning mist in the upper parts of the Sauriki valley. Photo taken on 2023-07-02. Photograph by: Tihomir Rangelov

3.4.4 Electricity and water supply

There is no central electricity supply anywhere in Western Santo. Solar panels are used to charge mobile devices. Individual households may have more powerful solar systems to power freezers or other larger appliances. Generator use was common in the past but is decreasing.

Many villages have water supply systems where spring water is captured at higher altitude and brought down through hoses and pipes to villages. Some of these date from the 1980s and are in need of repair and maintenance. New projects have been funded by various NGOs. It is estimated that around 60% of communities do not have access to safe and adequate water supply.

3.5 Society

This section provides an account of different aspects of social life in Western Santo, also outlining different domains of language use. We also discuss what languages are most commonly used in these domains.

3.5.1 Institutions and social structure

As mentioned above, the Vanuatu government is represented by the two area councils: North West Santo Area Council, headquartered at Olpoi, and the West Coast Area Council, headquartered near Wusi. Each is headed by an Area Administrator.

On the community level, chiefs play a substantial role. Traditionally, chiefly ranks are granted through chicken or pig killing ceremonies called *supsup* and *toawul* in some of the local languages. Chiefs are nowadays elected by their communities. In the past, some chiefly titles were hereditary, but this practice has been abandoned. In WSSDP2030, the strengthening of customary governance has been identified as a priority. Two councils of chiefs exist for NWS and WCS. These councils are members of the Santo Island Tabwemasana Council of Chiefs and the national Malvatumauri Council of Chiefs. In each community, church officials also have important leadership roles.

The most common Christian denomination is Presbyterianism (see also §3.5.5). Different organisations and committees may exist within each community under the auspices of the church. Indigenous languages are not substantially used during church services.

Normally, the official languages of Vanuatu – Bislama, English and French – are used when dealing with government officials, while Indigenous languages are used during discussions on the community level.

The speaker communities of most Western Santo languages are highly esoteric. This is according to a scale that determines how tight-knit a community is; the range is between highly esoteric (small, tight-knit) and highly exoteric (loose community networks, large population size, many outsiders or contact with outsiders) (Thurston, 1989, p. 556–557; Ross 1997, p. 238–239; Shcherbakova et al., 2023). The speaker communities of Akei and Tanokuk may be considered somewhat less esoteric on this scale – Tanokuk has been acting as a lingua franca in NWS, and Akei is spoken over a relatively large area by many speakers (§3.7).

3.5.2 *Kastom* and traditions

As elsewhere in Vanuatu, it is generally agreed that *kastom* in Western Santo is in decline.

A number of *kastom* ceremonies are still performed, including those for marriage, birth, death, chiefly rank taking, circumcision, coming of age, and the welcoming of spouses from other communities. In these ceremonies, the Indigenous language is usually used, unless there are many non-speakers attending, in which case Bislama is used.

There are a few *kastom* music styles in Western Santo known in some local languages as *vik, welvik, polomaso*, and *bolokara*. A repertoire of rhythms existed, which were performed on slit drums to announce different events, but these have now mostly been forgotten. *Kastom* clothing called *soksok* and *na'aloalo* in some languages is now only sometimes used in ceremonies.

Western Santo is the last area in Vanuatu where traditional clay pots are still made (Figures 12, 13). Wusi is the only village where this tradition is regularly practiced.

Figure 12. An old clay pot from NWS, now kept at Nokuku. Photo taken 2022-11-06. Photograph by: Tihomir Rangelov

Figure 13. A clay pot made around 2022 in Wusi. Photo taken on 2022-11-16. Photograph by: Tihomir Rangelov

3.5.3 Family life and subsistence

It is customary for women to move to their husband's place of residence upon marriage, although there are cases where men move to their wife's place. In Western Santo, spouses may come from the same or other Western Santo communities, other parts of Santo, or elsewhere in Vanuatu (see also the notes in the Appendix). This is a tradition that dates back to before colonisation, when trade and contact with other islands was commonplace (see §3.1). Most spouses from other areas learn the local vernacular and use it to communicate with other community members, including their children. In most cases, within two years of moving to a community, they are able to use the local language on a daily basis. In a few households, Bislama may be the most used language, although this is uncommon. This suggests that the pressure on Indigenous languages exerted by Bislama – to the extent that it may be due to exogamy – may not be as strong in Western Santo as it has been reported in some other parts of Vanuatu, although targeted research on this topic is necessary to confirm the exact parameters. At the same time, it is likely that the relatively large number of mothers (i.e. primary childcarers) who are L2 speakers of the local language may promote language change (cf. Bentz & Winter, 2012).

Traditionally, women have not been recognised as agents for positive change in their communities, but recent initiatives by the two area councils and SSEN are aiming at building more inclusive societies, with a focus on the inclusion of women and people with disabilities. These initiatives are part of the WSSDP2030 goals to boost customary governance and sustainable development for the region.

According to the 2020 Census, there were 1025 households in Western Santo, which corresponds to 4.7 persons per household on average. This is similar to the average for the country (4.6), Sanma Province (4.6) and rural Vanuatu (4.7). There is a clear trend for a decrease in household size in Vanuatu (from over 5 individuals per household at the turn of the century). Persistent cultural norms emphasizing extended families living together or in close proximity are essential for ensuring intergenerational transmission of Indigenous languages.

The staple foods of Western Santo are water taro, dryland taro, yam and bananas. Other common crops include cassava, sweet potato, fruits, and vegetables. Large community-based terraced irrigated water taro gardens (Figure 14) are also common in the northern part of the region and are important for food security because they are drought-resistant. These gardens may be used over many decades and they are usually large enough to accommodate for the water taro needs of entire villages. Thus, they play a role in maintaining larger alliances – the associated large-group and long-term efforts promote wider and stronger social networks, as opposed to slash-and-burn agriculture, which is a family/clan affair (Walter & Tzérikiantz, 2012). The associated social cohesion may act as a force that promotes language vitality. However, in recent years, terraced taro gardens have been abandoned in a few villages, which may reduce this effect.

Major sources of protein are domestic animals (cattle, pigs, chickens, goats), wild pigs, ocean fish, and river creatures. The consumption of imported goods such as rice and tinned fish and meats has been increasing in the last couple of decades.

Figure 14. A satellite image of a large irrigated terraced taro garden near Nokuku. The image is a screen capture from Google Maps made on 2025-03-16; it contains data from Airbus, CNES, Maxar Technologies, and Kartendaten. Used under Google's fair use policy, as per 2025-03-17.

Figure 15. Nambeko residents socialising on the beach at sunset. Photo taken on 2024-05-12. Photograph by: Tihomir Rangelov

3.5.4 Economy and employment

The predominant occupation of Western Santo residents is subsistence agriculture of the slash-and-burn type, complemented by irrigated terraced taro cultivation in the northern areas (see §3.5.3). Cocoa (Figure 16), peanuts, taro, copra and, since recently, kava are cash crops.

There are a handful of plots of land in Western Santo that are leased to government institutions.

Several logging companies used to operate in Western Santo in the past. Nowadays only small-scale logging takes place, and few employees who are not native to Western Santo reside in the area, which means that the associated language contact effects are minimal.

In the 2020 Census, 68 people living in Western Santo were employed by the government and 67 people were employed by a private employer. Only five people reported having actively looked for paid employment recently. The majority of respondents reported doing unpaid family or household work or producing goods for their own consumption. When it comes to seasonal overseas employment programmes, 22 men (and no women) from Western Santo had taken part in such a programme in the 12 months preceding the 2020 Census data collection. Of these, 11 joined New Zealand's RSE programme (New Zealand Immigration 2024), 8 joined Australia's short term SWP programme, 2 had participated in Australia's long-term PLS programme (DFAT 2021).[5] These 21 people correspond to 0.44% of the entire population of Western Santo, which is significantly lower than the corresponding average overseas

[5] See also Gibson & Bailey (2021) for more detail on these programmes and their impacts.

employment rates for the country (2.05%) and rural Vanuatu (1.85%). In Vanuatu, participation in such overseas work programmes has been a major driver of cultural exchange with the outside world in recent years; such effects appear to be still somewhat limited in Western Santo.

Poverty, a.k.a. hardship, rates (i.e. the rate of adults with real annual equivalent expenditure below the national poverty line of 147,944 vatu, as of 2020) is higher in Western Santo, at 27%, compared to the averages for Sanma rural (20%), Luganville (6%), and Port Vila (1%) (Kreuzmann et al., 2023). These data likely reflect, to a large extent, the relatively limited importance of the money-based economy, as opposed to subsistence agriculture. They are also related to the unaffordability of travel and relatively low migration rates (§3.3, §3.5.4).

Our qualitative data suggest that the current economic situation in Western Santo promotes close ties within extended families, and relatively little in- and outmigration, which limits contact with languages from outside of the region.

Figure 16. Cocoa beans drying in the sun at Nambeko in preparation to be sent to merchants in Luganville. Photo taken on 2022-11-06. Photograph by: Tihomir Rangelov

3.5.5 Religion

As per the 2020 Census, the Presbyterian church enjoys the highest membership rates in Western Santo (74% in NWS, 46% in WCS). Most of the rest of the population belongs to various other Christian denominations; 37 people report following customary beliefs.

