



# Special Report:

## SOLOMON ISLANDS'

### EXPLOSIVE LEGACY

**T**he Solomon Islands encompass over 900 islands scattered across the ocean north of Australia and east of Papua New Guinea. Many of the 500,000 inhabitants still live with unknown quantities of explosive remnants of war (ERW) left behind from combat between Japan and the United States during World War II. Unexploded ordnance (UXO) of both U.S. and Japanese origin remains on some of the nation's atolls. Since the end of the war, sporadic clearance was undertaken, including through Operation Render Safe, a joint clearance program between Australia, Canada, New Zealand, the United Kingdom, and the United States. There have also been a number of commercial clearance projects. For the last five years, the international clearance organization Golden West Humanitarian Foundation (Golden West), supported by the U.S. Department of State, is working alongside the Royal Solomon Islands Police Force to address the problem on a more systemic scale. This operation focuses on heavily contaminated areas on the island of Guadalcanal.

BY METTE ELISEUSSEN AND JOHN RODSTED [ SAFEGROUND ]



Livingston is a constable with the Royal Solomon Islands Police Force on New Georgia Island. When he receives a report of old ammunition and bombs, he investigates. "I find many old bombs. The farmers and fishermen report them to the police. They in turn report to Honiara (capital of the Solomon Island). The problem is distance, logistics, time and money. The distances are great in the Solomon Islands and it takes time and money for the EOD team to be able to respond to all reports..."

*Photo courtesy of John Rodsted.*

### CONTAMINATION IN SOLOMON ISLANDS

On 22 January 1942, Japan dropped the first bombs on the Solomon Islands, and on 3 May of that same year, Japan occupied the country. Most foreigners were evacuated and those who remained took on roles as coast watchers with the Royal Australian Navy. With crucial help from the local population, they kept Australia informed of the Japanese movements. During the first

three months, Japan met no resistance and was able to construct an airfield on Guadalcanal. In response, U.S. Marines landed on Guadalcanal and Tulagi in an attempt to stop Japan from threatening their supply and communication lines to allies in the Pacific. The Solomon Islands campaign lasted over a year, killing over 24,000 Japanese and 1,600 U.S. soldiers.<sup>3</sup> In 1945,





Alec takes us for a walk into the mangroves and the Lever Plantation. This is where he hunts for bats and crabs. He always finds explosives and eagerly collects the small explosive pellets into a plastic bottle. His mother said as we left the village, “I am so scared when he leaves the village because I know he will find bombs. He always does. And how can I stop him from touching them when I am not with him?”

*Photo courtesy of Mette Eliseussen.*

foreign military forces left behind sunken ships, burnt-out tanks, abandoned stockpiles of weapons and ammunition, large empty gun emplacements, and UXO.<sup>4</sup> During the Solomon Islands’ civil war, from 1998 to 2003, combatants made use of many abandoned weapons, which served as a ready source of deadly arms.<sup>5,6</sup> As a result of villagers becoming accustomed to handling explosives, it is believed that dynamite fishing increased during and after the conflict.

A significant factor hampering clearance efforts is the lack of reliable documentation of the WWII ERW contamination. The only sources of information recorded in writing are accounts from reports and books on battles written by the various WWII military forces fighting on the Solomon Islands from which it is difficult to pinpoint

ERW sites. Local islander knowledge is extensive albeit anecdotal, but not easily accessible to the national or international community.

#### INTERNATIONAL RESPONSE

Until recently, international awareness of ERW contamination and its impact in the Pacific was incomplete, even within the mine action community. This is partially because international assistance in mine action is primarily driven by two international treaties, the 1997 *Anti-Personnel Mine Ban Convention* (APMBC) and the 2008 *Convention on Cluster Munitions* (CCM). As neither landmines nor cluster munitions are believed to be present in the Pacific, donor countries and mine action operators prioritized

other regions, incorrectly assuming that the Pacific did not need humanitarian clearance and victim assistance. Hence the problem has persisted for more than 70 years since WWII ended.

