

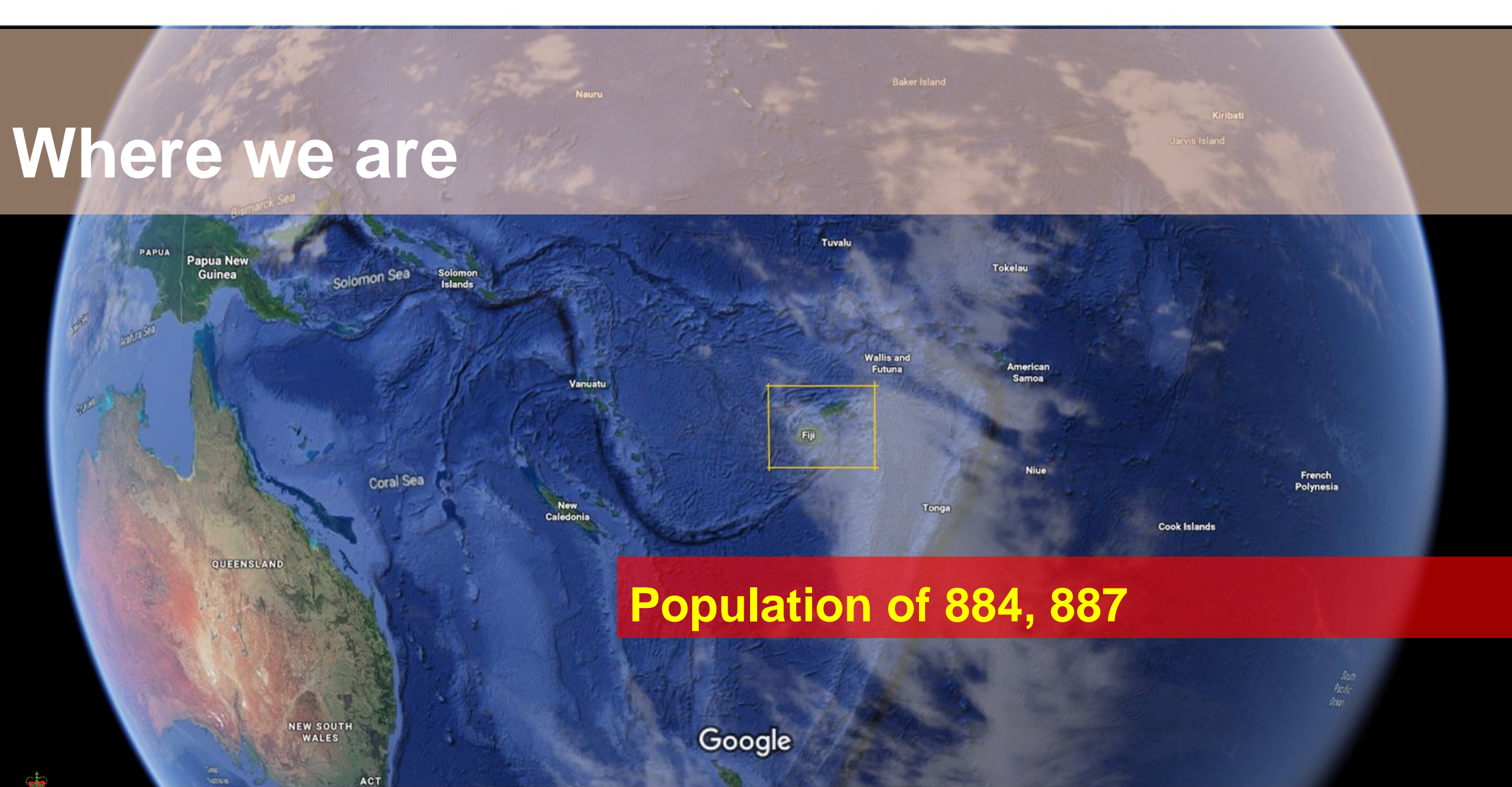


**Forensic Biology & DNA Laboratory**  
**Forensic Science Services**  
**Fiji Police Force**

# The Forensic Workflow at Fiji Police – Set Up, Implications and Impact

Elizabeth Peters

# Where we are



**Population of 884, 887**





**Fiji, the place to be**

Where HAPPINESS finds you



**Visitors – 870, 309**

**The way the world should be**





# Village and City life



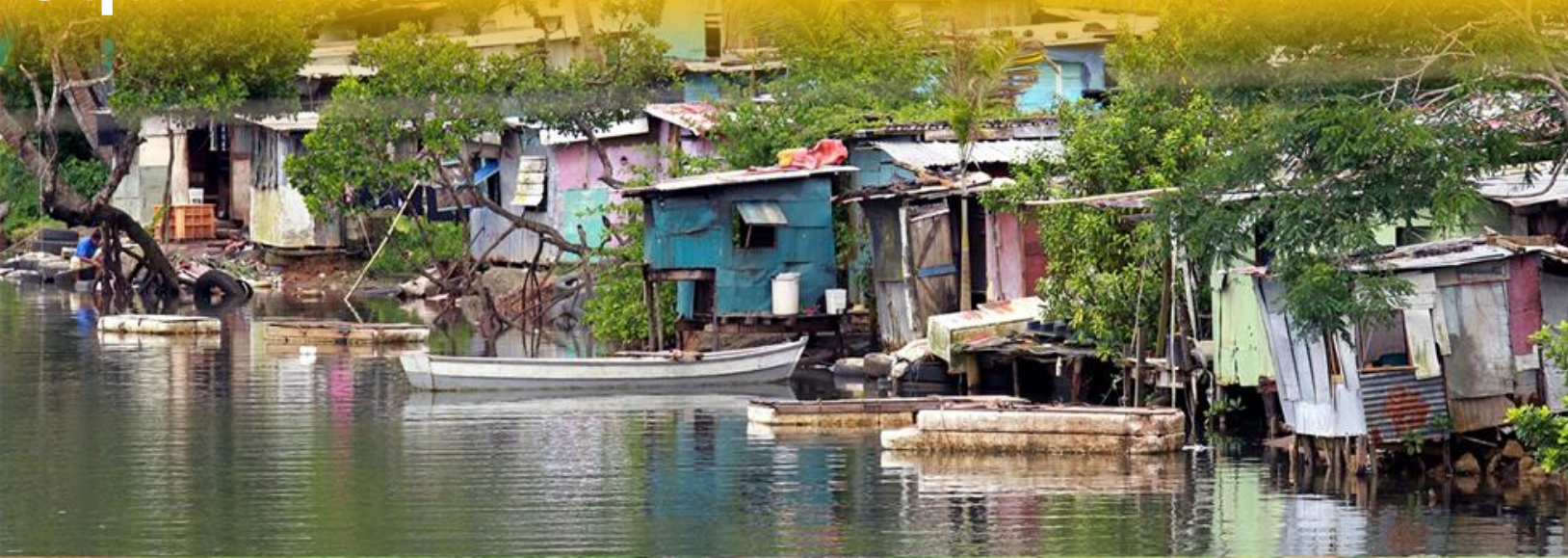


