

Building resilience & empowerment

South Fly District Villages,
Papua New Guinea

A decade of community
development achievements
2014–2023





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A summary report of:

Treaty Village Resilience Program (TVRP) 2014–2016

Building Resilience in Treaty Villages (BRTV) 2016–2018

South Fly Resilience Plan (SFRP) 2018–2023

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Foreword



It has been a profound honour and a true pleasure to work alongside the people of South Fly District for over a decade. I am immensely proud of what we have achieved together. Our journey began in 2009 when I first visited the region, exploring the potential for turtle and dugong management as part of our work in the Torres Strait. That initial visit made it clear that any conservation efforts would need to be deeply rooted in community capacity building, economic empowerment, and tangible improvements to daily life.

South Fly District may be just a few kilometres from Australia, but it remains a world apart in many ways. For decades, entrenched poverty, remoteness, limited infrastructure, and a lack of resources and educational opportunities held communities back from progress. From the outset, it was evident that the only way forward was to invest in the people – to build skills, create jobs, and foster a sense of local ownership over development efforts.

Together with INLOC, we established the Community Ranger program – a model adapted from successful community-led programs in Northern Australia. What began as a small pilot in the Treaty Villages expanded across the District to include 40 villages and 178 trained Community Rangers, with 50% women. This inclusion of women was a cultural shift that has not only transformed individual lives but has also begun to reshape community norms. Today, it's common to see a female ranger repairing a boat while a male ranger learns to sew – a powerful reflection of how gender equality has been woven into the very fabric of the program.

The impact of the program is visible everywhere – in cleaner water, more abundant food gardens, safer childbirth, better hygiene practices, and thriving microbusinesses. It's visible in the

newfound confidence of women who have launched small businesses and in the leadership of newly trained Rangers who are now local role models and trusted community figures. Perhaps most importantly, it's evident in the hope and optimism that now pervades communities once characterised by a sense of disempowerment and isolation.

At the same time, we have focused on strengthening governance. Today, nearly all 40 local government wards have Ward Profiles, and 27 have developed Five-Year Ward Development Plans. Before this program, many communities had no governance structures in place and no mechanism for advocating for their own needs. Now, leaders are equipped to manage projects, apply for grants, and navigate the responsibilities of their roles as elected officials.

Our work in the South Fly District has been generously supported by the Australian Government, and our own contributions. In mid-2023, the program transitioned into a new phase under the Western Province Strategy, with PNG-based INLOC International taking over management. It is deeply rewarding to see that the people of South Fly District are not just sustaining what we started together but are actively building on it – forging their own path forward and ensuring a brighter future for their communities.

This report is a summary of our work together and what we have achieved.

Sheriden Morris
Managing Director, RRRRC



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Section 1

Community needs and impact

1.1 Program overview

The Treaty Village Resilience Program (TVRP), Building Resilience in Treaty Villages (BRTV) and South Fly Resilience Plan (SFRP) are a cohesive series of community development initiatives delivered under distinct program titles in the South Fly District of Western Province, Papua New Guinea (PNG).

Managed by the Reef and Rainforest Research Centre (RRRC), they were undertaken in partnership with INLOC from November 2014 to April 2023. They are referred to collectively as ‘the program’ in this report.

Implemented through a unique Community Ranger model, the program began in 5 villages, focusing on water security, sanitation, and health training delivered by locally trained Community Rangers. Building on these foundational efforts, it expanded into the Building Resilience in Treaty Villages Project including 13 villages, and then into the South Fly Resilience Project reaching 40 villages and incorporating broader components such as financial literacy, enterprise development, and disaster preparedness.

Central to the program was the training of Community Rangers and community members in a diverse range of skills through practical programs. For example, carpentry and construction training was applied to build and repair critically needed infrastructure, such as water tanks, sanitation facilities, and community buildings.

The program generated employment for the Rangers and equipped community members with the skills to participate in work and small business enterprises.

Each phase of the program reinforced the previous, establishing a cohesive, community-led framework for resilience and sustainable development across the South Fly District that still continues.

This summary report presents the work RRRC and INLOC have done over a decade in the South Fly District, and the vast advances made in the region alongside the region’s village communities.

Section 1 provides a concise overview of the program and its achievements; Section 2 a more comprehensive report.



1.2 The need

Lowland villages in Papua New Guinea's South Fly District are disadvantaged and remote. In 2011, the District's Human Development Index was just 0.26, compared to Australia's 0.929, reflecting severe deficits in health, education, and standard of living.

There are 13 'Treaty Villages', along the coast of the South Fly District with special status under Australia and PNG's Torres Strait Treaty (1985)¹ recognising a history of association with Australia's Torres Strait Islanders, islands and waters.

However, despite their unique status under Treaty, chronic poverty, remoteness, and climate impacts have left these communities with limited access to essential services and in dire need of support.

1.3 A community-led solution

In 2009, the Cairns-based RRRC identified critical unmet needs in the South Fly District while exploring opportunities to involve PNG Treaty Villagers in Australia's marine resource management initiatives.

Recognising the extent of the need for supportive efforts, RRRC engaged in extensive consultations with PNG government officials, village leaders, and community members to assess priorities and design a comprehensive, community-focused support program.

After securing \$1.85 million in Australian Government funding and contributing an additional \$400,000, RRRC launched the Treaty Village Resilience Program in November 2014 in partnership with INLOC, a not-for-profit organisation with expertise in remote and disadvantaged communities.

The program began in five coastal villages and progressively expanded to include all 13 Treaty Villages, and eventually a total of 40 lowland villages. By May 2023, program management was formally transitioned by RRRC to PNG-based INLOC International.

The program's approach centred on empowering local communities through targeted training and infrastructure development, with three key elements:

Community Rangers: Local residents trained to lead and deliver infrastructure projects, health services, and emergency response, fostering local ownership and self-reliance.

Council of Elders: Traditional leaders engaged to set community priorities, oversee project delivery, and ensure alignment with community values.

Community Management Plans and Community Action Days: Detailed plans that defined priority projects, established implementation schedules, and aligned community efforts with available resources.

Torres Strait Treaty

The Torres Strait Treaty was signed by Australia and PNG on December 1978, and ratified in February 1985.

The agreement aims to protect the traditional lifestyles of the local inhabitants, promote sustainable development in the region and conserve the environment, (Treaty, 1985). Separate jurisdiction lines are in place for the harvest of fisheries and seabed resources.

The Treaty defines a Protected Zone (PZ) encompassing an area of Australian waters and islands where traditional inhabitants of the 14 coastal Treaty Villages are allowed to move without passport for traditional activities. These are defined as "...the taking, by traditional inhabitants for their own consumption or for use in the course of other traditional activities, of the living natural resources of the sea, seabed, estuaries and coastal tidal areas". Fishing for monetary gain is not allowed without a special permit (Article 23).

In 2013 the number of crossings per year was estimated to be in the order of 53,000.