In 2010, the first major change occurred when Pacific Forum Leaders tasked the Pacific Islands Forum Secretariat (PIFS) to assist in addressing the longstanding presence of ERW throughout the region. PIFS conducted a study of four affected countries in 2011 and found that ERW had the potential to impact local communities. Following this, the Pacific Forum leaders expressed concern and called for assistance to address the significant contamination from WWII UXO in the Pacific. For some member states, this contamination was identified as a human security problem threatening public health, safety, and the environment.

In response, the Forum Regional Security Committee endorsed a regional UXO strategy in 2012 to assist members with managing the negative impacts of WWII UXO. PIFS is now tasked to follow up with ERW-affected member states. The priorities are Kiribati, Papua New Guinea, the Royal Marshall Islands, the Solomon Islands, and Vanuatu. This selection is based on the following criteria: the lack of existing mine action in-country, the expressed interest and request for assistance, the level of contamination and its impact, and current bilateral arrangements with mine action operators.<sup>7</sup>

## INCIDENTS

There are no ERW-incident statistics in the Solomon Islands, as recording mechanisms are not in place. Because dealing with explosives is illegal, SafeGround, a nonprofit organization that works to help prevent and reduce the impacts of war and conflict, inferred that survivors and relatives of survivors tend not to reveal whether the reason behind an accident was caused by handling explosives. Hence, many incidents are likely to remain unreported. However, according to Doctor Rooney at the national reference hospital in the capital city of Honiara, the hospital usually deals with five to six patients injured by ERW each year. The actual number of injuries per year is estimated to be much higher than this.

As injuries are often fatal, many people never reach the national hospital but instead die shortly after the accident and are buried in their local community without casualty data being recorded. Infrequently, incidents are reported in the news, but this usually only happens if the explosion takes place near populated areas such as Honiara or

other regional centers. In 2010, the Royal Solomon Island Police Force estimated that an average of 15 Solomon Islanders lose their lives to ERW each year.<sup>8</sup>

Golden West has trained members of the Royal Solomon Islands Police Force in explosive ordnance disposal (EOD) methods. Golden West's project manager, Paul Eldred, reports extensive trespassing by bomb harvesters into ERW-contaminated areas at Hell's Point, which lies to the east of Honiara. On an almost daily basis, SafeGround researchers saw telltale signs of people searching and scratching the ground for larger munitions, leaving behind smaller, less valuable munitions. Fishermen or in some cases specialized bomb makers who harvest the bigger bombs for explosives are the culprits. Random digging patterns in the ground indicate that they may use metal detectors to find the bombs. Local residents who find bombs on their property will sometimes sell the ERW to bomb makers for a small finding fee.

Once the bomb makers extract the munitions, they cut the bombs in half with a hacksaw to expose the explosives within. Since many people who harvest ERW cannot correctly identify the different kinds of explosives, they may inadvertently open a phosphorous shell, which explodes on contact with the air. Harvesters place any explosives that are successfully extracted in 300 ml drinking bottles. Using homemade fuses, the harvesters produce **fish bombs** that can be thrown into the ocean to kill and maim large numbers of fish. It is a risky but profitable business. Although harvesting bombs is illegal, police are unable to take action without hard evidence.

For fishermen, homemade bombs are more efficient than nets or spears in terms of time spent and fish caught. However, using explosives is extremely risky and does extensive environmental damage. Fishermen using these bombs search for schools of fish and then gauge the depth at which the fish are swimming and how long to hold the bomb once lit before throwing it. When the fuse is ignited, it takes three to four seconds for the bomb to explode, but these are inexact estimations that can lead to disastrous results. Many accidents happen when bombs detonate too early, injuring or severing heads, hands, or arms. Detonations stun or kill the fish, but also destroy one of the Solomon Islands' most precious resources: the coral reefs, which are seriously damaged if the explosive detonates within a six- to eight-meter radius of the reefs. Once the bomb detonates, the fisherman jumps into the water with a





Frank is a fisherman on Ngella Islands who lost his lower arm when fishing with explosives.  
*Photo courtesy of John Rodsted.*

net to catch as many fish as possible. However, many more fish are killed than are caught and either drift away with the current or sink into deeper water. Once impacted by explosives, the reefs take a long time to regrow and often remain permanently damaged.