Figure 17. Nokuku residents walking home after Sunday church service. Photo taken on 2024-05-12. Photograph by Tihomir Rangelov

3.5.6 Education

In the 1940s to 1960s, the Presbyterian Church ran mission schools in Wunpuko, Nokuku, Tasmate, Elia, and Wusi. The first primary school was established in the 1960s at Menevula (next to Wunpuko), followed by more primary schools in the 1980s. Currently, there are primary schools at Lajmoli, Nokuku, Selusia (close to Wunavae), Kerepua, Wusi/Linduri, Sauriki, Jaranavusvus, Valapei, Sulemauri-Kerewai, and Lalaolo. Most of these schools are attended by students with different L1s, due to the schools' catchment areas often spanning villages where different Indigenous languages are spoken (cf. Situations 4 & 5 in Early & Tamtam, 2015: §4). This can be a challenge for introducing vernacular education (see, however, the note on Kerepua primary school in §3.7).

There are secondary schools at Wusi/Linduri (to Year 8), and at Menevula (to Year 10). Most students need to board because of the large distances between the schools and their home villages. Around 15% of children do not attend primary school because of disabilities, long distances, or unaffordable boarding school fees. For college and university education, students need to relocate to outside of the region.

The first kindergartens were established in the 1980s by the church and became more common in the 2000s. Still, 70% of communities in WCS and 40% of communities in NWS do not currently have a kindergarten. Indigenous languages are most commonly used in kindergartens.

According to the 2020 Census, there were 1,349 people over 3 years of age in Western Santo attending school in 2020. The most common language of instruction was English. French was the main language of instruction for 291 students in WCS. Francophone schools are

Jaranavusvus and Lalaolo primary schools; at Valapei primary school, both English and French are used; all other schools are Anglophone. Around 200 students also received training through the medium of Bislama and for only 46 students a vernacular language was reportedly used as a language of instruction in their education. There were 14 people with university degrees and 33 people with other post-secondary school (mostly college) degrees.

Local languages are hardly integrated in the school curricula (except at the kindergarten level). On the other hand, local languages are the predominant medium of traditional knowledge transfer (including skills related to growing food, fishing, housebuilding, cooking etc.).

The WSSDP2030 has listed the adoption of local languages in formal primary education as one of its objectives. Even if this has been assigned the lowest of three priority levels in WSSDP2030, it is a welcome step, considering that vernacular education is not explicitly mentioned as an objective in NSDP2030, despite the prescriptions in the Vanuatu National Language Policy of 2012 (MOET, 2012) (see also the discussion on institutional attitudes in §3.8.1 and §4.1).

3.6 Indigenous language competence

The 2020 Census includes detailed data on how many people were able to speak Indigenous languages (VBOS 2025) and how many people were able to read and write English, French, and Indigenous languages, and a breakdown of people by first language (L1) (VBOS, 2020).

The relevant questions in the survey underlying the 2020 Census are as follows:

- "Can XYZ **speak** an Indigenous (vernacular) language?" Possible answers: "Yes, easily", "Yes with difficulty" and "No". (Results in Table 1)
- "Can XYZ (person over 15 y.o.) **read a simple sentence** in one or more of the following languages?" Possible answers: English, French, Bislama, Indigenous (Vernacular), Other. (Results in Table 2)
- "Can XYZ (person over 15 y.o.) **write a simple sentence** in one or more of the following languages?" Possible answers: English, French, Bislama, Indigenous (Vernacular), Other. (Results in Table 2)
- What is the **first language** XYZ (person over 3 y.o.) learned to speak? Possible answers: English, French, Bislama, Indigenous (vernacular) (only one answer can be chosen) (Results in Table 2)

Table 1. Data from the 2020 Census showing the number/proportions of the population of Western Santo who are able to speak a vernacular language (presumably, in most cases, a vernacular from Western Santo). The values in parentheses show breakdown per sex – male and female in this order. The percentages were calculated by the authors based on the census data.

	Not able to speak an Indigenous language		Able to speak an Indigenous language **with difficulty**		Able to speak an Indigenous language **easily**	
	Number (M/F)	% of respondents (M/F)	number (M/F)	% of respondents (M/F)	number (M/F)	% of respondents (M/F)
NWS	16 (9/7)	1.1% (1.2/1%)	18 (6/12)	1.3% (0.8/1.8%)	1396 (741/655)	97.6% (98/97.2%)
WCS	9 (4/5)	0.4% (0.3/0.4%)	27 (7/20)	1.1% (0.6/1.7%)	2346 (1193/1153)	98.5% (99.1/97.9%)
Western Santo total	**25 (13/12)**	**0.7% (0.7/0.7%)**	**45 (13/32)**	**1.2% (0.7/1.7%)**	**3742 (1934/1808)**	**98.2% (98.7/97.6%)**

Table 2. Data from the 2020 Census showing the proportions of the population of Western Santo who are able to read and write an Indigenous (vernacular) language, and whose L1 is an Indigenous language (presumably, in most cases, a language from Western Santo). The percentages were calculated by the authors based on the census data. The values in parentheses show breakdown per sex – male and female in this order.

	Able to **read** vernacular (15+ y.o.)		Able to **write** vernacular (15+ y.o.)		**L1** is Vernacular (3+ y.o.)	
	number (M/F)	% of respondents (M/F)	number (M/F)	% of respondents (M/F)	number (M/F)	% of respondents (M/F)
NWS	817 (429/389)	86% (87/85%)	809 (418/391)	85% (85/85%)	1361 (722/ 639)	96% (97/96%)
WCS	1048 (547/501)	60% (62/58%)	1032 (541/491)	59% (61/57%)	2741 (1373/1368)	97.5% (97/98%)
Western Santo total	**1865 (976/890)**	**70% (71/67%)**	**1841 (959/882)**	**68% (70/64%)**	**4102 (2095/2007)**	**97% (97/97%)**

Very few residents of Western Santo (under 1%) report not being able to speak an Indigenous (vernacular) language (Table 1). This is a relatively low proportion compared to other areas of Vanuatu.[6] Indigenous languages are L1 for the vast majority of inhabitants of Western Santo (Table 2). The 97% L1 vernacular speakers in Western Santo is a significantly higher percentage compared to 84.8% for the entire country, 69.5% in urban areas, and 89.3% in rural areas of Vanuatu (VBOS 2020). In Western Santo, of the around 3%, whose L1 is not an Indigenous language, Bislama was L1 in most cases. While the questions in the survey did not specify whether the Indigenous language a respondent speaks, or reports as L1, is necessarily the local Indigenous language of the community where respondents reside, these results suggest very stable intergenerational transmission, especially considering the local reports that most outsiders who move to Western Santo relatively quickly learn to speak the local language in most cases (see §3.5.3).

The results regarding Indigenous language literacy (reading and writing "a simple sentence") for Western Santo (Table 2) are mostly in line with or slightly better than those for the entire country (70% are able to read and 67% are able to write an Indigenous language) and for the rural population of Vanuatu (67% are able to read and 64% are able to write an Indigenous language). However, these data do not offer an indication on the fluency of reading/writing or how often these respondents in fact engage in reading and writing Indigenous languages, considering the very limited amount and quality of documentation and written materials in them (see §3.10). A total of 1,657 people in Western Santo over 15 years of age (61% of all respondents; 795 in NWS and 862 in WCS) reported being able to read and write "a simple sentence" in English, while 508 (19.9% of all respondents; 166 in NWS and 342 in WCS) reported being able to read and write "a simple sentence" in French; the above caveats regarding fluency apply here too. According to the WSSDP2030, literacy remains a serious challenge in the region. This can be a hurdle for building local capacity for language documentation and preservation efforts to the extent that literacy is a necessary condition for acquiring relevant language documentation skills by local language documenters. It could also partially limit the uptake of such efforts by the communities, at least in the domains where reading and writing are more relevant.

3.7 Languages

In this subsection we list the languages spoken in Western Santo. We start by reviewing the existing listings and classifications of languages spoken in Western Santo and then go on to propose a list of languages based on our data.