# Drug Prevalence





# Squatter settlement



**28% of the Fiji population is living in poverty**



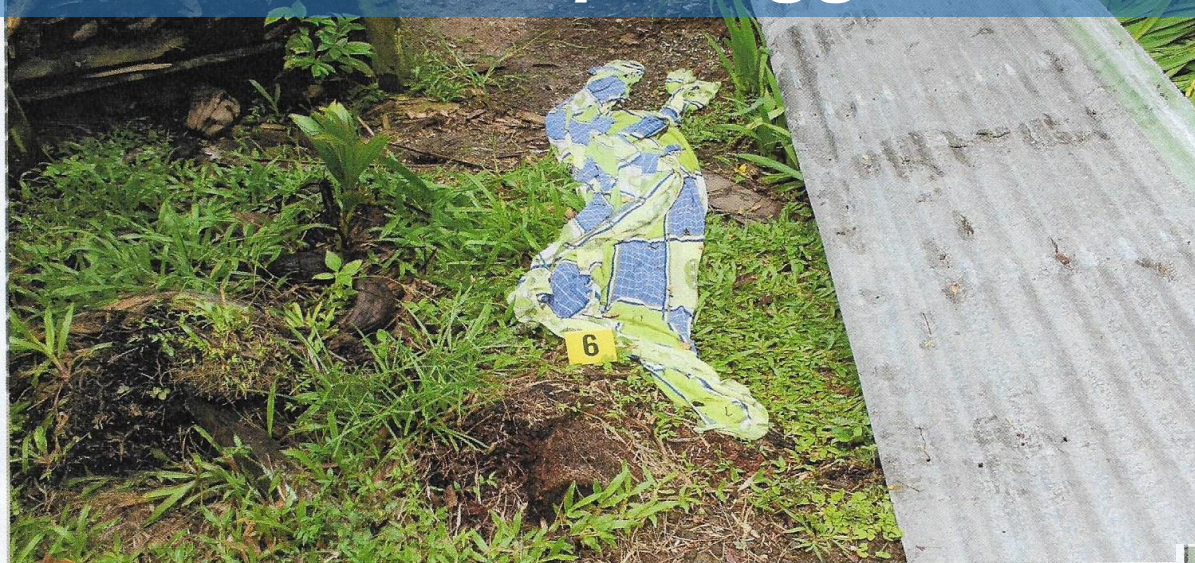




# CRIMES IN FIJI



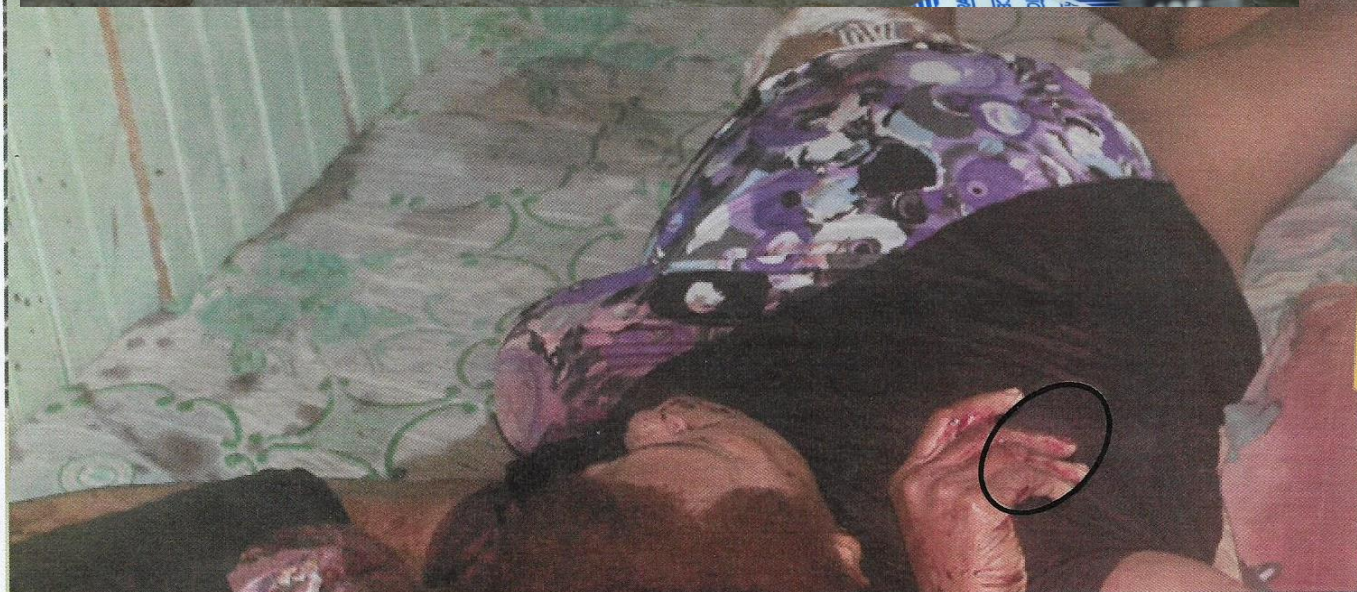
# Homicides, Rape, Aggravated Robberies...



**Photo No:15.**Shows the over-view of 1 x blanket (green and blue) marked as **EXHIBIT- 6** at Nadridriwai Settlement, Naidi, Savusavu vide NS Report number—216/12/18.



**Photo No:3.**Shows the rear left side view of the house at Nadridriwai Settlement, Naidi where the alleged incident took place vide NS Report Number—216/12/18.



**Photo No:17.**Shows the over-view of deceased right middle finger that was swab marked as **EXHIBIT- 8** at Nadridriwai Settlement, Naidi, Savusavu vide NS Report number—216/12/18.