**Dynamite fishermen** run little risk of being caught by the police. In high-speed powerboats and with an arsenal of fish bombs, they do not meet much resistance from unarmed police officers equipped with fewer and slower boats.

#### ENVIRONMENT

Extensive dynamite fishing has devastated lagoons and in some areas, such as Langalanga Lagoon in Malaita, there are no reefs or fish left. Some local communities rate dynamite fishing as their top concern.<sup>9</sup>

These reefs provide the Solomon Islanders with fish to eat. Eighty-four percent of Solomon Islanders live in rural areas, and 95 percent of the rural population depends on subsistence farming and fishing.<sup>10</sup> Coral reefs cover less than one percent of the world's ocean floor and are one of the most biologically rich and economically valuable ecosystems. The Solomon Islands has diverse and interesting reef types, from narrow fringing reefs that border high island shorelines to rare, double barrier reefs, patch reefs, and atolls. The Solomon Islands has the second highest diversity of coral species in the world, currently home to over 494 coral species with several new species recently discovered.<sup>11,12,13</sup>

People in island communities relay that dynamite fishing is a common occurrence. Diving masters claim that they see up to 200 fishermen use explosives in waters



Local boys come across munitions left behind by bomb harvesters located in one of the hunting areas on Lever Point, Russell Island.

*Photo courtesy of Mette Eliseussen.*

around Ngella Islands every day. These fishermen boast about exceptional yields in just hours compared to the days needed to fill only one bin. Having sold the fish, they leave blasted reefs in their wake.

Reef growth rates vary from an estimated 0.8 to 80 mm per year depending on air and sea temperatures, wind speed and direction, salinity, tide levels, currents, availability of nutrients, algae, and the bottom surface. In the Solomon Islands, many people believe reefs may form in 20 to 40 years. However, the reality is that it can take much longer—even up to 10,000 years—for reefs to form from a group of larvae.<sup>14,15</sup> Reefs blasted by dynamite produce large amounts of rubble, creating terrible conditions for coral larvae which must attach to living reefs to start growing. Therefore reefs destroyed by bombing may not recover. In contrast, studies show that bleached reefs

can regrow in only a few years because the structure of the reef is still intact and coral larvae may again use it as a starting point for regeneration.<sup>16</sup>

### ECONOMIC DEVELOPMENT

ERW contamination also affects economic development in the Solomon Islands. Honiara remains heavily contaminated and telecommunication, water, and electricity companies face grave challenges when digging trenches and postholes. Australian technical consultant Nik West expressed shock at the level of ERW contamination when he started working with the Solomon Islands Electricity Authority. He quickly realized that everyone in Honiara considered running a metal detector over the area before digging to be normal. “Much of our work is laying power lines for the national electricity grid. We are





Bombs and munitions may be found on the Solomon Islands anywhere there was fighting or military movement. Manny works as a timber cutter, farmer, and pig hunter. He relies on the forest and jungle for his livelihood. The mountains south of the Lunga River were occupied by the Japanese army to transport supplies before they pushed north to fight the Americans and Allied forces. Manny guided the Royal Solomon Islands Police Force EOD team to the munitions in the mountains. "When I work in these mountains I find many things; old munitions, crashed planes, guns, cannons, and equipment. The bombs and munitions scare me. If I hit one by accident or lit a fire and one was underground, then I would be killed. There was a bigger pile than this before. Maybe they have been stolen or thrown in the bushes, I do not know."

*Photo courtesy of John Rodsted.*

always digging the earth to erect power poles and trenches to lay cables. We often unearth old bombs, both large and small, in this work. This area surrounding Honiara was hit by everything during the war... The end result is there is a very large degree of ERW in this land. We are always using detectors, but despite that, this last week one of my staff hit a large bomb with a backhoe and unearthed it. The bomb did not explode, but it terrified the backhoe operator and he ran away home and is scared to come back to work."<sup>17</sup> When these workers find a bomb, they call the police, and members of the police's (EOD) team remove and dispose of the item.

