

SUVA

Climate Resilience Pathways:

Water Security and WASH in Asia Pacific

Supporting climate resilience by connecting
agriculture, food & water security

THURSDAY 1ST MAY – 0900

ROOM 2 – ID15



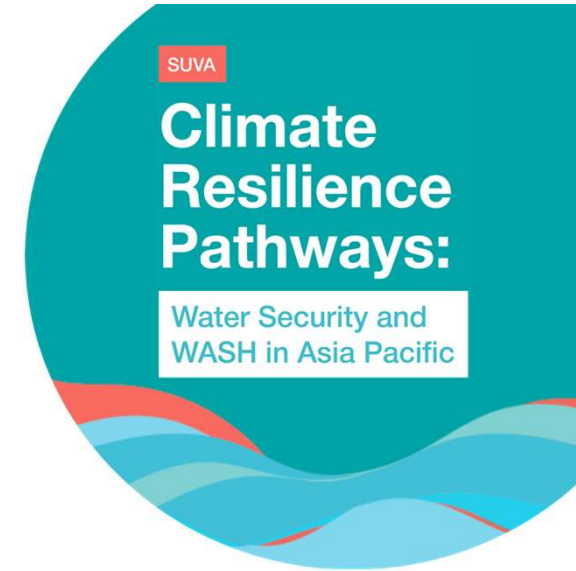
Food and Agriculture Organization
of the United Nations

World Vision

Connecting agriculture, food & water security

Opening questions

- Does your organisation have any combined water security and food security projects?
- Do you feel confident to design integrated projects that work on agriculture, food security and water security?
- Which food security pillars do you think are most challenging in your context?
 - Accessibility, availability, utilisation, stability



Connecting agriculture, food & water security

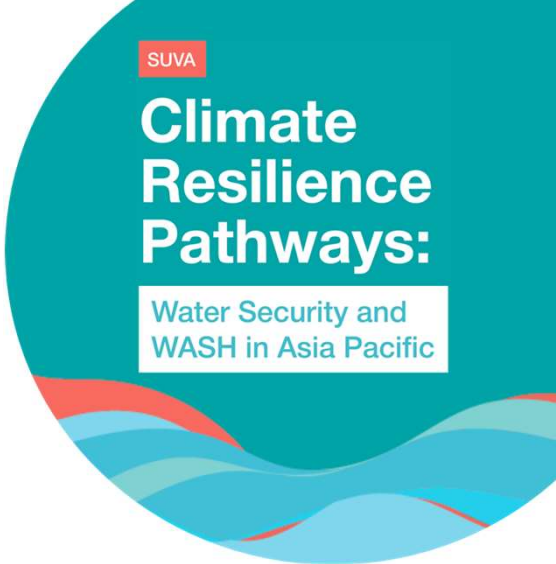
Linkages between WASH, climate change, food security and ecosystems / nature-based solutions



WaterAid

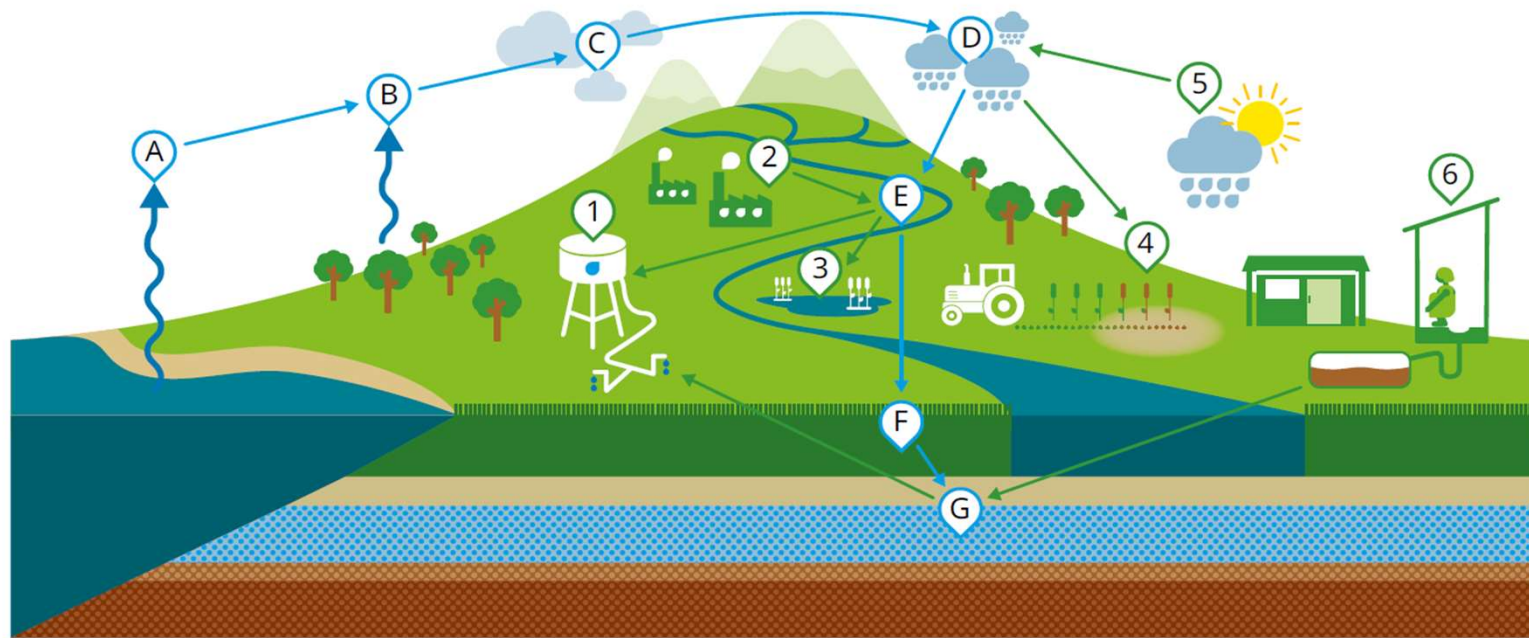
Key linkages between: WASH & water security, agriculture & food security, and ecosystems