Linguistic data from this part of Vanuatu are scarce (Rangelov et al., 2025, this issue). Tryon's (1976) lexical survey of Vanuatu includes wordlists of around 300 vocabulary items from the following villages in Western Santo (from north to south, the original spelling is preserved): Hukua, Valpei, Nokuku, Tasmate, Kerepua, and Wusi (2 lists). This work also contains wordlists from villages called Nonona, Navut, Matae, Akei, which are not included in our listing (at least not under these names) and are placed in higher-altitude areas in the mountains (see map in Tryon, 1976, p. 83); some of these villages may be on the eastern slopes of the mountains or they have been abandoned since Tryon's data were collected. Tryon

[6] The averages vary a lot throughout Santo and Vanuatu. Compare the WCS and NWS figures (0.4% and 1.1%, respectively), with, e.g., 0.25% for Big Bay Inland area, 1% for South Santo 1 area, 2.2% for Big Bay Coast area, and up to 19% for South East Santo area, 28.1% for East Malo area, and 32% for Luganville, the latter two ranking highest in the country; Port Vila ranks third with 22.7% (VBOS 2025). The average for the country is 7.8% (VBOS 2020).

calculates shared cognacy between the different wordlists, based on which, he lists the Hukua and Valpei varieties as a single language (called Valpei), the Kerepua, Wusi and Nonona variants as a single language (called Wusi), as well as Navut and Matae as a single language (called Navut). Nokuku and Tasmate were classified as separate languages, while the variant recorded at Tasiriki was grouped with other variants from the southwestern part of Santo (outside of Western Santo) to form a "complex dialect chain" called Akei (Tryon, 1976, p. 90). In terms of classification, Tryon (1976, p. 80) emphasizes the fact that these languages are part of larger dialect/language chains (the perhaps more appropriate term "linkages" has been used later in the Vanuatu context by John Lynch and others), with Valpei, Nokuku, and Tasmate sharing at least 50% cognacy (also with languages spoken along the Big Bay coast); Tasmate also shares at least 50% cognacy with Wusi, Akei, and Navut (and also with languages spoken further east across the mountains, along the southern coast and the Big Bay area).

Based on Tryon's data and shared innovations, Clark (1985) argues for a North West Santo group that comprises the languages north of, and including, Tasmate, a group which is more distinct from the rest of the language chain that comprises Santo languages. A less sharp boundary was drawn between the rest of Western Santo languages and Akei. Clark (2009a) is an even more detailed analysis of shared innovations, and confirms these boundaries.

Lynch and Crowley (2001, p. 45) list the following languages in Western Santo: Valpei, Nokuku, Tasmate, Wusi, and Akei, leaving some populated areas like the top of the Cumberland Peninsula and the bottom quarter of Western Santo marked with question marks, emphasizing the lack of data for these areas.

Tryon (2010a, 2010b) lists the same languages for Western Santo as Lynch & Crowley (2001) ('Oa = Tasmate, Kula = Wusi) with the addition of two languages, Bura and Kene, spoken between Kula/Wusi and Akei.

François et al. (2015) list the same languages as Tryon (2010a, 2010b) (Meri = Tasmate/'Oa).

Glottolog (Hammarström et al., 2024) offers a classification based on a reconciliation of Lynch (2019), Lynch & Crowley (2001, p. 56–57), Tryon (2010a), and Clark (2009b), according to which all languages spoken in the region are part of the West Santo subgroup, which itself further branches out into six subgroups, some of which are represented in Western Santo, namely (from north to south): Valpei, Nokuku, and Tasmate (part of the Cape Cumberland subgroup, which also includes varieties spoken on the eastern coast of the Cumberland Peninsula), Kula (in a subgroup by itself), Bura/Navut (part of a Central Santo subgroup), and Akei (part of a Southwest Santo subgroup). The West Santo subgroup itself is part of the Espiritu Santo subgroup of the Northern Vanuatu branch of North-Central Vanuatu languages (< Oceanic < ... < Austronesian).

Preliminary results from the ongoing West Santo Language Survey (WSLS) project, based on cognacy and shared sound changes, support the linkage hypothesis for the varieties from Nokuku to Wusi, with a clearer boundary between the villages Wusi and Linduri. A preliminary analysis, using a the same shared cognacy threshold as that of Tryon (1976), show that the linguistic diversity and disparity in Western Santo is substantially higher than what was previously known (Rangelov, 2025). Here we present a listing of linguistic varieties based on reports by the speakers themselves. Differentiating between a "language" and "dialect" is a notorious problem in linguistics, especially in a continuum/linkage scenario as the one at hand here. However, it is generally agreed that one important factor in determining what can be called a "language" is a sociopolitical and perceptual criterion, i.e. whether the speakers of related varieties consider them to be separate languages or not (e.g. Haugen, 1966). Thus, here,

we report a list of languages based on the speaker's intuitions, attitudes, and beliefs. Detailed data are presented in the Appendix, where, for each settlement, we list the number of households and population, the name of the main Indigenous language (self-reported, as well as variant names), self-reported knowledge in other Indigenous languages of Vanuatu,[7] remembered past migrations, and other relevant details.

Below we summarise the data in the Appendix, and add details about the different languages of Western Santo identified by available data. The order of presentation is from north to south.

Venlav (no Glottocode, no ISO 639-3 code). Spoken as L1 in Maro, Hokua and the large village of Wunpuko. L1 speakers: around 614, also report some knowledge in the neighbouring languages Pesena (spoken on the eastern coast of the Cumberland Peninsula), and Valpei and Tanokuk to the south.

Valpei (Glottocode: valp1237, ISO 639-3 code: vlp). Spoken as L1 from Valpei in the north to Molpoi in the south. L1 speakers: around 273, who also report some knowledge in the neighbouring languages Pesena, Venlav, and Tanokuk.

Tanokuk (Nokuku, Nogugu) (Glottocode: noku1237, ISO 639-3 code: nkk). Spoken as L1 from Poaru in the north to Ravlepa in the south. L1 speakers: around 849, who also report some knowledge in the neighbouring languages Venlav and Valpei to the north, and Hurahi and Takani to the south; some may be able to understand ‘Oa. This is the first Indigenous language of Western Santo for which there was any documentation and translated materials, because the first mission in the area was based in the village of Nokuku (see §3.1). Gordon (1889, p. 85–134) is a grammar sketch (cf. Lynch & Crowley, 2001, p. 50). A Tanokuk phonetic primer (Anonymous, 1870) has also been attributed to Gordon, who learned enough Tanokuk from two men he had met in Erromango to write the primer before he visited Nokuku (§3.1).[8] Mackenzie (1901, 1906, 1918/1946) are translations of scriptures. Ray (1926) is a short grammar sketch. There is an ongoing project for the detailed modern documentation of this language. The village of Nokuku itself has existed at the coast for at least a few centuries. Some of the other communities that speak Nokuku as the predominant first language were formed by people who migrated to the coast from the higher inland areas. Some of these people reportedly spoke varieties that were different from Tanokuk, but these have been lost after their speakers moved and converted to Christianity and there is no known record of them. One such variety was spoken by the ancestors of the Olpoi community. The variety that most recently became dormant is Lela’, spoken in Penouru (see below). Being the largest language of NWS, Nokuku is widely spoken as L2 throughout NWS to Tasmate in the south. It serves as a lingua franca of NWS together with Bislama. Part of the reason for this is its higher prestige as the language through which major Christianisation efforts took place.

Lela’ (dormant) (no Glottocode, no ISO 639-3 code). No L1 speakers. The last speaker, Wortut Molisa, died in August 2022 (Figure 18). This variety used to be spoken by the Penouru community, whose migration to the coast took place in 1959 after all but 17 people from the community died in an epidemic. Some older men and women living in Penouru are rememberers of this variety. The name of the language means ‘to speak; word’.

[7] This can vary from very fluent in speaking and understanding, to only being able to understand (*haremsave* in Bislama). Sometimes speakers would elaborate on whether they would prefer to use Bislama with speakers of a particular other variety, or respond in one’s own variety. While such observations may suggest an estimation along a mutual intelligibility scale, they may also be due to close social contact and exposure to the other variety due to spouse exchanges, boarding school attendance, trade, etc.

[8] We are grateful to an anonymous reviewer for pointing out these facts to us.

Figure 18. Omera Wortut by the grave of her late husband Wortut Molisa, the last native speaker of Lela', who had recently passed away when this photo was taken on 2022-11-08. Photograph by Tihomir Rangelov

Hurahi (no Glottocode, no ISO 639-3 code). L1 speakers: around 99. Spoken in the village of Petawata. Most of its speakers are also fluent in Tanokuk, which likely exerts some pressure on the vitality of Hurahi. Its speakers also report some knowledge in Venlav and Valpei to the north, and Takani, 'Oa, Jo, and Tuijo/Kula in the south. They also report that they have relatives in Piamatsina on the eastern coast of the Cumberland Peninsula, who speak the same language. The name of this language means 'we talk'.

'Oa[9] (Tasmate, Meri) (Glottocode: tasm1246, ISO 639-3 code: tmt). Spoken as L1 in Sulesak, Vasalea, and Tasmate (but not in Wunavae) by around 316 people, who also report at least some knowledge in Tanokuk to the north and Takani, Jo, Tuijo, Tie, Tiale to the south, and Tolomako (Big Bay).

Takani (no Glottocode, no ISO 639-3 code). L1 speakers: around 338 in Wunavae, also report some knowledge of Tanokuk and Hurahi to the north, and 'Oa, Jo and Tuijo/Kula to the south. This community migrated from inland areas to the coast, and, reportedly, related families speaking the same language now live on the Big Bay side of the mountains.

Joa (Japwele, Nojoa) (no Glottocode, no ISO 639-3 code). This small language is spoken by 15 people as L1 in Wunaru'u. The village also has 6 permanent inhabitants who are L2 speakers of the language - the family of a resident pastor from Big Bay. The L1 speakers of Joa also report some knowledge of Tanokuk and 'Oa to the north and Jo to the south. They

[9] The following language names mentioned in this paper mean the negative answer 'no': 'Oa, Joa, Jo, Nojoa, Kula.

report a closely related community on the Big Bay side of the mountains who speak the same language, but call it Nojoa. The L1 speakers of this language belong to one extended family, who moved to the current location in 1998, and have had plans to relocate to Big Bay (Tzérikiantz, 2000, p. 198).