1.4 Community Rangers

Community Rangers formed the backbone of the program, providing a sustainable, locally driven model of community development. Recruited from within the villages, motivated individuals were trained in diverse technical and practical skills, positioning them as leaders and implementers of change within their own communities.

This model of delivery was approved by villagers, village leaders and the region's elected Ward Members as the best way of addressing the multiple community challenges in an integrated manner. The model embedded design and ownership of outcomes within the community, establishing a strong foundation for long-term impact.

Community Rangers training was ongoing throughout the program. In 2023, a total of 178 rangers were trained (50% women) and employed (40% women) within the program.

Throughout the training, practical skills were taught on real projects to ensure immediate, demonstrable outcomes for the community.

Training areas included:

Technical skills

- Small engine maintenance (Certificate 1)
- Plumbing and water systems (Certificate 1)
- Marine craft handling and safety
- Communications and radio operation
- GPS navigation and marine rescue

Health and emergency response

- First aid and health emergency response
- Hygiene and disease prevention
- Maternal health, and prenatal care
- Infant nutrition
- Disaster preparedness and evacuation planning

Infrastructure development and construction

- Carpentry and construction techniques
- Concrete moulding for toilets and water wells
- Well-digging and clean water management

Agriculture and food security

- Food garden techniques and permaculture
- Horticulture and crop variety testing
- Agricultural standards for market access
- Seafood supply and post-harvest handling

Financial literacy and enterprise development

- Basic accounting and financial management
- Tender planning and preparation
- Job-relevant literacy and numeracy
- Public presentations and lesson delivery

Community leadership and consultation

- Digital technology and computing
- Community consultation approaches
- Ecosystem-based marine resource management
- Workplace health and safety

By integrating practical training with real community projects, the program ensured that Rangers developed essential skills while producing tangible, valuable outcomes for their villages. This model fostered confidence, built capacity, and positioned rangers as trusted agents of change, capable of sustaining program outcomes long after the formal training period ended.

1.5 Council of Elders

Following extensive consultations with village communities and elected Ward members, a village-based governance structure was established to guide program implementation.

Clan leaders from each village were recognised and approached to form a Council of Elders, tasked with providing strategic oversight and on-ground governance of the project. Supported by INLOC, the Council led community planning sessions, identified priority areas, offered ongoing direction, evaluated outcomes, and effectively addressed implementation challenges.

The Council of Elders also defined the selection criteria and process for trainees, ranger payments, security protocols, work hours, and mechanisms for ongoing community input.



1.6 Community Plans and Action Days

Community Management Plans (Community Plans) served as the strategic framework guiding program delivery in each village. Developed by the villagers, these plans prioritised community needs and defined and scheduled associated remediative activities within the Community Ranger Program. Water security was a high priority across all communities, with audits of water storage infrastructure and resources critical components of plan development and agreed response initiatives.

Deliberate effort ensured women provided input into each plan.

A comprehensive Monitoring and Evaluation (M&E) framework was implemented to assess progress against Community Plans and overall project objectives. This framework integrated both quantitative and qualitative metrics, allowing for in-depth tracking of activities, outputs, and challenges. Community Rangers were central to the reporting process through the submission of detailed written and verbal reports.

Community Action Days were incorporated into each Plan; these facilitated a broader participatory approach that complemented the Ranger's work by enhancing project outcomes and fostering community ownership. For example, villagers contributed labour and resources to thatch-leaf panels for toilet walls and assisted other construction work. This ensured a sense of collective responsibility for infrastructure and resources and empowered villagers with the skills, confidence and a process to collectively tackle shared challenges.



1.7 Achievements

The program achieved substantial, wide-ranging impacts. Each phase was strategically interconnected, creating sustained momentum and reinforcing progress across all priorities outlined in the Community Plans.

At the core of these initiatives was comprehensive training for the Rangers, combining theoretical instruction with practical, on-the-ground skill development as outlined in Section 1.4. This intensive approach was complemented by extensive broader-community training delivered through workshops, hands-on tasks, and observational learning opportunities.

The program was further bolstered by the provision of essential resources – equipment, building materials, food plants, poultry, household linen, and other vital supplies – to facilitate the implementation of key projects and support long-term community resilience.

Many critical outcomes, such as enhanced community cohesion, increased confidence, and a renewed sense of purpose, are not easily quantifiable, but were readily observed within the villages. The program's more measurable achievements are outlined below, grouped within categories that reflect the program's and communities' overarching aspirations and goals.

Water security

Infrastructure and water quality assessment

- Water quality testing identifying potential contamination risks for wells and springs

Infrastructure audits, development and repairs

- Audits identifying gaps in water security and infrastructure needs
- 1.5 million litres of new water storage capacity created through tank construction and repairs

- 10 new wells constructed providing new water sources
- Three natural springs made safe protecting water quality and improving access
- Existing wells capped enhancing safety and preventing contamination
- Four concrete water tanks built
- Self levelling water tank mechanism creating equitable water distribution

Water extraction and distribution

- 570 water wheels distributed for efficient water transportation
- Two solar pump supplied and trialled
- Water storage bladders installed and tested for flexible, portable storage
- Five manual water-lifts installed at wells improving ease of extraction

Capacity building and community engagement

- Training in infrastructure repair and maintenance – community and Rangers
- Ongoing monitoring and community feedback

Food security

Crop development and distribution

- Improved crop varieties sourced enhancing food security
- 6,000 new variety food plants distributed to village communities
- 35 gold finger disease resistant banana plantlets imported and distributed
- Three greenhouses built for plant production and horticulture training
- 20 irrigation trials to improve food production

Knowledge and expertise

- Food security consultations conducted in 40 villages through the Tok Save process
- Food preservation training and construction of 14 air-driers constructed
- Horticulture training of over 1,500 community members
- Production trials of poultry, mud crab, and improved plant varieties – 12 villages

Infrastructure

- 14 air driers constructed
- Two solar freezers supplied for ice production

Community-based monitoring and fisheries management

- Fishers' surveys to assess practices and identify and address knowledge gaps
- Ongoing data collection on food security to guide interventions and planning efforts
- Ranger vessels deterring West Papuan fishers thus limiting fisheries depletion

Food production for income

- Business modelling included in poultry and mud crab trials, and horticultural training
- Income-generating activities aligned with improved food security outcomes
- 80 cassava mills supplied for flour production – two per village

Women's empowerment, safety and gender equality

Empowerment and leadership

- 40% women rangers leading and training women in the community
- New knowledge imparted to 1,000's of women through workshops and participation

- Strong role models created for young girls
- Input by women into Community Plans ensuring women's needs were met
- Practical skills gained in male-dominated areas such as boat handling, plumbing and construction
- Specific events for women including those facilitated by the Spacem Piccanini family planning program

Economic opportunities

- Microbusiness opportunities developed: sewing, poultry farming, sanitary pad production and others
- Financial literacy training to support women's financial independence

Health and social support

- Training in women's health and birthing support
- New narratives around domestic violence – now positioned as a community issue
- Domestic violence prevention strategies and responses in place