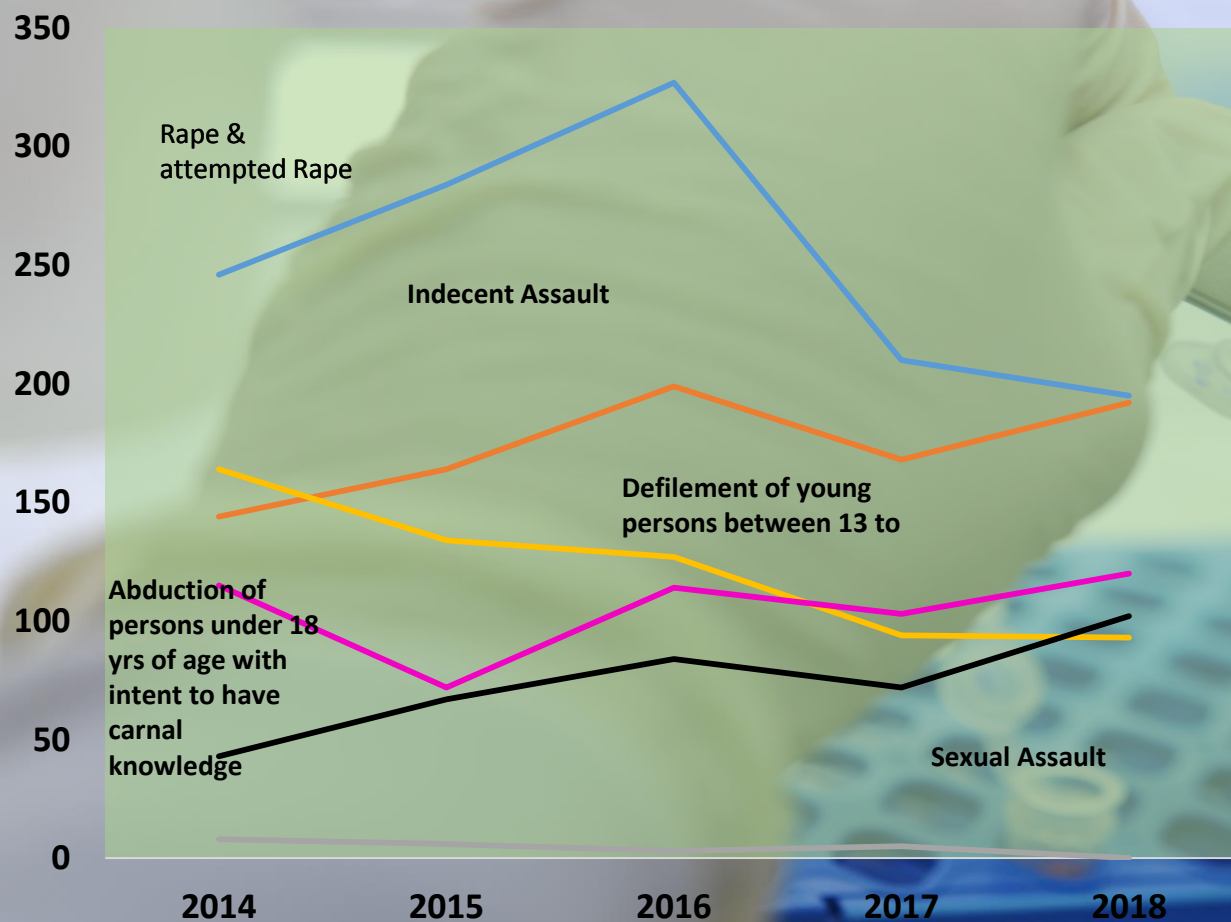


# Missing persons, Abductions, drug cases...

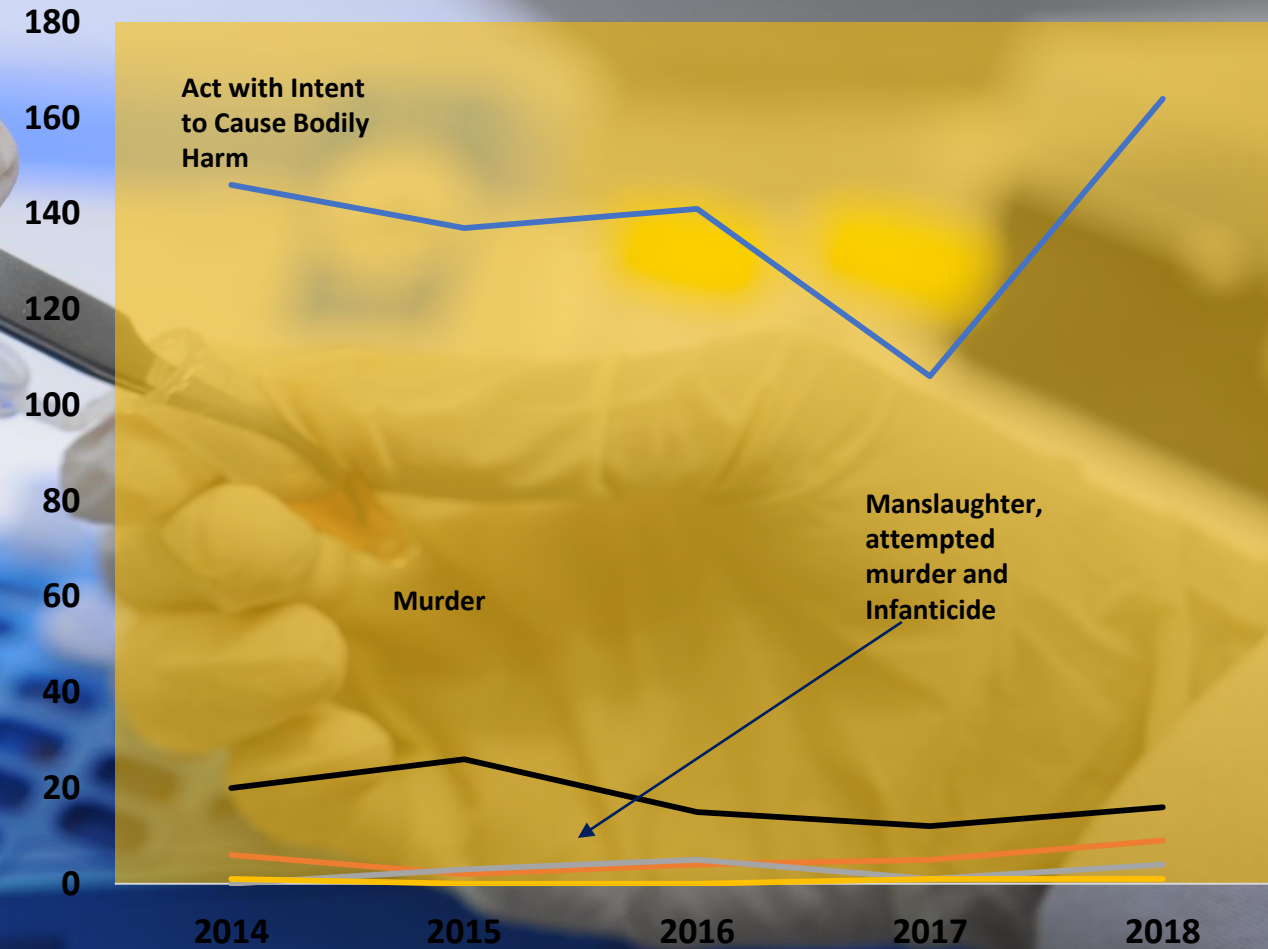




# Crime Against Public Morality



# Crime Against the Person

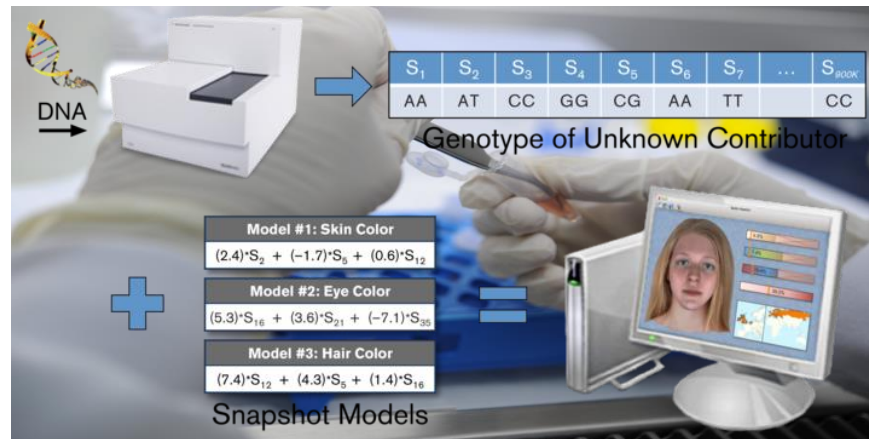


- Increase in crimes against children
- Increase in Aggravated Robberies



# Developments in 2017 elsewhere?

## DNA Phenotyping



MPS

## Ancestry DNA



Fiji was just starting with...