Jo (no Glottocode, no ISO 639-3 code). This language is spoken in the northern half of Elia by around 64 people as L1. Its speakers migrated to the current location from an inland village called Leira (now abandoned). A family of 7 speakers of Jo moved from Elia to the Big Bay side of the mountains driven away by the droughts in the 2010s and now reside in a hamlet called Panas. The remaining population of Elia speak Tuijo, as they migrated from Kerepua. Jo L1 speakers report good fluency in Tuijo and ‘Oa, and some knowledge of Joa, Tie, Tiale and Takani. Despite the small population and the relatively small area of the village, the two languages spoken in Elia appear to thrive in a state of stable bilingualism between themselves.

Tuijo/Kula (Wusi, Kerepua, Wusi-Kerepua) (Glottocode: wusi1237, ISO 639-3 code: wsi). L1 speakers: around 401, who also report some knowledge of Takani, Jo, Tie, Tiale. The speakers of this language migrated to the coast from high altitude (up to 800 meters above sea level) close to Mount Tabwemasana during the period 1943-1964 and settled where Wusi and Kerepua are today. Oral histories report that when the communities lived in the hills, there were various varieties spoken in their area (presumably by a larger population), but only Tuijo/Kula has survived. Kerepua and Wusi residents agree that they speak the same language, but also point out the presence of a few shibboleths that distinguish the two varieties, including the word for the negative answer ‘no’, which is *tuijo* (in Kerepua) and *kula* (in Wusi) and gives the names of the language (see also Footnote 9). Two small settlements in the hills on the Big Bay side of the mountains, Narata and Maljia, are reportedly close relatives and speak the same language. Wusi is also the only village in Santo where the ancient pottery tradition still survives (Nojima, 2010; Pascal, 2020) (see also §3.5.2 and Figure 13). There are a few translations of religious texts and songs done locally in Kerepua by grassroots efforts.

There is a primary school near Kerepua, where most students are L1 speakers of this language and the local community has expressed strong desire to introduce vernacular education in Tuijo/Kula. In Kerepua, intergenerational transmission is reportedly so strong that many primary school students have insufficient knowledge of Bislama (and even less in English) to follow the curriculum. The Kerepua primary school is a good candidate for introducing vernacular education, since this would not put students with other L1s at a disadvantage. These circumstances correspond to Situation 1 according to the Early & Tamtam (2015, §4) framework, which is a good basis for education through the local Indigenous language as medium of instruction. One challenge would be, however, the lack of literacy materials, including a writing system (cf. point c. in Early & Tamtam, 2015, Appendix 2).

Tie (Navut, ?Bura, ?Sinia) (Glottocode: navu1237, ISO 396-3 code: nsw). L1 speakers in Linduri: 79, who also report some knowledge in Tuijo/Kula, Jo, ‘Oa, Tiale, Akei, and Ivono (a variety spoken further to the southeast). Linduri residents migrated to the coast around 1975 from highland areas near the source of the Jordan river, a village called Navuti (this is probably the village and language called Navut in Tryon 1976, see above). Linduri speakers report that the same language is spoken in villages called Lawuswus, Winsao, and Wuniu on the Big Bay side of the mountains by over 150 people.

Tiale (Glottocode: tial1239, ISO 639-3 code: mnl). In Western Santo, Tiale is spoken in most villages in the Sauriki river valley, all villages in the Pareo river valley, and the villages on the northern bank of the Kerewai river valley (see Map 1b). The estimated L1 population in the region is 1,250. The only village in the Sauriki valley where another L1, Akei, dominates,

is Narumaj. The Tiale speakers in the Sauriki valley report having migrated from a highland area close to the source of the river Jordan around the 1960s. They report that their language is very similar to Tie, and they also have some knowledge of ‘Oa, Kula/Tuijo, and Jo. Two dormant languages used to be spoken in the Sauriki valley, Keanu and Kitano. A few rememberers of Kitano live in Salalia village.

Lynch and Crowley (2001) and Tryon (2010) list a language they call Merei-Tiale as spoken inland, rather on the eastern slopes of the mountains (where Sauriki valley residents reportedly migrated from). Chung (2005, 3) reports very high similarity between Merei, a variety from Big Bay that he describes, and a variety called Tiale, “which is spoken by around seven hundred people living west of the Ora River, from the Big Bay area to Mataipevu village in Southwest Espiritu Santo”. Chung does not mention the Sauriki valley and the location of Mataipevu is not known to us.

Akei (Glottocode: akei1237, ISO 639-3: tsr). L1 speakers in Western Santo: 617. Akei is spoken in Narumaj, a village of 64 inhabitants in the Sauriki valley and in almost all villages on the southern bank of the Kerewai river, as well as in Lalaolo, Tovotovo, and Krevinombu. Akei dominates the southwestern corner of Santo with over 4,000 speakers in total (Tryon, 2010). Most of its speakers live outside the Western Santo area, including in the large village Tasiriki. Tryon (1976, 2010) reports that this language has a lot of internal dialectal variation.

Finally, in this paragraph, we summarise the evidence on languages that are no longer spoken in Western Santo. Above, we listed Lela’, Keanu and Kitano as dormant languages. Tryon (2010b) lists the varieties Latu, Mwe’ea, Sinie, and Memie of “West Santo” as “languages whose names are remembered from the past, but for which little or no other information is available other than the fact that their extinction took place many years ago.” Tryon (2010b) also lists Tavalpei and Vevavot of “Northwest Santo” as “languages which are known to have become extinct within the past decade or two and for which some information and/or the names of the last speakers are still remembered”. It is very likely that even more linguistic diversity was lost in Western Santo during the sharp population decline and migrations in the 19th and 20th centuries, as evidenced by reports such as those by the Tuijo/Kula speakers (see above).

3.8 Attitudes

3.8.1 Institutional attitudes

The Indigenous languages of Vanuatu are protected by the Constitution (Republic of Vanuatu, 2006 [1980]). Article 3(2) of the Constitution states that “[t]he Republic of Vanuatu shall protect the different local languages which are part of the national heritage”. This support has been reiterated in the National Sustainable Development Plan 2016 to 2030 (NSDP2030) (DSPPAC 2016), where the objective to “[p]romote and protect Indigenous languages” is part of the goal to maintain “vibrant cultural identity”. The plan recognises that “the Melanesian values of respect, harmony, unity and forgiveness, [which] … shape our cultural heritage, which is the country’ strength, … are expressed through our oral traditions, languages, performing arts, social practices, rituals, festive events, traditional knowledge, and our deep connections with our ancestors, land and place, as well as the skills to be productive with our natural resources.” Few specific targets or measures have been outlined in the plan, pending a baseline survey (DSPPAC, 2017, see, however, §3.10 below). The NSDP2030 objective regarding Indigenous languages has also been reflected in the WSSDP2030, which was prepared by the Area Councils in consultation with the wider communities (see §3.8.2).

NSDP2030 does not mention vernacular education, whereas WSSDP2030 does set it as one of its priorities (see §3.5.6).

In the Constitution, Article 3(1) grants more prestige to Bislama (which is designated the national language), and English and French (which are designated official languages, along with Bislama). In formal education, English and French were the only mediums of instruction until 2012 when the new Vanuatu National Language Policy provided for formal education through most children's L1s – Indigenous languages or Bislama – in the first three years of primary school before transitioning to French or English (MOET, 2012). Due to lack of resources, only Indigenous languages with at least 1,000 speakers were selected for inclusion in the new primary school curriculum (which excludes most Western Santo languages), while in most other schools, Bislama would be used instead of a local language in the first three years of primary school (Early & Tamtam, 2015). However, in early 2023, the Ministry of Education and Training (MOET) unexpectedly announced on a short notice that only English and French would be used as mediums of instruction in primary schools from the 2023 academic year onwards. The related discussions focused on the abolition of teaching through the medium of Bislama; vernacular languages were not discussed in detail (e.g. VBTC, 2023). A major disadvantage of using English or French from the first year of primary school is that most students in rural communities have virtually no ability to speak or understand these languages, which is considered one reason for the low literacy rates that many students achieve (Melteres, 2018; Tarihehe & Willans, 2025, see companion issue).

MOET's 2023 decision is part of a broader tendency for a lack of clarity in recent actions and discussions regarding language use in formal education, both by central authorities, in traditional media (e.g. Ligo, 2018; Aru, 2019; Vanuatu Daily Post, 2019; Garae, 2020), and by the general public on social media. While an in-depth analysis of these discussions is outside of the scope of this paper, they all too often are based on stereotypes and misunderstandings (such as that Bislama and Indigenous languages "have no structure and no rules", see Vanuatu Daily Post, 2019; Garae, 2020) and a perceived false dichotomy involving Bislama, on the one hand, and English/French, on the other hand. Most of the time, these discussions fail to acknowledge the extremely complex linguistic situation in Vanuatu, and the role of Indigenous languages more specifically. These discussions are often based on a presupposition that it is best to use a single language as the medium of instruction throughout a child's education (despite the research claiming otherwise, cf. MOET, 2012; Melteres, 2018; Tarihehe & Willans, 2025, see companion issue), while also the perceived advantages of using English/French are often given more importance than its disadvantages. These discussions are also rarely based on broad expertise, and fail to address in sufficient depth questions regarding teaching methodology, teacher training, educational facilities, implementation of existing policies, etc. (see also, e.g., Early & Tamtam, 2015). The absence of vernacular education as an objective in the NSDP2030 likely also reflects these attitudes.