Safe births

Access to birthing kits

- 3,000+ birthing kits distributed to support safe childbirth and reduce mortality

Childbirth support and emergencies

- Training in birth management for female rangers
- Birth emergency response training including medivac management
- Women in labour supported in remote areas without healthcare facilities

Facility and equipment upgrades

- Refurbishment of maternity facilities and two new birthing beds provided to Mabaduan Hospital

Children's health and education

Improved school facilities

- School toilets constructed with hand-washing for better hygiene
- School water tanks repaired allowing all-day attendance

Child nutrition and health education

- Child-nutrition training delivered to women to prevent malnutrition

Educational resources

- Donated books delivered to schools and community centres supporting literacy

Youth skilling and empowerment

- Training programs for youth in practical skills for employment and self-reliance
- Positive adult role models in Rangers and community project participants

Hygiene and sanitation

Infrastructure development

- 100+ Urinary Diversion Dry Toilets installed at homes and community facilities
- Pit toilets constructed at key sites
- 'Tippy' taps setup for hand-washing in schools and public areas
- Theft-proof water taps installed on community tanks

Training and capacity building

- WASH training (Water, Sanitation, and Hygiene) for rangers and villagers
-

- Practical training in toilet installation and maintenance, and clean water collection
- Safe water training for villagers and rangers – handling and disease prevention
- Groundwater and well site selection training to improve access to clean water
- Toilet moulding microbusiness established
- Training workshops on dog health and management of potential disease risks

Microbusinesses



Poultry



Construction



Sewing



Marine mechanical repairs



Toilet moulding



Ice sales from solar freezer



Magic bags



Timber milling



Canoe building



Produce sales



Solar charging



Cassava milling

Health and hygiene promotion

- Personal and community hygiene training – cleanliness and hand-washing
- Sanitary supplies (Magic Bags) produced and distributed to women
- Household linen supply – six shipping containers of linen distributed
- Monitoring and evaluation of hygiene practices through community surveys

Enterprise development and financial empowerment

Ranger employment

- 178 Rangers trained and employed, half women

Microbusiness development

- 119 microbusinesses established, supported and generating income
- 22 villages with measurably increased incomes

Financial literacy

- 400+ community members trained in business and financial management
- Ranger bank accounts to promote financial inclusion and secure income access

Construction and carpentry

- Timber milling and carpentry training producing furniture, chicken pens, and sanitation infrastructure

Sanitation and water services

- Small-scale enterprises producing toilets and water tanks

Community skills mapping

- Skills and equipment audits identifying local expertise for tender opportunities

Agricultural initiatives

- Improved crop varieties and horticulture training supporting small-scale produce farming

Governance, planning, and accountability

Governance strengthening

- Five-year Ward Development Plans developed in 40 wards

Community committees and planning

- Village committees established leading planning, monitoring progress, and managing resources

District-scale coordination

- Regular Border Development Authority meetings aligning local and District initiatives
- Routine briefings to Police, Customs, and Daru Hospital ensuring alignment and support

Data collection and reporting

- Health encounter records tracking health trends and identifying necessary interventions

Disaster preparedness and emergency response and rescue

Preparedness plans

- Disaster Management Plans developed preparing communities



Emergency equipment

- Chainsaws and essential tools provided for clearing debris and emergency response
- 110 first-aid 'rescue swags' distributed for patient transfers and emergency use

Marine rescues

- Rangers trained to conduct marine rescues using custom boats

Improved transport

Custom vessels

- Four boats designed for local conditions and supplied, enhancing transport for ranger operations and emergencies

Marine safety training

- Rangers trained in vessel operation, safety protocols, and emergency response

Emergency support

- Vessels used for marine rescues and community outreach

Disability support

Disability census

- Disability censuses conducted identifying support needs

Ranger Support Officers

- Four Ranger Support Officers with disabilities employed as administrators

Focussed Training

- Horticulture training for 60 disabled adults, half women

Infrastructure improvements

Community facility upgrades

- Mabaduan school refurbished to improve safety and learning conditions
- Training facility built at Poah Island for ranger and community training
- Footbridges built to improve safety and access
- Water well infrastructure built for improved access

Sanitation and water infrastructure

- 100+ toilets constructed to improve waste management
- Four concrete water tanks built to boost storage capacity
- Roof and gutters repaired to enhance water capture
- Water harvesting fabric trials conducted to improve collection methods

Agricultural and livelihood infrastructure

- Chicken pens constructed to support poultry microbusinesses and food security

Improved health outcomes

Targeted health training

- Women trained in TB patient care reducing infection-spread and improving outcomes
- Home-based pregnancy care and delivery support by Rangers

Community health training

- First aid and emergency management training strengthening local response capabilities

Dedicated health personnel

- Two full-time female health trainers employed to provide ongoing health education

Emergency first aid

- Rangers trained to provide first aid and stabilise patients during health emergencies

Patient transfers

- Boats equipped and ready for medivacs ensuring remote communities can reach professional care

Community communications

Information access

- Noticeboards installed for updates, training schedules, and community meetings

Emergency communication

- Radios issued to Rangers for emergency response and coordination

Community meetings

- Regular information forums led by Rangers to share key messages and program progress

Communication training

- Rangers trained in public speaking and communication skills

Reporting protocols

- Established reporting protocols to keep authorities and stakeholders informed

Community feedback

- Feedback processes integrated into community meetings





Section 2

Program overview, foundations,
and implementation

2.1 Program phases

The program was executed as a continuum on the ground, but from an administrative perspective as discrete phases reflecting staged funding and progressive program enlargement. Each phase built on and expanded the foundational work of the previous one (both in scope and geographically) and incorporated learning and community input. The distinct program phases were:

Treaty Village Resilience Program (TVRP)

Pilot Phase (2014–2016)

Initial focus on water security, sanitation, and emergency response training in 5 Treaty Villages (Mabaduan, Sigabaduru, Buzi/Berr, Sui and Parama).

Establishment of the first cohort of 52 Community Rangers including 12 women, trained and undertaking work in water system construction, water and sanitation infrastructure, health programs and emergency first aid.

Integration of a Council of Elders governance framework to facilitate community-led decision-making and ensure alignment with villagers' development goals.

Building Resilience in Treaty Villages (BRTV)

Phase 1 (2016–2018)

Expanded to include all 13 Treaty Villages, increasing the ranger cohort to 110 and further diversifying training and community projects to include food security, agricultural trials, and financial literacy.

South Fly Resilience Plan (SFRP)

Phase 2 (2018–2023)

Scaling up the Community Ranger model to a total of 178 Community Rangers actively supporting 40 lowland villages, with an expanded strategic focus on economic development, micro-enterprise support, and governance strengthening.

A current ongoing phase, the Western Province Partnership (WPP), commenced in May 2023. It builds on the ranger-led initiatives established during the previous three phases and is now managed by INLOC International, a PNG-based organisation.