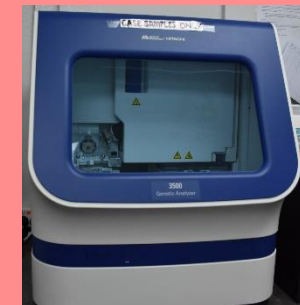


AutoMate Express™



Proflex™  
PCR System

3500 Analyser







# **THE TRANSITION**



# The Current Setup – From almost nowhere to definitely somewhere

FROM

**Chelex**

**Quantifiler™  
Human DNA  
kit**

7500 Real Time  
PCR

**Profiler Plus™ kit**

9700  
Thermocycler

3130 Genetic  
analyser

**Extraction**

**CE**

TO



**PrepFiler™ Express  
and Express BTA  
kits**

Automate  
Express™  
System



**Quantifiler™  
Trio kit**

2017  
QuantStudio™  
5 System

7500 Real Time  
PCR



**GlobalFiler™ &  
Yfiler Plus™ kits**

Proflex™ 96  
well & Proflex  
32 x 3 well  
blocks



3500 Genetic  
analyser – 8  
capillary



# Item Search

- Detection of bodily fluids/stains
- Presumptive and confirmatory tests
- Uplift/cuttings are made for microscopy/DNA extraction







## Downstream DNA analysis

- Use of the new kits and machines





# THE IMPLICATIONS





# Turnaround time

Within a day of downstream processes...

Extraction

CE



**PrepFiler Express  
and Express BTA  
kits**

Automate  
Express™



**Quantifiler Trio  
kit**

2017  
QuantStudio™  
5 System



**GlobalFiler &  
Yfiler Plus kits**

Proflex 96 well  
& Proflex 32 x 3  
well blocks



3500 Genetic  
analyser – 8  
capillary





- ✓ Shorter turnaround time with downstream analyses
- ✓ Greater sensitivity
- ✓ Minimise repeat STR analysis
- ✓ Less starting material
- ✓ Multiple thermal cyclers
- ✓ MTFR
- ✓ Degradation Index
- ✓ Yfiler Plus kit
- ✓ GlobalFiler kit





# THE IMPACT





## *Rights of arrested and detained persons*

13.—(1) Every person who is arrested or detained has the right—

- (a) to be informed promptly, in a language that the person understands, of—
  - (i) the reason for the arrest or detention;
  - (ii) the right to remain silent; and
  - (iii) the consequences of not remaining silent;
- (b) to remain silent;
- (c) to communicate with a legal practitioner of his or her choice in private in the place where he or she is detained, to be informed of that right promptly and, if he or she does not have sufficient means to engage a legal practitioner and the interests of justice require legal representation to be available, to be given the services of a legal practitioner under a scheme for legal aid;
- (d) not to be compelled to make any confession or admission that could be used in evidence against that person;
- (e) to be held separately from persons who are serving a sentence, and in the case of a child, to be kept apart from adults unless that is not in the best interests of the child;
- (f) to be brought before a court as soon as reasonably practicable, but in any case not later than 48 hours after being arrested, or if that is not reasonably possible, as soon as possible thereafter;

**Suspect Custody –  
48hours**



# Fiji Police Force - Disclosures

**Bail of or Custody**

**1<sup>st</sup> Disclosure**

**Date of 1<sup>st</sup> Call  
Disclosure**

**Final**

**Hearing Trial**

**3<sup>rd</sup> Disclosure**

**21 days Disclosure**

**2<sup>nd</sup> Disclosure**

**15 days Disclosure**



# Impact

- ✓ Reliability
- ✓ Confidence
- ✓ Increased sources of DNA better managed
- ✓ Increase in number of cases
- ✓ Increase in detection
- ✓ LOD is very low, good for challenging samples
- ✓ Guide investigators with case
- ✓ Meeting the disclosure time possible for some cases