For Western Santo specifically, little to no effort has been made by the government to introduce education through the medium of local languages. A potential problem for teaching in local languages is that many of the primary schools have students with different L1s. Introducing one local language in such a school would be detrimental for the other languages. One exception here may be the primary school near Kerepua (see §3.7).

In sum, while the Indigenous languages of Vanuatu are formally protected by the Constitution, institutional attitudes are mixed and the Indigenous languages of Western Santo, in particular, have seen little support.

3.8.2 Speakers' attitudes

Western Santo languages enjoy very positive attitudes among their speakers, who report a strong attachment to their vernacular languages and a commitment to maintaining their vitality. This is reflected in WSSDP2030 where the preservation of vernacular languages is listed as one of the goals and objectives of the Society Pillar of this plan. The following goals/objectives/activities related to vernacular languages have been listed in the plan:

- Recording vernacular languages, producing publications (books, dictionaries, translations). This is given the highest ("urgent") of three levels of priority.
- Specifically, writing books in the vernaculars containing "customary knowledge, calendars, practices, plants/animals and medicines (including *kastom* clinic)"; integrate Western Santo culture and custom into school programmes, including language days/weeks. These measures are included under the umbrella of traditional knowledge promotion activities.
- Under education-related goals, integrating vernacular languages in the formal kindergarten and primary school education (up to Year 3); translation of teaching resources into vernacular languages.

The identification of such priorities reflects the positive attitudes among Western Santo people towards their Indigenous languages. Speakers' attitudes are particularly important given Vanuatu's decentralised government and respect for customary governance.

The WSLS project and the Tanokuk documentation project are in line with these objectives, even if they do not contribute directly to all of the objectives. For other objectives, planning and securing funding are still at early stages.

Alongside this, speakers of Western Santo languages have expressed some puristic attitudes. Many view borrowings (usually from Bislama) negatively, at least when they deliberately reflect upon the issue. Some also have a negative attitude towards language change – the fact that the speech of younger speakers may differ in some ways from that of older speakers, the latter being considered superior. Similar attitudes have been reported elsewhere in Vanuatu (Crowley, 2003, p. 43–44; Meyerhoff, 2016; Rangelov et al., 2019, p. 118). Further research into this area is necessary in order to determine the extent to which such attitudes impact Western Santo's languages' vitality or may do so in the future. So far, they do not appear to substantially affect intergenerational transmission, but they may interfere with language conservation efforts, which rely on the confident participation of speakers of all generations.

3.9 Domains of language use

Virtually everyone in Western Santo is fluent in Bislama, which is a vehicle for the national identity of Ni-Vanuatu people. Besides, as the data in §3.7 show, most people are also fluent in at least one Indigenous language and have some knowledge of two or more neighbouring languages, and many have some knowledge of English and/or French.

Local Indigenous languages are dominant in the following domains: family life, community life and local politics, children's playtime, kindergartens, traditional knowledge transmission, *kastom* ceremonies. Bislama is dominant during church services (although some announcements may be made in local languages), in communication with the government, and trade. People are exposed to Bislama, English and French through radio broadcasts, on social media, and other Internet-based media.

3.10 Language status

Besides the few materials in Tanokuk (see §3.7), the wordlists in Tryon (1976), the community-produced materials in Tuijo (see §3.7), and some unpublished word lists by Ross Clark and Catriona Malau, we are aware of no other language documentation and description materials for any Western Santo language until the WSLS survey started in 2022. As already mentioned, this area is one of the least linguistically studied areas of Vanuatu. WSLS has so far produced lists of 500 words for 15 varieties, which are being prepared for publication. The Tanokuk language documentation project started in 2024.

Language documentation and description has been prioritised both in the WSSDP2030 (§3.8) and the NSDP2030, where the 2030 target is to increase the proportion of documented endangered languages in Vanuatu by 50% (DSPPAC 2017). We further suggest, at least in the Western Santo case, that it is highly recommended that language documentation efforts for all languages should take place in parallel, in order to avoid the better documented languages infringing upon the lesser documented ones, due to the benefits that come with better documentation. We also acknowledge that for this to happen, long-term planning, human resources, and funding need to be secured.

We reiterate here that good quality documentation and description is a prerequisite for sustainable language preservation/maintenance efforts (Brenzinger et al., 2003; Himmelmann, 2006).

4 Discussion

In this section, we use the findings in §3 to discuss the health of language ecosystems in Western Santo, that is, the vitality of Western Santo's Indigenous languages now. As we have seen above, the local languages of Western Santo can experience pressure from both Bislama and larger neighbouring local languages, as is the case in the rest of Vanuatu (cf. Lavender Forsyth, 2025, this issue; Duhamel, 2025, this issue). After assessing the current vitality status, we discuss the prospects for the future of Western Santo languages, including identifiable risks, and the chances for successful conservation efforts.

4.1 Language vitality assessment

According to the EGIDS scale (Lewis & Simons, 2010), all extant languages of Western Santo[10] that we listed in §3.7 can be considered to be at the level 6a (Vigorous), meaning that "[t]he language is used orally by all generations and is being learned by children as their first language." The data presented in §3 show that intergenerational transmission of Indigenous languages in Western Santo is generally such that virtually all children learn the local Indigenous language that is dominant in a village (or part of a village, in the case of Elia).

The *UNESCO Language Vitality and Endangerment* document (Brenzinger et al., 2003) provides for a more detailed vitality assessment according to nine different criteria. For eight of the criteria, an evaluation on a scale from 0 to 5 (negative to positive) is given: low scores show areas of concern, while high scores show the strengths of the evaluated language. One criterion (absolute number of speakers) is not evaluated on a scale since, in principle, languages with both small or large numbers of speakers can be equally vital/endangered. Here, rather than

[10]We consider Lela', Kitano and Keanu to be dormant (i.e. not extant), according to EGIDS ("The language serves as a reminder of heritage identity for an ethnic community. No one has more than symbolic proficiency.") As discussed in §3.7, there were other varieties spoken in the past, which we consider extinct.

performing an assessment for each individual language listed in §3.7, we offer a single overall assessment for the extant languages of Western Santo (Table 2), since there are many similarities between them. This assessment is primarily based on the data presented in §3. Any differences among the languages are indicated in the discussion below.

Factor	Grade					
	0	1	2	3	4	5
1. Intergenerational transmission						
2. Absolute number of speakers	15-849					
3. Proportion of speakers within total population						
4. Trends in existing language domains						
5. Response to new domains and media						
6. Materials for language education and literacy						
7. Institutional attitudes and policies						
8. Community members' attitudes						
9. Amount and quality of documentation						

Figure 19. A language vitality assessment for Western Santo languages based on the UNESCO criteria (Brenzinger et al., 2003). The dark grey colour represents the overall score, while the lighter shades of grey represent variation or tendencies, as described in the prose.

The first criterion, on **intergenerational transmission** overlaps with the EGIDS criterion. It is also considered by many to be the most important factor determining language vitality (e.g. Grenoble & Whaley, 2006, p. 13). According to UNESCO's guidelines, the languages of Western Santo are given the highest score, since all extant languages are transmitted to virtually all children in their speaker communities.

The **number of speakers** of individual languages (listed in §3.7) varied from 15 (Joa) to 849 (Tanokuk). We discuss some implications of this below.

The **proportion of speakers within the total population** is estimated to be very high. In most communities virtually everyone speaks the local language, including spouses (usually wives) who married into the community (§3.5.3). There are very few other outsiders living in Western Santo, due, in part, to the remoteness, lack of infrastructure, lack of industrial activity, and the economic structures (§3.2, §3.4, §3.5). Specifically, for the Joa speaking community of 15 persons, it should be noted that they also host the local pastor's family of six who come from outside Western Santo. The members of this family reportedly have learned some Joa, but they likely also use other languages in daily life, as well as in church, which may have an effect on Joa's frequency of use, considering this family's relative prestige.

The trends in **existing language domains** have been given a score of 4 "Multilingual parity", because the local languages are used in some domains, while other languages (mostly Bislama) are used in other domains (§3.9), but it is not generally the case that the local language in each community is losing ground even in home domains. If this happened, the score would have to be downgraded to 3 or lower. In our survey we did not document any cases where one Indigenous language was exerting substantial pressure on another extant Indigenous language. However, we also acknowledge that the languages with the smallest number of speakers may be at higher risk in this regard. For example, Hurahi (99 L1 speakers) is spoken only in one village (Petawata), where Tanokuk – as the most prestigious Indigenous language in the area

– is often spoken, especially when people from neighbouring villages are present. Besides, Joa (with 15 speakers) competes, at least in some domains, with the Big Bay variety of the pastor's family who live in Wunaru'u.