2.2 Program conception 2009

In 2009, RRRC's Managing Director Sheriden Morris visited Papua New Guinea's coastal Treaty Villages (see next section) to explore potential community involvement in dugong and turtle conservation activities in the Australian waters of Torres Strait. The visit revealed extensive, systemic disadvantage across the villages, underscoring the need for targeted development support before conservation efforts could be effectively pursued.

Conversations with villagers and direct observations highlighted pervasive challenges that demanded immediate attention, including inadequate access to clean water and nutritious food, poor healthcare infrastructure, fragmented development efforts, and a lack of basic sanitation.

Furthermore, villagers considered official accountability around community assistance work to be poor and believed that resources allocated for villages by government and not-for-profit organisations' support programs were rarely delivered as intended. Many professed limited trust in the South Fly District, Western Provincial and PNG governments.

Recognising that meaningful conservation engagement would be unattainable without addressing these foundational issues, Sheridan resolved to support the villages and villagers to resolve community-level issues by developing a new integrative community development approach founded on up-skilling of locals; one that through building confidence and ability, could become self-driven and self-perpetuating.

The next step was to review and understand the specific regional challenges for villagers so that the program could be skilfully and optimally developed to achieve maximum impact and best use of resources. The challenges identified by RRRC at the outset of the project are outlined in the Section 2.5.

2.3 The Treaty Villages

Thirteen coastal villages in Papua New Guinea's South Fly District hold special status under the Torres Strait Treaty (1985)², an agreement between Australia and PNG.

The Treaty permits the unrestricted two-way movement of Traditional Inhabitants from designated Torres Strait Island communities in Australia and PNG Treaty Villages, enabling them to maintain cultural connections, traditional practices, and subsistence activities without the need for passports or visas.

These 13 lowland villages span 320 km of coastline from the mouth of the Fly River to the West Papua (Indonesia) border. At its closest this shoreline is just 3.75 km and 6 km from Australia's Boigu and Saibai Islands, respectively.

Traditional subsistence livelihoods dominate these communities, with limited access to formal education, essential services, and manufactured goods. Government-provided infrastructure, including health and education services, remains inadequate, and many villages are isolated from road networks. Additionally, the distance from mining activities in the north has excluded these communities from potential economic benefits.

As well as an ethical imperative, improving humanitarian and environmental conditions in the South Fly District is strategically significant for Australia, given the geopolitical and cultural linkages under the Torres Strait Treaty. However, prior to the implementation of the work outlined in this report, conventional government and humanitarian development efforts had yielded minimal tangible benefits for these remote and underserved communities, and multiple regional challenges were pervasive and apparently intractable.

2.4 Specific regional challenges

The specific regional challenges identified within the Treaty Villages and broader region at the outset of the program through investigative research and consultation were as follows, with additional information provided in the Appendix.

Regional impoverishment

The 2011 Human Development Index (HDI) for the Treaty Villages in Papua New Guinea's South Fly District was recorded at 0.26, markedly lower than 0.75 for the Torres Strait and 0.929 for Australia³. The HDI, a composite measure encompassing life expectancy, educational attainment, and income per capita, underscores the significant developmental disparity within the region.

Comparatively, South Fly's HDI was assessed to be half that of PNG's national average of 0.56, as assessed in 2022⁴, and below the global low of 0.38 recorded for Somalia⁵.

Education

Education levels in the Western Province have been assessed to be among the lowest in PNG, with 60% of the population receiving little to no formal education. According to the 2011 Census, school attendance rates were declining, particularly among girls⁶.



Nutrition and food security

A decline in locally grown and wild-harvested food products has led to increased reliance on store-bought food, resulting in reduced dietary diversity and decreased nutrition. Concurrently, the availability of traditional marine foods has diminished due to overfishing, further compromising food security. Agricultural production had also contracted, with a noticeable decline in locally adapted food crop varieties and overall garden yields⁷.

Service delivery and governance

Service delivery was severely constrained by inadequate infrastructure, lack of resources and funding, and governance deficiencies.

Access to clean water

Access to clean water was a persistent challenge. Existing water infrastructure was often poorly maintained, with water tanks, gutters, and collection systems frequently unserviceable. Dug wells were open to contaminating elements, posing significant health risks.

Sanitation and sewage management

Sewage management was critically inadequate, with many households lacking functional toilets of any kind. Defecation in the open and poorly constructed toilet pits were contaminating groundwater and transmitting disease.

Communicable diseases

The prevalence of communicable diseases such as tuberculosis, leprosy, HIV/AIDS, cholera, and parasitic infections was exacerbated by: under-resourced medical facilities; limited community awareness of disease prevention and transmission; and, lack of awareness of efficacious, safe home nursing practices.

Seasonal flooding and drought

The region is prone to seasonal flooding, coastal erosion, and extended drought periods, conditions that impede transportation over the few roads that exist, hindering access to essential services. Climate change is expected to exacerbate these conditions, compounding existing vulnerabilities.

Boat transport though essential was generally restricted to simple vessels incapable of travelling long distances safely.



Over-exploitation of natural resources

Overfishing and the extraction of firewood, particularly mangrove wood, had led to resource depletion and ecosystem degradation. Attempts to implement community-based resource management programs, such as the Maza Wildlife Management Area⁹, had failed due to governance issues, lack of training, and insufficient community engagement.

Poor birthing outcomes

Medical support for pregnancy and childbirth was minimal, with local 'midwives' usually lacking adequate training or equipment. Consequently, rates of post-partum infection and neonatal mortality were high.

Gender inequality

Women faced entrenched cultural obstacles and were underrepresented in decision-making processes and experienced substantial barriers to economic participation and access to education.



System of Government

Papua New Guinea operates under a Westminster system of government with universal suffrage for all citizens over the age of 18. National elections are held every five years.

The PNG Parliament is a single-chamber legislature comprising 22 Governors representing each of the 22 Provinces and 89 Members representing the Districts within those provinces.

Each District is divided into three or four Local Level Governments (LLGs), each consisting of approximately 20 Wards. LLG Councillors are elected for each Ward every five years through LLG elections.

Each LLG Councillor forms a Ward Development Committee (WDC) by appointing five associate members, at least two of whom must be women. The Councillor serves as the WDC president.

The WDC functions as the primary advisory body to the LLG, providing guidance on the community's needs in terms of services, infrastructure, and program delivery.

stakeholders to discuss pressing issues, potential solutions, and community priorities for action.

The priority challenges identified at the workshops were:

- **Water scarcity:** Insufficient and poorly maintained water supply systems.
- **Food insecurity:** Limited agricultural output and reliance on costly purchased foods of low nutritional value.
- **Access to health services:** Few medically trained people; scant and deteriorating facilities.
- **Sanitation and waste management:** Absence of effective human waste systems – water contamination.
- **Environmental and social impacts from mining:** Impacting both ecology and livelihoods.
- **Resource poaching:** 'Outsiders' taking key marine resources leaving less available to villagers.
- **Degraded ecosystems:** Reducing food security and self-employment opportunities.
- **Livelihood development:** Minimal support to develop livelihoods beyond resource harvesting.
- **Natural disasters and climate change:** Vulnerability to flooding, sea level rise, and food insecurity.
- **Lack of government services:** Insufficient basic infrastructure, education, and health services.