# Missing Persons 2016

- Sometimes in the beginning of June, a report of missing persons was lodged'
- Missing were 2 Russian couple who have been residing in Fiji for about two years
- CSI visited and examined the scene and uplifted toothbrushes etc from the premises
- No bodies or evidence of anything suspicious was found at the scene
- Their vehicle however was found at the beach which was approximately 50km away from their house
- About a month passed before a package made of greenhouse netting was found washed ashore.
- The first package was suspected to be a pair of feet. Neatly chopped/severed. Samples were collected and submitted to us.
- About 2 weeks after, a pair of decapitated heads washed ashore. Samples were collected and submitted.





# Vanuatu Rape/Homicide

- On the 18<sup>th</sup> of April, 2018; a seven year old girl was found naked and dead near a creek.
- It was assumed that the deceased was taken out of the house between 0100hrs and 0700hrs. That was when she was left alone lying in the room.
- Her grandparents were outside during those hours to bake bread
- There were 3 suspects

High vaginal swab  
from deceased



DNA profile of  
suspect 3



# Challenges

- No powers to collect suspect's DNA sample
- Exclusive reliance on DNA when limited exhibits are provided for analysis
- QA/QC procedures culture
- Sample types
- Chain of custody
- Complex mixtures
- Bottleneck at reporting
- Lack of knowledge – external and internal stakeholders
- No DNA database as yet
- Limited budget

## Right to personal liberty 9.—

### **(1) A person must not be deprived of personal liberty except—**

- (a) for the purpose of executing the sentence or order of a court, whether handed down or made in Fiji or elsewhere, in respect of an offence of which the person is convicted;
- (b) for the purpose of executing an order of a court punishing the person for contempt of the court or of another court or tribunal;
- (c) for the purpose of executing an order of a court made to secure the fulfilment of an obligation imposed on the person by law;
- (d) for the purpose of bringing the person before a court in execution of an order of a court;

### **(e) if the person is reasonably suspected of having committed an offence;**

- (f) with the consent of the person's parent or lawful guardian or upon an order made by a court, for the purpose of the person's education or welfare during any period ending not later than the date of his or her 18th birthday;
- (g) for the purpose of preventing the spread of an infectious or contagious disease;
- (h) for the purpose of the person's care or treatment or for the protection of the community if he or she is, or is reasonably suspected to be, of unsound mind, addicted to drugs or alcohol or a vagrant; or
- (i) for the purpose of preventing the unlawful entry of the person into Fiji or of effecting the expulsion, extradition or other lawful removal of the person from Fiji.



## **Rights of accused persons 14.—**

### **(1) A person may not be tried at all for—**

- (a) any act or omission that was not an offence under either domestic or international law at the time it was committed or omitted; or
- (b) an offence in respect of an act or omission for which that person has previously been either acquitted or convicted.

### **(2) Every person charged with an offence has the right—**

- (a) to be presumed innocent until proven guilty according to law;
- (b) to be informed of the charge with sufficient detail to answer it;
- (c) to have adequate time and facilities to prepare a defence, including if he or she requires, a right of access to witness statements;
- (d) to defend himself or herself in person or to choose, and to be represented by, a legal practitioner, and to be informed promptly of this right and, if he or she does not have sufficient means to engage a legal practitioner and the interests of justice require legal representation to be available, to be given the services of a legal practitioner under a scheme for legal aid, and to be informed promptly of this right;
- (e) to be informed in advance of the evidence on which the prosecution intends to rely, and to have reasonable access to that evidence;
- (f) to a public trial before an ordinary court, unless the interests of justice otherwise require;
- (g) to have the trial begin and conclude without unreasonable delay;
- (h) to be present when being tried, unless—
  - (i) the court is satisfied that the person has been served with a summons or similar process requiring attendance at the trial, and has chosen not to attend; or
  - (ii) the conduct of the person makes it impracticable to conduct the trial;
- (i) to be tried in a language that the person understands or, if that is not practicable, to have the proceedings interpreted in such a language without cost to the person;
- (j) to remain silent, not to testify during the proceedings, and not to be compelled to give self-incriminating evidence, and not to have adverse inference drawn from the exercise of any of these rights;