In terms of response to **new domains** (including formal education) and media (criteria 5 and 6), the Indigenous languages of Western Santo are demonstrating very weak response. In the realms of religion and formal education (major new domains introduced in the past 100 years or so), the Indigenous languages have not found their place (§3.5.5, §3.5.6). The few exceptions are locally organised kindergartens in some communities, and the availability of religious texts in Tanokuk and Tuijo, although, in general, Bislama is used extensively in church services everywhere. In terms of social media, and Internet usage more broadly, the low Internet penetration rate (§3.4.2) means that most social media groups, where discussions happen, unite people from different language communities (for example all of Western Santo). This means that Bislama is the language of choice there. Based on the above data, for most communities this factor is given the lowest score, but we recognise that for some communities the Indigenous languages are used "only in a few new domains" (Grade 1).

For **institutional attitudes**, we give a score of 4, because the Indigenous languages are explicitly protected by the Constitution and other official documents (§3.8.1), but there are differences in the contexts in which their use may in reality be promoted, compared to the dominant languages. While the authorities may generally encourage communities to preserve their Indigenous languages, this is mostly restricted to private domains (home, ceremonies).

The authorities' struggles with managing the narratives around the value of vernacular languages and vernacular education, and with maintaining a clear policy and action plan (see §3.8.1), may signal a possible downgrade of the score for this criterion for many Indigenous languages of Vanuatu, and especially for the languages of Western Santo, none of which has so far benefitted from any substantial government programmes.

We have given the highest score for the **community attitudes criterion**, because virtually all community members value their languages and want to see them promoted. Admittedly, this is not based on detailed surveys, but the factors that normally may trigger ambiguous attitudes (e.g. relatively high proportion of non-speakers in the community) are not there, as has been reported for other languages of Vanuatu (e.g. Rangelov et al., 2019). This community support is also reflected in the goals of the WSSDP2030 (§3.8), which is based to a large extent on the grassroots work of SSEN. Besides, some Western Santo communities very strongly support Indigenous language education in primary school (§3.7).

As discussed in §3.10, the **amount of documentation** varies from non-existent for some of the languages, to word lists for most (Score 1) to a grammar sketch with inadequate coverage for Tanokuk (Score 2). The ongoing projects discussed in §3.10 are expected to improve this somewhat, but large-scale and long-term efforts supported by all stakeholders, including institutions and funding bodies, will have to be undertaken in order to improve this score, which is also a necessary (albeit insufficient) condition for improving the scores for other criteria as well.

Summarising the results of the vitality assessments above, it is clear that according to these criteria, the languages of Western Santo are performing very well in terms of intergenerational transmission and proportion of speakers within the total population, and remain strong within domains that they have traditionally occupied, also enjoying very positive attitudes among their speaker communities. In fact, in these regards they are probably among the better performing languages of Vanuatu. It can be concluded that the Indigenous languages of Western Santo are safe now, but their sustainable maintenance is at risk due to the poor

scores by other criteria, namely in terms of response to new domains, literacy/education materials and documentation, by which criteria they perform probably among the worst in Vanuatu. Besides, while generally good, institutional attitudes may be trending negatively. With all this in mind, in the following subsection, we discuss probable future developments that may affect the language ecosystems in Western Santo and how the local Indigenous languages may be able to adapt to these changes.

4.2 What may the future look like for the Indigenous languages of Western Santo?

In this subsection, we discuss what we consider to be probable developments and potential risks related to language ecosystems in Western Santo in the near to mid-term future and what impact they can be expected to have on the vitality of Western Santo's Indigenous languages. We discuss the following topics: population dynamics, educational outcomes, natural disasters and climate change, industrial and infrastructural improvements, and Internet penetration, before we propose some measures.

4.2.1 Population growth

It can be expected that by around 2050, the population of Western Santo will have doubled. The 2020 Census does not make predictions for Western Santo specifically, but the reported population doubling rates are 31 years for the entire country, 28 years for rural Vanuatu, and 27 years for Sanma Province. Western Santo is likely the region with the lowest population density in Vanuatu,[11] and this might suggest that the region would have the resources to accommodate for this population growth. Generally, population growth should have a positive effect on the health of language ecosystems and language vitality, especially for the languages with the smallest numbers of speakers.[12] However, the availability of resources in Western Santo may not be as high as it initially seems. Firstly, land for building safe settlements is limited due to the steep terrain. In the past, Western Santo villages have had to be relocated because of floods, tsunamis and landslides. Land for growing food is also scarce due to poor soil quality, erosion and droughts. This problem is exacerbated by the loss of *kastom* (§3.5.2), including of traditional ecological knowledge related to food security, e.g. the decline of irrigated terraced taro cultivation (§3.5.3), which can produce very high yields. Marine resources are also suffering due to climate change and ocean acidification. In fact, we predict that during the coming decades population growth may be a factor that leads to increased migration and social changes that may reduce the vitality of Indigenous languages in Western Santo, unless these processes are managed sustainably.

4.2.2 Educational outcomes

In terms of educational outcomes, there has been a trend for more residents to complete primary, secondary, and higher educational levels in the past decades and we expect this trend to continue, even if it is hard to predict at what pace. In the least, an increasing population should provide more human and other resources for formal education. Hopefully this will also

[11]Sanma province has some of the lowest population density in Vanuatu (14 persons/km2, compared to 24 persons/km2 for the country, according to the 2020 Census), and the population density is estimated as significantly lower in Western Santo due to the topography, and the concentration of population on the eastern half of the island.

[12]While a language with very few speakers can still be very vital, it is at higher risk of becoming (critically) endangered, or, in rare cases, even suddenly go extinct, due to natural disasters, which may substantially reduce the speaker population and/or drive it out of its traditional land and cause major social disruptions (see also §4.2.3).

increase literacy rates, given the current low levels (§3.6). If this happened, it could have an positive effect on the sustainable economic development and welfare in Western Santo overall. Increased general literacy can potentially also have a positive effect on any Indigenous language documentation and preservation efforts. However, there may be a general trend for higher average years of schooling to promote language endangerment under certain conditions (Bromham et al., 2022).

In the Western Santo context, we believe that unless Indigenous languages are integrated in school curricula beyond the kindergarten level (as also pointed out in WSSDP2030, see also §3.5.6), they may become less vital with increased educational levels and literacy (in Bislama, English, and French), due to the resulting even higher prestige of non-Indigenous languages and increased in- and outmigration.

It should be noted that for the adoption of vernacular language education in schools, children need to be taught (in) their first language (even if it is considered closely related to another variety for which there may be more resources). Otherwise, the result may be that some Indigenous languages lose ground at the expense of other, usually larger, Indigenous languages, as has already happened with some dormant and extinct Western Santo languages due to the adoption of another language for Christianisation efforts (e.g. Lela', §3.7). This needs to be taken into account and to complement the existing guidelines for vernacular education (e.g. Early & Tamtam, 2015), which tackle issues like the variety of L1s within a particular primary school.

4.2.3 Natural disasters and climate change

Natural disasters and climate change have been a challenge in Western Santo (§3.2.1) and all of Vanuatu (Aleksandrova et al., 2021) and their effects are likely to become even more serious in the coming decades. Western Santo is especially vulnerable to droughts, floods, landslides, earthquakes, and tsunamis. Such events can lead to rapid deterioration of one or more of the Indigenous languages' vitality, the smaller languages being at increased risk here (§4.1). The effects of such events may be likened to the effects of epidemics like the ones communities experienced in the last decades of the 19th century and the first decades of the 20th century, which led to depopulation, migration, major disruptions, and to some of the languages becoming dormant or extinct. The incremental effects of climate change will likely exacerbate the problem with resource availability and rapid social changes. These effects, together with the expected population growth (§4.2.1), will likely increase migration and language contact, and may even necessitate population relocations, which will inevitably disrupt language ecosystems at a rate and/or to an extent that may make it more difficult for them to recover.

4.2.4 Industrial and infrastructural improvements

Industrial development and improvement in road infrastructure are another possible development, which has the potential to improve lives in Western Santo, but, if not done sustainably, may hurt the vitality of Indigenous languages. One possible development is the introduction of industrial-scale logging, which has happened in the past and for which there are interested parties both in and outside of Western Santo. There is no consensus within the communities whether this should be allowed, since the risk of environmental damage is very high. In fact, together with natural disaster proneness and climate change, such environmental damage has the potential to make parts of the region unable to accommodate any sustainable living. In terms of effects on the language ecosystems, even if industrial development is done sustainably, it might bring workers from elsewhere in Vanuatu and abroad, which would

increase language contact and can even potentially (albeit not necessarily) cause social tensions. While language contact does not have to promote endangerment (e.g. Bromham et al., 2022), in the proposed scenario, some language vitality scores on the UNESCO scale are expected to deteriorate. For example, the proportion of speakers within the total population will fall, as labour migrants will have little incentive to learn local languages, and will be using mostly already more prestigious languages like Bislama, English, or French. This may also lead to a lower score on community attitudes. Besides, industrial development would create new domains to which, as already shown, the Indigenous languages of Western Santo are unlikely to respond well, unless specific measures are taken.