The workshops were also a forum for learning about existing governance structures, how the proposed program could be enmeshed within them, and the most suitable on-ground governance structure for the program.

Attendees the proposed Community Ranger model of program delivery as formulated and presented by RRRC and INLOC and provided advice on refinements.

2.5 Community consultation and consent

Equipped with a more thorough understanding of regional challenges and with the seed of an idea on how to help, the RRRC initiated a strategic process to gain a deeper understanding of the challenges facing the Treaty Villages, the cultural dynamics, community aspirations, potential opportunities and possible barriers to effective program implementation.

To achieve this, three consultative workshops were held between September 2009 and December 2010 in Daru and selected Treaty Villages. These brought together villagers, government representatives, and other

2.6 Program governance

Alongside the three formal consultative workshops, RRRC conducted a series of targeted meetings with key stakeholders, including PNG villagers, the Western Province Governor, the South Fly District Councillor, and Ward leaders for each of the Treaty Villages. These discussions aimed to determine how best to integrate the governance of the proposed community development program within existing local structures. A Treaty Village Association was proposed and formed in 2012, but finally a more workable Council of Elders system was adopted instead.

Treaty Village Association – Initial setbacks and lessons

In partnership with RRRC, the Treaty Village Association (TVA) was established, comprising elected Ward members from the 13 Treaty Villages. The TVA was designated as the program's governance body, responsible for decision-making, financial management, planning, and safeguarding against potential fraud.

Initially, the TVA operated effectively, successfully securing 16 million Kina from the Western Province and National Government for a development and sustainability initiative for the Treaty Villages and broader region. However, upon disbursement, 9 million Kina was misappropriated by the Provincial Administrator, halting the program's progress. The administrator was subsequently convicted and imprisoned for corruption.

Further complications arose following the Local Level Government elections in July 2012, when many Ward members were replaced. Ousted members refused to relinquish their TVA positions to newly elected officials, effectively isolating the TVA from the district's formal governance structure.

Significant resources and time were invested in establishing the TVA, and its failure was a major setback for the RRRC and committed local stakeholders. However, the experience provided valuable cultural and operational insights, leading to the development of a more effective and culturally appropriate governance structure – the Council of Elders.

Council of Elders – Community-level governance

Building on lessons learned from the TVA, RRRC, in consultation with community leaders and Ward members, established the Council of Elders as the primary governance mechanism for the program.

The Council comprises clan leaders from each village, tasked with providing strategic oversight, guiding community planning, and setting program priorities. This governance model has proven effective, insulating the program from the political disruptions that often impact other Ward and Local Level Government planning processes.

The Council of Elders continues to provide stable, culturally appropriate governance, ensuring that program objectives are effectively aligned with community priorities and that implementation remains community-driven and sustainable.

2.7 Funding support

From 2009 to 2014, RRRC led the establishment and relationship-building phase of the Building Resilience in Treaty Villages Program. During this period, RRRC's Managing Director, Sheriden Morris, engaged extensively with PNG and Australian Government officials and elected representatives to advocate for support in the Treaty Village communities of the South Fly District.



In 2012, a significant funding milestone was reached when 16 million Kina were allocated to the program. However, as previously stated, potential momentum was undermined when the Provincial Administration appropriated the funds, preventing the program's commencement.

Following persistent advocacy by RRRC, the Australian Government, through the Department of Foreign Affairs and Trade (DFAT), allocated \$1.85 million in 2014 to initiate the program as a two-year pilot, with potential continuation contingent upon evaluation. Initially intended to cover four of the 13 Treaty Villages, the pilot was expanded to include five when RRRC contributed an additional \$400,000 to extend the program to Mabaduan, Sigabaduru, Buzi/Berr, Parama, and Sui.

The resounding success of the Pilot demonstrated the value of the program and ensured its continuation and expansion. Program Phases between 2016 and 2023 were generously supported by a further \$14.32 million allocation by the Australian Government, including \$120,000 specifically for refurbishment of the Mabaduan Hospital, alongside further RRRC investment.

2.8 Implementation through a Community Ranger Model

Development and endorsement

As noted earlier, RRRC designed a Community Ranger Model and process as potentially the most effective approach for fostering sustainable community development in the Treaty Villages. This Model was adapted from the successful Land and Sea Ranger programs operational in the Torres Strait and northern Australian Aboriginal communities, that had demonstrated significant community impact over nearly two decades.

During the three consultative workshops with villagers and other stakeholders in 2009 and 2010, the Community Ranger concept was extensively explored and refined to align with the unique cultural, social, and practical realities of the Treaty Villages. The Treaty Village Association endorsed the model, recognising it as the most appropriate mechanism for delivering the program.

The TVA authorised RRRC to formalise the approach in a report to the PNG Sustainable Development Program, an entity responsible for supporting project delivery under the Incentive Fund – Australia's longest-running aid initiative in PNG – to ensure alignment.

Structure and approach

The Community Ranger Model was then further developed and adopted as the main operational platform for program delivery. It focussed on recruiting and training local community members to serve as authority figures equipped with the skills, knowledge, and guidance necessary to address community challenges. By positioning local residents as implementers and leaders, the model fostered ownership and responsibility while embedding program delivery within both traditional and official governance structures.

This approach ensured a bottom-up, community-driven approach that progressively built local capability and autonomy, thereby aligning program outcomes with community aspirations and priorities, empowering local residents to lead program implementation, and ensuring that benefits were both visible and directly controlled by the communities themselves. This tactic not only built capacity but also fostered a strong sense of ownership and accountability over community resources and outcomes.

Key features

Community Management Plans

Community Management Plans developed and endorsed by each village served as the strategic framework guiding program delivery in each village. Developed by the villagers, including women, these plans prioritised community needs and defined associated work activities for the Rangers and community. In all communities, water security was a high priority.

Candidate selection process

Ranger candidates were nominated by clan leaders in each village, creating vested interest in the success of the trainees and ensuring strong community support and encouragement. Educational qualifications and physical fitness were considered to maximise the likelihood of program success, though these criteria did limit the candidate pool somewhat.

Opportunities for women

Deliberate efforts were made to include women in the Community Ranger Program, both as trainees and as contributors to Community Management Plans. This allowed women access to leadership, training opportunities and work, traditionally unavailable to them.

Paid training and work

Candidates received stipends during training and for their subsequent work as Community Rangers, providing associated financial benefits for themselves and their families.

Extensive theoretical and practical training

Throughout the training, practical skills were delivered through real community projects, ensuring immediate, tangible outcomes for the villages. This approach not only equipped Rangers with essential skills but also generated valuable results for their communities.

By aligning training with on-ground projects, the program built confidence, developed capacity, and positioned Rangers as trusted agents of change capable of sustaining program outcomes well beyond the formal training period.

The training prepared the foundation for Rangers to convey knowledge throughout the broader community and equipped them to undertake practical skills training for villagers.