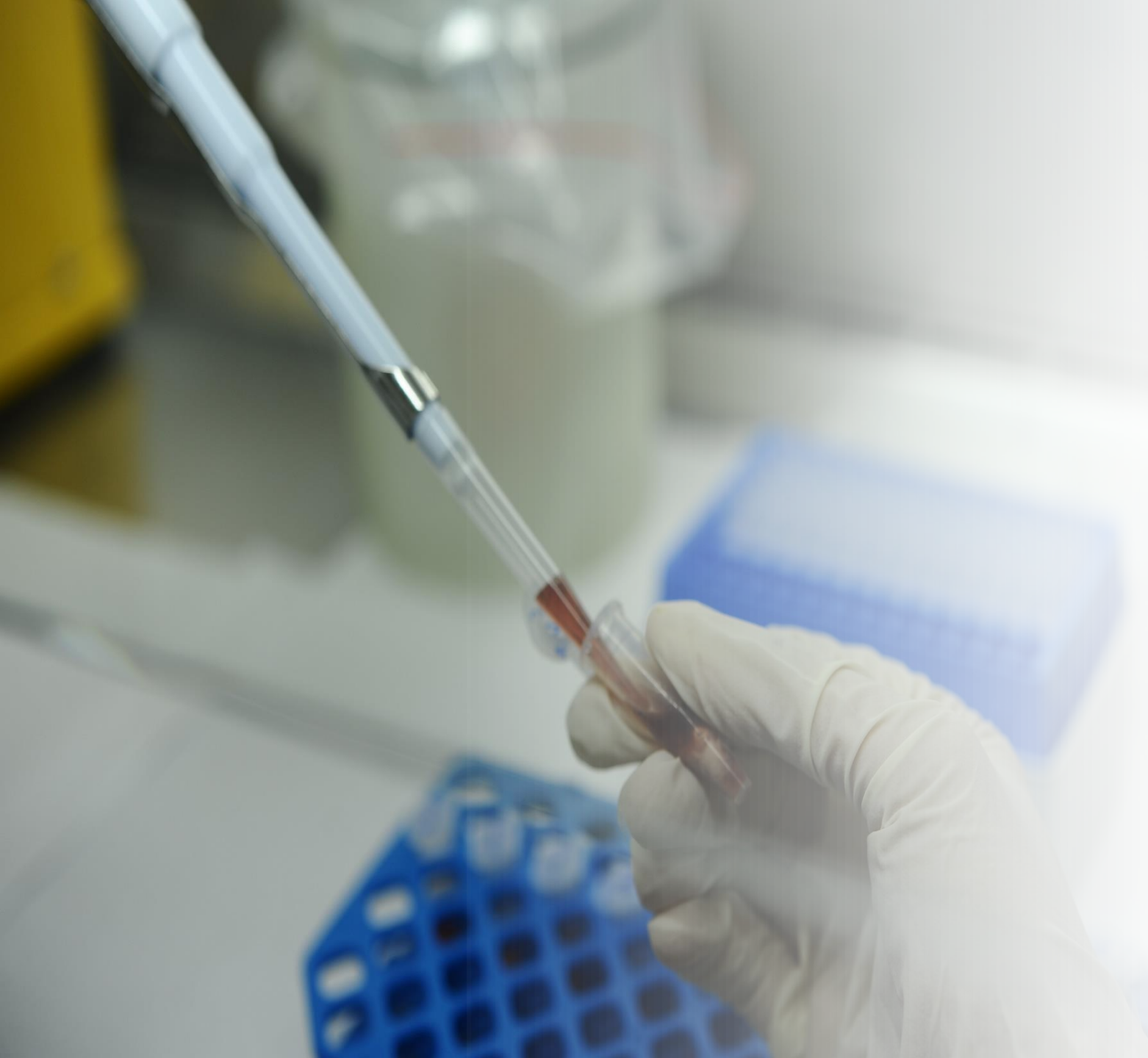
### **(k) not to have unlawfully obtained evidence adduced against him or her unless the interest of justice require it to be admitted;**

- (l) to call witnesses and present evidence, and to challenge evidence presented against the person;

# Acknowledgements

- Thermofisher Scientific , especially Life Technologies Lucy Dagostino and team
- Researchers like you
- The Commissioner of Fiji Police
- Our Forensic Biology & DNA team
- The whole of Forensic Science Services (FSS)
- My husband and family for their support





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