In terms of road infrastructure, the only concrete plans for building a road to Western Santo (over the mountains to Big Bay) have been made in connection with proposed logging operations, which would require road infrastructure for its own purposes. However, many in Western Santo doubt that the long-term maintenance of any roads that are built this way can be guaranteed. Better road infrastructure, in fact, is correlated with higher language endangerment (Bromham et al., 2022). In Western Santo, this would, again, promote major migrations into and out of the region and also within the region as areas with better infrastructure will inevitably attract residents from other parts of the region. This would disturb family relationships (important for intergenerational transmission, see §3.5.3), disrupt local social structures and mechanisms of solidarity and egalitarianism.

4.2.5 Internet penetration increase

Increased technology uptake, especially increased Internet penetration, is likely to happen in the next decades, especially with improved and cheaper technology for both Internet access and solar power generation. This means that contact with other languages in this new medium, including social media, will likely increase substantially from the current low levels (§3.4.2), as social media result in major changes in communication patterns (Moring & Markelin, 2019). As the Indigenous languages of Western Santo are not responding well to new domains and media, it can be expected that technological developments will promote the importance and relative prestige of languages like Bislama, English, and French at the expense of Indigenous languages, unless relevant measures are taken.

4.2.6 Some proposed measures

When discussing the future developments in the previous subsections, we may have emphasised the negative effects they are likely to have on Western Santo's Indigenous languages' vitality. At the same time, however, most of them can relate to otherwise positive developments, such as economic growth, population numbers recovery, technology uptake, better educational outcomes, etc. Western Santo's situation is not unique. In many communities around the world where a minority language is spoken alongside one or more larger and more prestigious languages, "it is the intrusion of modern society […] in terms of education, labour, media, mobility, and so on, that causes the majority language to replace local languages" (Wichmann, 2008, p. 884). While economic development is clearly welcome, it needs to be ensured that it is sustainable, i.e. it goes hand in hand with sustainable social and environmental development. Maintaining Indigenous languages in Western Santo would contribute to sustainable social development by helping maintain a vibrant cultural identity (as per NSDP2030), including preserving traditional knowledge and skills, traditional economic models, and customary governance – as has also been pointed out in both the NSDP2030 and WSSDP2030 – and integrating them into their modern counterparts. In terms of environmental sustainability, the very high risk associated with natural disasters and the climate crisis need to

be addressed by maintaining and increasing communities' resilience, including through the preservation of traditional knowledge, as encoded in Indigenous languages.

In any case, we concluded that the vitality of Indigenous languages in Western Santo will likely suffer in the future, unless relevant measures are taken urgently. But what could these measures be that would not only prevent a decrease in vitality, but also boost the vitality of Western Santo's Indigenous languages? As a starting point, the three UNESCO criteria for which these languages perform poorly (§4.1) will have to be addressed. These involve documentation efforts, the creation of educational and literacy materials, and response to new domains. In many ways, these are, in fact, closely related. As we pointed out in §3.10, it is also important that these efforts cover all languages of Western Santo in parallel.

Sufficient language documentation and description is a necessary condition. Modern language documentation efforts involve the audio/video recording of speech acts, and the annotation (transcription and translation) of these recordings. This results in multimedia and written records of the language, including dictionaries and descriptions of the languages' structure. The recordings themselves can be used in educational settings and can be uploaded to social media, thus boosting the language's presence in these new domains. The written materials make literacy efforts possible. The use of these materials would engage speakers with their languages in new ways. Documentation efforts also involve the creation of a working orthography, which can be used by the communities (as is, or a modified version of it, as decided by the community). All this can serve as a basis for any future language conservation efforts according to the communities' priorities and desires.

As pointed out above, the creation of educational and literacy materials can, and usually does, go hand in hand with documentation efforts, although additional, more targeted efforts are essential too. One important condition, however, is that Indigenous language education is integrated in a long-term educational policy and receives government support in terms of expertise and training, among other things. As discussed in §4.2.2, it is also important that all Indigenous languages of Western Santo are included in such programmes on an equal basis, because, otherwise, there is a risk of those Indigenous languages that are not used in education losing vitality. We recognise that this is practically challenging for some primary schools (§3.5.6). One solution proposed in WSSDP2030 is to have days and weeks dedicated to different languages that are spoken at a specific primary school. Also, at the community level, speakers of all ages can be engaged through *kastom* schools, which have been set up elsewhere in Vanuatu.

Once effective literacy in Indigenous languages increases, it will become easier for them to better respond to new domains. For example, the translation of religious texts would become more feasible. At the same time, as Internet penetration increases, vernacular literacy would enable more and more speakers to write and create media content in their Indigenous languages to be disseminated on the Internet.

Language loss has taken place in Western Santo in the past because of rapid and major disturbances of the language ecosystems (§3.1, §3.7) and there is no reason to believe that this would not happen again. While the languages that are most at risk are probably those with fewest speakers, all Indigenous languages of Western Santo are at risk of becoming more endangered, or even become dormant and extinct. The measures we proposed above can help speaker communities engage with their languages and ensure the continuity of their identities in a sustainable way.

5 Summary and Conclusions

In this article, we presented detailed data on the language ecosystems of Western Santo, one of the least linguistically documented areas of Vanuatu. Based on these data we performed language vitality assessments and discussed the future prospects for the Indigenous languages of Western Santo.

First, we list the main findings as follows:

i. The linguistic diversity of Western Santo is higher than the existing literature indicates, based on the perceptions of their speakers and recently collected data.

ii. The intergenerational transmission of extant languages is stable, contrasting with the recent loss of language diversity.

iii. The rates of in- and outmigration, and related language contact effects, are relatively low (this is, at least in part, related to the poor infrastructure and the economic models).

iv. The proportion of non-speakers in communities is low, partly due to a trend for incoming spouses to learn the local language, which means there are fewer situations in which it is necessary to accommodate non-speakers by using Bislama or other languages.

v. The speakers' attitudes towards their languages are very positive (likely correlated, at least in part, with the low proportion of non-speakers).

vi. The use of Indigenous languages is relatively stable in traditional domains, but the response to domains like education, religion, and the newest domains, including social media, has been poor.

vii. The documentation and description of Western Santo's Indigenous languages is very basic and lacking.

viii. Population growth is stable; there is a large proportion of young speakers.

ix. Transport and communication infrastructure is poor, the challenging geography being a major hurdle.

x. Climate change and natural disasters are a major risk factor.

xi. The predominant economic models are based on traditional subsistence agriculture; there are low levels of industrialisation and money-based labour economy.

xii. Customary governance and traditional ecological knowledge are in decline, but are prioritised in future development planning.

xiii. Institutional attitudes, beyond the legislation, are mostly mixed and unclear.

xiv. There is a lack of substantial and targeted funding, planning, and human resources, for language documentation and language preservation activities.

xv. Indigenous languages have not found their place in formal education and literacy rates are low.

Summarising the points above, our vitality assessment according to the UNESCO criteria shows that the languages of Western Santo perform relatively well in terms of intergenerational transmission, proportion of L1 speakers, and speakers' attitudes. In traditional language use domains, they maintain a relatively strong hold. However, they respond poorly to new domains,

there is a lack of documentation and literacy/education materials. The support of centralised institutions can be considered unconvincing.

Our discussion of likely future developments outlined a few risk factors and some expected positive developments. A major risk factor for the vitality of Indigenous languages in Western Santo is a predicted increase in in- and out-migration, which will boost language and cultural contact and potentially affect the prestige of Indigenous languages negatively. Migration could increase as a result of population growth, climate change and natural disasters, industrial developments (including a related shortage of natural resources and lack of food security), better educational outcomes, transport and communication infrastructure improvements, including higher Internet penetration. These factors could also result in positive outcomes, such as improved welfare, literacy, and human resources, which are necessary, albeit not sufficient, conditions for language preservation work, given accompanying measures are taken.

We proposed some necessary measures for ensuring the vitality of Western Santo's Indigenous languages, which address the weak points identified by our assessment. Namely, we endorse the measures outlined in some official policies, including NSDP2030 and WSSDP2030, that language documentation and description, the creation of literacy materials, and the integration of Indigenous language education in classroom and out-of-classroom settings, need to be prioritized urgently, in order to improve the languages' vitality, but also to counteract the likely future negative developments. We would argue that they need to be given urgent priority, and that institutional support for Indigenous languages more generally needs to be reiterated, discussed in depth, based on proper evidence, and translated into action.

The measures we propose are necessary, albeit insufficient, conditions for ensuring linguistic and cultural continuity in Western Santo. While they rely on grassroots efforts (see also Grenoble & Whaley, 2006), they also need outside funding, organisational capacity, and human resources. We also stress how important it is that any programmes try to encompass all language varieties of Western Santo in parallel, taking into account speakers' perceptions and attitudes (as we have tried to do here), even if some varieties may be considered by outsiders to be very closely related to each other. We believe that the positive attitudes and prioritisation of customary governance and Indigenous languages by Western Santo communities, along with the currently positive intergenerational transmission, low proportion of non-speakers, and a stronghold in traditional domains, can serve as the basis for sustainable conservation efforts for Western Santo's Indigenous languages. The recent loss of linguistic diversity in Western Santo is a stark reminder of how quickly language ecosystems can be thrown out of balance and languages can be lost with all associated negative consequences. It is our hope that this article will contribute to highlighting these issues and to informing future evidence-based decision-making both within Western Santo communities and by outside stakeholders.