Section 1.3 lists the main training elements undertaken by the Community Rangers.



Land and Sea Ranger Programs Northern Australia

Land and Sea Ranger programs recruit motivated local people and support them with resources, training and knowledge to care for their Country – most work in remote and challenging conditions.

Locally based and managed, these programs not only improve outcomes for the natural environment, they demonstrably build knowledge, create direction and purpose for individuals and community, connect community members, develop leadership and governance systems and capacity, create jobs, and generate numerous additional social and health benefits.



Papua New Guinea
Land+ Sea
Ranger Groups

2.9 Implementation framework

Achievements and outcomes

Over nearly a decade, the consecutive phases of the program delivered a comprehensive suite of integrated activities aligned with the Community Action Plan of each village. Given the considerable overlap in program activities across villages, most initiatives were implemented broadly, benefiting all participating communities.

While each activity and its associated outcomes could warrant a standalone report, the following summary tables provide a consolidated overview of the activities and outcomes across all three main program phases. These tables complement the Achievements section (Section 1.7), which organises outcomes and activities under the overarching goals within the Community Action Plans and the broader program.

A. Treaty Village Resilience Program achievements – Pilot Phase

2014	2015			2016
September – December	January – March	April – August	September – October	November – June
▪ Pilot starts – Five Treaty Villages (Sept) ▪ Strategy meeting ▪ Official launch in Daru ▪ Ranger selection criteria and conditions agreed ▪ Role of women rangers defined ▪ Final agreement on implementation approach	▪ Four custom made boats delivered ▪ Communication radios supplied ▪ 52 ranger candidates selected – 40 men and 12 women ▪ Bank accounts for candidates' pay ▪ Training started for men (January) ▪ Practical field-based training began with on-ground outcome delivery ▪ Audits of water and sanitation infrastructure ▪ Training facility built ▪ Mabaduan Hospital refurbished	▪ Female ranger training starts (April) ▪ Response and safety equipment delivered ▪ Hand washing facilities – installed in five villages ▪ Repair of water harvest and storage infrastructure underway ▪ Capping of wells for access and clean water ▪ Water storage bladder technology tested and installed ▪ Latrine building and installation started ▪ 52 rangers complete training (August)	▪ Trained Rangers began the Implementation of Work Phase ▪ Rangers began delivery of program in their own and adjacent villages ▪ Meetings in villages to agree the focus of investment and effort on sanitation and water ▪ Community training events run by Rangers for their communities ▪ Rangers began delivery of program in their own and adjacent villages ▪ Trained Rangers began the Implementation of Work Phase	▪ Trial of roof water harvesting fabric on school ▪ Daru nurses deliver training in women's and general health to female rangers ▪ 120+ health emergencies attended since April ▪ Community health training delivered by rangers in six villages (>4700 people) ▪ 3 TB awareness events including training in home nursing methods to reduce transmission ▪ Trial of latrines: composting and urinary diversion ▪ Five new water tanks

2014	2015			2016
September – December	January – March	April – August	September – October	November – June
	Women candidates consult women villagers for input into community plans	- Attendance at community health emergencies commences - Ranger graduation ceremony attended by 1,800 people (August) - Female rangers begin attending births and delivering first-aid - Childbirth and health emergencies attended with hospital transfers 920,000 L of water storage added - Improved seed varieties delivered - Four new wells - Four new tanks	- Meetings in villages to agree the focus of investment and effort on sanitation and water - Community training events run by Rangers for their communities - Village and regional food security discussions and assessments - First Aid, snakebite, dog health and hygiene training in villages - Marine rescue of 16 passengers by Rangers using three Ranger vessels - Additional employment secured by one Ranger with a lumber company - Ranger vessel presence is a deterrent on multiple occasions to illegal fishers from West Papua - First response and transport of three emergency cases to Boigu and Saibai Health Clinics and local aid post	- Two female chaperones to allow women to attend training - Community action days – e.g. collection and weaving of leaves for latrine walls - Seven meetings with District Administration and the Border Development Authority - Water quality/sterilisation education workshops - Two female medical workers employed to facilitate ongoing training - Gender equality training and creation of a new domestic violence narrative - Disability census - Improved well access for those with disabilities - Two new birthing beds delivered to Mabaduan Hospital - Village women consulted to include in decision making in Mabaduan and Sigabaduru - Toilets constructed at Budi aid-post and Mabaduan pre-school

B. Building Resilience in Treaty Villages achievements – Phase 1

2016–2018		
▪ Rangers delivered work according to the Community Plans ▪ Three disabled villagers joined the TVRP as Ranger Support Officers in May ▪ Training of Rangers in concrete tank construction ▪ Introduction of monthly Community Action Days lead by Rangers to collectively deliver Community Plan projects ▪ Distribution of six containers of donated household linen by rangers to women's groups ▪ Births attended ▪ Health emergencies attended ▪ Six sea rescues attended (since program commencement) ▪ Regular training events in nutrition ▪ Tender submission training ▪ Nine toilet facilities established in four villages ▪ Community comparison trials of composting and urinary diversion toilets concluded preference for the latter ▪ Technical assessment of functionality of toilets under wet season and high tide conditions undertaken ▪ Food security analysis – identified loss of knowledge on food preservation techniques over recent generations ▪ Disaster response training to support Disaster Response Plans in four villages (supported by equipment: e.g. boats, chainsaws) ▪ 22 meetings with the District Administration	▪ Continued building of latrines ▪ Ranger reports with photographs track activities ▪ Rangers responsible for costing and maximising efficiency in project delivery ▪ Regular updates on activities and issues to the District Administrator, District Treasurer, Police, Customs, Border Development Authority, Daru Hospital, and annually to the Joint Advisory Committee of the PNG and Australian Torres Strait Treaty ▪ Audit of village skills and equipment to identify opportunities for the villages to compete against external tenderers for the delivery of service contracts that have been let by the District Administration or donor agencies ▪ Consultation with Village Women's Groups four villages ▪ Survey of fisheries practices by men and women of four villages – key issues, knowledge gaps and key areas for training and conservation awareness raising ▪ Regulatory review identified areas for future access to alternative species, practices and locations for possible artificial reefs to support ▪ Toilet sales business model explored to increase community uptake of toilets and sustainability of production ▪ Continued carpentry training – plan to obtain timber milling equipment ▪ Rangers divided into two groups – 26 agronomy and 26 fisheries mentors who provide leadership and knowledge to other Rangers and their communities	▪ Four new wells ▪ 105,000 L new water storage created in pilot villages (1.25 ML in total since the program inception) ▪ 90,00 L of additional water storage in Kataia village (additional to that in the pilot villages) ▪ Four concrete tanks constructed – collectively self-levelling when fed from the main 80,000 L metal tank – to reduce inter-group conflict about water usage ▪ Infrastructure installed to improve access and water quality at three natural springs ▪ Draft Disaster Preparedness Plans created for each village and included in the Community Plans for each pilot villages ▪ Community Rangers trained to implement Disaster Plans ▪ Process of rotating lead rangers daily in each villages to build capacity and confidence ▪ New agricultural cultivars delivered and tested ▪ Regular the Border Development Authority meetings ▪ Regular briefings to Police, Customs and Daru Hospital ▪ Agreed delineation of roles and responsibilities for water management and work planning ▪ Establishment of a safe and reliable platform of service delivery enabling future 'fee for service' businesses to be developed (e.g. for Treaty Awareness visits, biosecurity, research and health services) ▪ Community meetings held by Rangers to gain agreement on work program