Development projects are also struggling. Even in areas with less ERW contamination, construction

projects may stall. There are uncertainties with regards to safe practices and the need for clearance before construction can begin. The construction of a new campus for the University of the South Pacific, a US\$19 million dollar Asian Development Bank project, was delayed because of this issue. This highlights the need for national standards, which will create the base framework for the methodology and quality assurance needed to commence clearance in an effective and systematic way.

#### CLEARANCE

There are nine Pacific Island countries affected by ERW but clearance operations are only underway in Palau and the Solomon Islands. In the Solomon Islands,



Members of the Royal Solomon Islands Police Force EOD team prepare small munitions for an explosive demolition at Hell's Point. During the war, Hell's Point was a massive ammunitions storage area that caught fire. As the fire spread, soldiers evacuated and the area burned out of control for many days. Stored ammunition began to detonate, spreading munitions over a large area. The area was largely abandoned and the jungle finally took control. The area is very dangerous and the ground is not suitable for farming due to the contamination. Hell's Point is now home to the EOD team and school. Paul Eldred from Golden West Humanitarian Foundation says, "We have taken control of this area to try and secure it and keep the local people away from the dangers here. We have also set it up as our training facility and demolition range and we are systematically clearing the site of these munitions. The scale of the task is huge with an unknown amount of munitions spread over a very large area. It's not at all easy to deal with, but it is a great place to train. I am proud to say the EOD team members are some of the world's top professionals when it comes to dealing with World War II munitions."

*Photo courtesy of John Rodsted.*

Golden West's mandate is to function as a training, research, and development organization. They work closely with the Royal Solomon Islands Police Force and have trained an 18-man team in explosive ordnance detection and disposal. Their EOD experts respond to reports from the general public within the vicinity of Honiara, but they currently have neither the budget nor the mandate to achieve full clearance in the Solomon Islands.

The APMBC helped to bring the world together to clear the legacy of landmines and this effort has since expanded to include ERW as well. The Solomon Islands is a party to the APMBC, but they have yet to join the *Convention on Cluster Munitions (CCM)* and the U.N.

*Convention on Conventional Weapons (CCW)* where Protocol V covers ERW and is highly relevant. However in April 2016, Minister Salato from the Solomon Islands Geneva mission participated, along with Australia and SafeGround, on an expert panel on ERW contamination in the Solomon Islands during a Protocol V expert meeting in Geneva.

There is hope that the donor community and mine action operators will increase their assistance to help the Solomon Islands combat its ERW contamination in the near future. In 2014 and 2015, with the support of Australian Aid and Pacific Islands Forum Secretariat, SafeGround conducted field research in the Solomon Islands. For over three months, staff spent time in





Members of the Royal Solomon Island Police Force EOD Team clear away the last of the 69 mortars that were reported on Hill 31 behind Honiara. Willy Basi, the local villager who notified the police of the munitions, said “I am very happy to see the bombs taken away. They are very dangerous for everyone, especially the children.”

*Photo courtesy of John Rodsted.*

Guadalcanal, Ngella Islands, Russel Islands, and New Georgia Islands, working closely with the Ministry of Police National Security and Correctional Services, Royal Solomon Islands Police Force, Golden West, and PIFS as well as a number of local island community

members. The main results of this collaboration are a report, a documentary film, and a photographic exhibition available at: [www.safeground.org.au/project/solomon-islands](http://www.safeground.org.au/project/solomon-islands). ©

*See endnotes page 66*

#### **Mette Eliseussen**

Project Manager  
Safeground



Mette Eliseussen has worked in war-torn and developing countries since 1989. She worked for many years with Save the Children in Afghanistan where she developed and ran child-specific mine risk awareness. She is the co-founder of the Afghan Campaign to Ban Landmines. More recently, she has undertaken extensive research projects on communities at risk of ERW in northeast Cambodia and the Solomon Islands.

#### **John Rodsted**

Photojournalist



John Rodsted is an Australian photojournalist who covers conflict and post-conflict issues. Since 1986 he has worked in some of the world's more challenging environments including Afghanistan, Bosnia and Herzegovina, East Timor, Eritrea, Kosovo, Lebanon, and Sudan.