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Abbreviations

The following abbreviations are used throughout the text.

2020 Census - The Vanuatu 2020 National Population and Housing Census (VBOS 2020)

NSDP2030 - The Vanuatu National Sustainable Development Plan 2016-2030 (DSPPAC 2016, 2017)

NWS - North West Santo Administrative Area

WCS - West Coast Santo Administrative Area

WSLS - Western Santo Language Survey

SSEN - Santo Sunset Environment Network

WSSDP2030 - The Western Santo Sustainable Development Plan 2030 (North West Area Council & West Coast Area Council, 2021)

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Appendix: West Santo Villages, Languages and Other Details

The table below lists all 55 settlements covered in this article with details on languages spoken, number of households, population, L2s, migrations for which there is evidence, and other relevant information.

An interactive map containing the same data can be found here: https://doi.org/10.5281/zenodo.17372000

settlement	language	households	population	L2s	migrations	notes
Hokua	Venlav	25	106	Pesena, Valpei, Tanokuk	From Jaran and Pesena	
Maro	Venlav + Pesena	1	3	Pesena, Tanokuk	From Pesena (Big Bay)	A man from Pesena (on the eastern/Big Bay coast of the Cumberland Peninsula) moved to Maro and married a Venlav-speaking woman. Both the Pesena language and Venlav are used in this household. While this small settlement is on the eastern side of the top of the Cumberland Peninsula, it is counted here, because it is considered a satellite settlement of Hokua.

settlement	language	households	population	L2s	migrations	notes
Wunpuko	Venlav	76	505	Pesena, Venlav, Tanokuk	From Veroan, Nokuku, Tasmate	In this village there is a relatively high number of women from other regions of Vanuatu, as well as two from the Solomon Islands, who married into the community. The first primary school was set up at Manevula (very close by) and the only secondary school in Western Santo is currently at Manevula, which means that many teenagers from Western Santo board here.
Valpei	Valpei	27	109	Venlav, Tanokuk, Pesena	From Pwerpwer, Peli, Kamwea, Nokuku	In this village there is a relatively high number of women from other regions of Vanuatu, who married into the community.
Petani (Bethany)	Valpei	24	112	Venlav, Tanokuk, Pesena	From Valpei, Namalo (Big Bay)	In this village there is a relatively high number of women from other regions

settlement	language	households	population	L2s	migrations	notes
						of Vanuatu, who married into the community.
Matalip	Valpei	4	19	Venlav, Tanokuk, Pesena	From Valpei	All Matalip men are married to women from outside of Western Santo
Molpoi	Valpei	6	33	Venlav, Tanoku, Pesena, Mwotlap (Mota Lava) and languages from Vanua Lava (Banks), ‘Oa		A woman from Banks was married to a man from Valpei and their children speak both languages
Poaru	Tanokuk + Venlav	5	21	No data	Ambrym to Nokuku then to Poaru	Tanokuk and Venlav are equally frequently spoken
Olpoi	Tanokuk	57	289	No data	Pearly to olpoe wellekis	A relatively high number of women from other islands of Vanuatu and other Western Santo communities
Lajmoli	Tanokuk	13	63	No data	From Nokuku	Most wives are from other islands of Vanuatu (incl. Pentecost,Tanna)

settlement	language	households	population	L2s	migrations	notes
Wunon	Tanokuk	26	112	No data	From Nokuku	A relatively high number of wives from other Western Santo communities or other islands of Vanuatu
Korkor	Tanokuk	1	7	No data	From Nokuku	A Nokuku man married to a woman from Olpoe.
Nokuku	Tanokuk	28	122	Venlav, ‘Oa, Takani, Hurahi	From Pwel, Lolonmal	This is where the first Christian mission in Western Santo was set up. Relatively many wives from other areas of Western Santo and Vanuatu.
Peniel	Tanokuk	11	65	Venlav, ‘Oa, Takani, Hurahi	From Nokuku	A few wives from Southwest Santo
Nambeko	Tanokuk	3	13	Venlav, ‘Oa, Takani, Hurahi	From Venlav, Nokuku	
Penouru	Tanokuk + †Lela'	21	89	Lela’ (only remembered), Venlav, ‘Oa, Takani, Hurahi	From Morurun	Lela’ was the original language of the community which migrated from the hills. The last fluent speaker, Waltut Molisa, died in 2021.

settlement	language	households	population	L2s	migrations	notes
Ravlepa	Tanokuk	12	68	Lela', Venlav, 'Oa, Takani, Hurahi	Morurun to Penoru to Ravlepa	Relatively many wives from other islands in Vanuatu and Western Santo
Petawata	Hurahi	22	99	Tanokuk, Venlav, Valpei, Takani, Jo/Tuijo, 'Oa	From Puriawot	Former logging site for a French company.
Sulesak/Sulesai	'Oa	21	92	No data	From Wunasule	
Wunavae/ Funafai	Takani	70	338	'Oa, Tanokuk, Jo, Tuijo/Kula, Hurahi	From the hills between Tolomako and Wunavai	There are communities in Big Bay who speak the same language because they migrated from the hills to opposite coasts.
Vasalea	'Oa	16	76	No data	From Tasmate	
Tasmate	'Oa	35	148	Jo, Tuijo/Kula, Tanokuk, Takani, Tie, Tiale, Kitano		
Wunaru'u	Joa(=Japwele)	3	21	Jo, Tuijo, 'Oa, Tanokuk, Nojoa (Big Bay)	From inland areas	Part of their inland community migrated to Big Bay's inland areas. 15 people are L1 speakers +

settlement	language	households	population	L2s	migrations	notes
						6 L2 speakers, the family of a Seventh Day Adventist pastor from Malao (Big Bay). They regularly speak the pastor's language.
Elia	Jo + Tuijo	34	208	Takani, Kula, Tie, Tiale	From Tapunavanua	The northern part of the village speak Jo, the southern part speak Tuijo (the same language as in Kerepua). Jo speakers migrated from an inland village called Leira in the late 1970s. Tuijo speakers migrated from Kerepua.
Kerepua	Tuijo(=Kula)	21	143	'Oa, Jo, Joa, Tie, Tiale	From high altitude areas close to Tabwemasana, at up to 800 masl.,	Kerepua residents claim they speak the same way as people from Wusi (and the southern part of Elia), and prefer to call their language Tuijo. A local language committee has translated a few songs and

settlement	language	households	population	L2s	migrations	notes
						other religious texts.
Wusi	Kula(=Tuijo)	33	118	Takani, Jo, Tie, Tiale, Pareo	From high altitude areas close to Tabwemasana	Wusi residents claim they speak the same way as people from Kerepua and prefer to call their language Kula. Around 30 (relatively many) wives from outside the community but virtually all speak Kula.
Linduri	Tie	17	79	Takani, Kula, Jo + Tuijo, Tiale + Kitano	From inland villages	This language is also spoken in Big Bay, because the original community split and migrated to both coasts.
Sauriki-Pasis	Tiale	4	21	No data		
Vunalavu – Sauriki	Tiale	7	44	No data		
Matae – Sauriki	Tiale	7	29	‘Oa, Kula/Tuijo, Tie, Jo, Pareo		
Salalia – Sauriki	Tiale + †Kitano	8	32	‘Oa, Kula/Tuijo, Tie, Jo, Pareo		A few rememberers of a dormant language called Kitano live in this village.
Kuluva – Sauriki	Tiale	11	46	No data		

settlement	language	households	population	L2s	migrations	notes
Vurevure – Sauriki	Tiale	4	14	No data		
Visio – Sauriki	Tiale	13	50	No data		
Lanopu – Sauriki	Tiale	11	49	No data		
Vunare – Sauriki	Tiale	11	47	No data		
Narumaji – Sauriki	Akei	11	64	No data		
Voji	Tiale	16	70	No data		
Salalope	Tiale	12	45	No data		
Vosae-Salalope	Tiale	6	36	No data		
Voke-Salalope	Tiale	3	24	No data		
Kerena-Salalope	Tiale	6	30	No data		
Pareo	Tiale	25	143	No data		
Valapei	Tiale	45	193	No data		
Tanokovu	Tiale	37	181	No data		
Jaranavusvus	Tiale	22	108	No data		
Kerewai river - 2 small stations	Tiale	18	88	No data		
Sakele - Kerewai	Akei	7	29	No data		Nangariamel custom village
Sulemauri - Kerewai	Akei	14	58	No data		Primary school and health centre
Tialona - Kerewai	Akei	9	37	No data		

settlement	language	households	population	L2s	migrations	notes
Toromauri - Kerewai	Akei	18	80	No data		
Pelovu - Kerewai	Akei	14	62	No data		
Lalaolo	Akei	24	98	No data		Vodafone tower
Tovotovo	Akei	19	107	No data		
Kerevinombu	Akei	15	82	No data		