C. South Fly Resilience Plan achievements – Phase 2

2018–2023		
- Expansion of program to include all 13 treaty villages, initially, and then to 40 - Training of 59 Community Rangers in 2018, then ongoing training to reach a total of 178 – 40% of Rangers female - Community Ranger graduation ceremony at Daru - A senior male and female Ranger appointed for all 13 villages, with one of each pair be the Senior Ranger (three female) 80 cassava mills supplied - Supply of two solar freezers for ice/food preparation - Supply of solar chargers - A total of 119 microbusiness established: poultry, marine mechanical repair, produce sales, sewing, solar charging, and others - Additional toilets built for homes and community buildings – more than 100 in total 14 air-dryers constructed to preserve food 22 villages with measurably higher incomes - Two Community Rangers attend Indigenous Rangers conference in Northern Australia	- Reusable sanitary pad (Magic Bags) businesses established to meet women's hygiene needs and to generate income - One new Ranger Support Officer (disabled) employed – to reach a total of four - An extra 25,000 L of water storage – project total to date: 1.3 million litres - Five manual water-lift pumps fitted - Two new wells – project total 10 110 durable and transportable first aid kits – 'Rescue Swags' – delivered to Treaty Villages 293 people in total trained in financial literacy - South Fly District food security plan under development 56 people attend a training of trainers program in horticulture 6,000 plants of improved crop varieties distributed - Poultry husbandry and commerce trials in four villages - Mud crab aquaculture trials in two villages 10 public servants training in planning – three women	60 disabled adults trained in horticulture – half women - Three agricultural workshops to train trainers - Supply and trial of two solar pumps - Training in preparation and costing of service tenders - Village skills and equipment audit to support tender - Development and applications to external agencies - Women working in non-traditional roles (boat driving, mechanics) - Regular attendance at childbirths - Multiple medivacs supported and supervised - Emergency medical care implemented by Rangers – all villages - Responses to marine emergencies ongoing - Ongoing meetings with District Administration and Daru Hospital - Two medical staff continue to train community members



2.10 Monitoring and evaluation

Comprehensive Monitoring and Evaluation (M&E) processes were embedded within the program to allow assessment of progress against Community Management Plans and overall project objectives. These integrated both quantitative and qualitative metrics, allowing for in-depth tracking of activities, outputs, and challenges.

Community Rangers were central to the reporting process through the submission of detailed written and verbal reports that included:

- **First aid and emergency response:** Documentation of each health emergency attended, noting the nature of the incident and the assistance provided.
- **Training and community engagement:** Reports on the number of participants attending training sessions, supported by photographs and participant lists.
- **Infrastructure projects:** Detailed records of infrastructure works, including well-digging, tank installations, and sanitation facility construction, supplemented by photographic evidence.
- **Implementation challenges and recommendations:** Written reports highlighting obstacles encountered during project delivery, along with suggested improvements for future implementation.

Reporting was embedded as a core component of Ranger training, reinforcing accountability and ensuring that outcomes could be systematically tracked and communicated. Regular verbal updates were also provided to the Council of Elders during community meetings, promoting transparency and maintaining alignment with community priorities.

When M&E frameworks highlighted discrepancies between planned and actual outcomes, INLOC and RRRC instigated targeted support and capacity-building to address gaps. This structured approach ensured that both the Council of Elders and the broader community remained actively engaged in tracking progress and identifying areas for further

development, and that Community Plan schedules remained on-track.

Additionally, data collected under the M&E framework was aligned with Australian Government reporting requirements, enabling RRRC to contribute to broader regional and national datasets. This approach not only maintained project accountability but also facilitated knowledge sharing and the integration of project data into wider regional development frameworks.

2.11 Key learnings

RRRC's and INLOC's program implementers and managers learned constantly over a decade, alongside the community, as they encountered practical and cultural realities and achieved understanding of the intricacies of each new challenge. This informed innumerable program refinements that ensured the program remained aligned with, and on-track against the Community Plans.

The breadth of program achievements and the very visible and continuing improvements in the region and obvious dynamic community momentum gratifyingly confirmed the efficacy and suitability of the development approach RRRC selected and delivered.

At a strategic program level our insights and conclusions are as follows.

i. Community-driven development is sustainable

One of the most significant learnings from the program is the critical role of community-driven development. The Community Ranger model, where local residents were trained as leaders and implementers, and then trained others has proven a highly effective strategy for building resilience.

Community ownership fostered knowledge and outcomes that will likely continue. The involvement of traditional leadership through the Council of Elders has enhanced local governance,

providing a process of alignment of development activities with community priorities and a process for overseeing adherence to schedules to achieve completion.

ii. Training and capacity building enhance long-term impact

Investing in training not only equipped Rangers with practical skills but also empowered communities by achieving locally embedded capacity. The hands-on approach, integrating real community projects with training, was pivotal in ensuring that knowledge translated into practical outcomes. Skills in water management, health care, food security, and enterprise development have fostered self-reliance and have reduced dependency on external support as well as vulnerability to health emergencies and disasters.

iii. Governance and local leadership are crucial

Establishing the Council of Elders governance system and integrating Ranger work delivery into Ward Development Plans ensured that leadership was rooted in both traditional culture and contemporary formal governance frameworks. This local governance model reduced the risk of program disruption due to political changes and fostered local decision-making confidence and competence.

iv. Integrated approach leads to holistic community benefits

The program's integrated approach, addressing water security, food security, health, sanitation, education, economic opportunities, and women's issues (often within the same activity) led to comprehensive and measurable community development at a rapid pace. By focusing on multiple areas simultaneously, the program avoided fragmented efforts and achieved greater community cohesion and resilience.

v. Adaptability and flexibility are key

Adapting to local conditions and emerging challenges was vital. The program's flexibility in responding to issues such as the failure of the

utility of the Treaty Village Association, weather events, the COVID-19 pandemic, cultural issues and changing community needs ensured that efforts and approaches remained relevant, appropriate, impactful and on track.

vi. Women's empowerment requires intentional efforts

Deliberate inclusion of women in training and leadership roles broke gender barriers and enhanced community cohesion. Female Ranger involvement in non-traditional roles such as plumbing and marine safety, provided role models for children and other women, and fostered gender equity within the villages. Initiatives like the Magic Bag micro-business and women's health education proved transformative. Without intentional efforts, the cultural norm of male dominance may have prevailed and resulted in lesser program outcomes.

vii. Local economic initiatives promote self-reliance

Establishing microbusinesses and providing financial literacy training enabled communities to generate income and manage resources more effectively. The introduction of small-scale enterprises, such as poultry farming, canoe building, and sewing, not only diversified income sources but also created local economic resilience. Channelling development funding directly into Rangers salaries as program implementers maximised financial and associated benefits for the whole community.

viii. Monitoring and evaluation drive continuous improvement

A comprehensive Monitoring and Evaluation (M&E) framework, which included both quantitative and qualitative assessments, was essential in tracking progress and identifying areas for improvement. Involving Community Rangers in the M&E process ensured accurate reporting and community accountability.



ix. Partnerships amplify impact

Collaborating with local governments, international aid agencies, health organisations and community-based organisations (like INLOC, Daru Hospital, WASH, and others) amplified the program's reach and impact. Building networks with local stakeholders ensured that the program's benefits will be sustained and hopefully expanded over time.

x. Building resilience is a long-term process

The Program demonstrated that building community resilience is a gradual process requiring sustained investment in capacity building, governance strengthening, and practical skills development. The phased approach, evolving from a pilot to full-scale implementation, allowed for incremental learning and adaptation. The program achieved huge strides, but there the needs and challenges within the region remain huge; substantial further support efforts will be needed well into the future.

2.12 Future directions

With the transition of the program to in-country management the empowerment of the village communities continues, and more villages are

becoming involved. INLOC International's PNG based team have evolved from the original program implementers (Australian-based INLOC) ensuring that experience and skills built over the first decade remain embedded in management and on-ground work. This has enabled a seamless transition to the new phase.

The integration of climate adaptation measures, particularly in water security and food production, will likely be pivotal in the coming years. Likewise, the expansion of disaster preparedness training, infrastructure maintenance, and community-led economic enterprises will serve to further enhance community resilience, creating self-reliance and ability to manage future crises independently.

Continued collaboration with local and regional stakeholders will also be essential to ensure ongoing alignment of efforts with national development plans and for securing additional resources to maintain program momentum.

Additionally, the focus on women's economic empowerment must remain a priority, as fostering female leadership and enterprise development has proved transformative in the first decade of work in terms of improved health and nutrition management, food production, birth outcomes and improvements in hygiene.





Appendix

South Fly District: Geography, economics and demography

Geography and climate

The South Fly District, located in the southwestern corner of Papua New Guinea's Western Province, is adjacent to the Torres Strait. Covering 97,000 km², Western Province is the largest province in PNG, bordered by the Indonesian province of Papua to the west and Australian waters to the south.

The region is characterised by low-lying floodplains shaped by the Fly River system, with soils that are seasonally or permanently waterlogged. The southern coast features two distinct ecological zones:

Kiwai/Torres Strait area: Dominated by coral reefs and lagoon habitats.

Fly River estuary: Comprising extensive mangrove swamps that border the Gulf of Papua.

Shallow reefs are concentrated around Parama and Daru Islands, and in the southwest.

Annual rainfall ranges from 1,500 to 2,000 mm, with a pronounced dry season from May to November.

Due to the absence of road infrastructure, inter-provincial travel relies on air, boat, or foot.

While Daru is the provincial capital, Kiunga in the north serves as the main administrative centre.

Economic context

Despite its substantial size, Western Province is one of the least developed regions in PNG, with most inhabitants leading subsistence lifestyles. Swampy, waterlogged terrain complicates road construction, isolating many villages and impeding access to essential services such as healthcare and education.

Economic activities are primarily subsistence-based, with small-scale food crop production along rivers and limited cash crop cultivation. The reliance on natural resources extends to swamps, rivers, and coastal waters for food harvesting.

The region's Human Development Index (HDI) is 0.26, significantly below the PNG national average of 0.56 and markedly lower than 0.73 in the Torres Strait and 0.95 in Australia⁹. The Middle and South Fly districts are among the most impoverished and under-served in PNG.

South Fly District Villages and the Torres Strait Treaty Residents of the 13 Treaty Villages in the South Fly District maintain deep cultural and kinship ties with Torres Strait Islanders, underpinned by the Torres Strait Treaty (1985)¹⁰. The Treaty permits cross-border travel for traditional purposes, such as fishing and cultural exchanges.

However, the socio-economic disparities between PNG and Australia are stark. Cross-border travel to seek medical treatment in the Torres Strait is tolerated but not guaranteed, creating tensions over resource use and infrastructure capacity. Australian Torres Strait communities often resent the perceived burden on local services caused by PNG residents seeking healthcare.¹¹

Social and linguistic diversity

Western Province is culturally and linguistically diverse, with most residents being bilingual or multilingual, speaking a mix of local languages, Tok Pisin, Hiri Motu, and English.

However, women in isolated areas often have limited proficiency in regional languages, restricting their access to resources and services. Additionally, linguistic diversity does not always align with shared political or cultural values, leading to intra-community conflicts over resource use and governance.

Demographic pressures

The South Fly District has a rapidly growing population, with projections indicating a doubling by 2050¹². According to the 2011 Census¹³, approximately 45% of the population is under 15 years of age, placing considerable pressure on already limited infrastructure and services.

Inter-Community Tensions and Resource Conflicts
Resource scarcity and economic challenges have intensified competition for access to natural resources. Disputes frequently arise over the legitimacy of claims to land, reefs, and forests, exacerbating inter-community tensions and conflicts¹⁴.

Additionally, the environmental and social impacts of the Ok Tedi Mine upstream on the Fly River contribute to pollution, land degradation, and economic instability, further straining regional cohesion and sustainable development.



Endnotes

- 1 <https://www.dfat.gov.au/geo/torres-strait/the-torres-strait-treaty> Accessed April 2025.
- 2 <https://www.dfat.gov.au/geo/torres-strait/the-torres-strait-treaty> Accessed April 2025.
- 3 Asymmetrical Development across Transboundary Regions: The Case of the Torres Strait Treaty Region (Australia and Papua New Guinea) 2018, Sara Busilacchi, James R. A. Butler, Ingrid Van Putten, Yiheyis Maru & Joseph Posu; Sustainability 10, 4200.
- 4 UNDP Human Development Reports: <https://hdr.undp.org/data-center/human-development-index#/indicies/HDI> Accessed April 2025.
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- 6 Reported by: Reef and Rainforest Research Centre (2013) Building the Sustainability of the Coastal Communities in the South Fly District, Western Province PNG. 2nd Update Report.
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- 8 The Maza WMA is a PNG marine protected area adjoining the coast to the west of the Fly River estuary. It is less than 12 km from Sabai Island (Australian territory).
- 9 Asymmetrical Development across Transboundary Regions: The Case of the Torres Strait Treaty Region (Australia and Papua New Guinea) 2018, Sara Busilacchi, James R. A. Butler, Ingrid Van Putten, Yiheyis Maru & Joseph Posu; Sustainability 10, 4200.
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We acknowledge the Traditional Owners and Custodians of the Country where we work and pay our respects to all Traditional Owners of Australia past, present and emerging.



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