Tara Bartnik
WaterAid Australia



The water cycle links the various domains

Figure 1 Interconnections between WASH, the water cycle, climate change, food security and healthy ecosystems (including nature-based solutions).









A Evaporation from oceans, lakes and streams
B Transpiration from plants
C Condensation

D Precipitation
E Surface water
F Soil water
G Ground water

1 Water supply
2 Industry
3 Ecosystems

4 Food security
5 Extreme weather
6 Waste management

Factors driving linkages:

-  Changes in climate
-  Water demand
-  Population
-  Land use
-  Water resource management
-  Pollution control
-  Access to WASH

Water security/WASH impacts on agriculture/food security

- Improvements to water supply can serve both domestic and agricultural needs (MUS approach)
- Access to adequate WASH means a healthy agricultural workforce
- Access to adequate WASH improves nutrition, and hence food security outcomes
- Sanitation by-products can be used for agricultural production when safely treated



Ama Isable, 62, in her garden which she has been able to grow since a water source was installed near her home in Leotela, Timor-Leste.

Agriculture impacts on water security

- Use of land for agriculture can **reduce water availability** by increasing water runoff and decrease recharge of groundwater.
- Nutrient and chemical concentration in runoff water from **fertiliser and pesticide use can impact drinking water quality**
- Sustainable, regenerative farming and various nature-based solutions (NbS) can **improve quality and availability of water**
- Well managed, proficient **irrigation systems can also supply water** for domestic and livestock use and improve resilience against drought.



Arminda dos Santos Gouveia, 24, watering her family's terraced garden in Leguinea, Timor-Leste. July 2022.

Ecosystem links to WASH, water security and food security



- 💧 Safely managed **sanitation protects freshwater and marine ecosystems and biodiversity** by reducing the risk of pollution from human excreta
- 💧 **Healthy ecosystems and their stewardship** can provide flood protection and **maintain water resource** quality and quantity
- 💧 **Healthy ecosystems can support food security**
- 💧 **Ecosystem based approaches** including NbS can improve **water resource** quantity and quality
- 💧 Identifying and ensuring these **co-benefits can provide incentives for community engagement in ecosystem conservation**



WaterAid/ Tariq Hawari

Hekoi Boio, 48, earns an income by spear fishing at the beach in Pari, Central Province, Papua New Guinea, April 2024.

Considerations



Different timeframes	Conflicting goals and unintended outcomes	Don't overlook WASH!
<ul style="list-style-type: none">• Impacts within the four domains are felt in different timeframes.• Important to consider this in design of 'nexus' programmes	<ul style="list-style-type: none">• Linkages between these domain can result in unintended negative (and positive) outcomes• Highlights need for cross sector collaboration and intentional monitoring of impacts of programmes on the other domains	<ul style="list-style-type: none">• Important that 'nexus' approaches do not overlook the critical role that WASH plays in delivering positive benefits for the other domains• Water resources alone will not provide water security – must be combined with sustainable water services• Ensure 'nexus' programmes include clearly articulated WASH goals

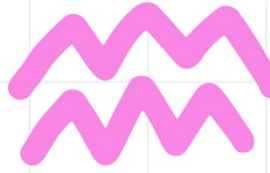
Learning from the Hakbi'it Joventude project's

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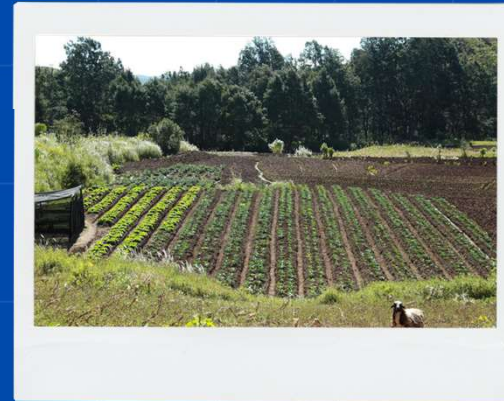
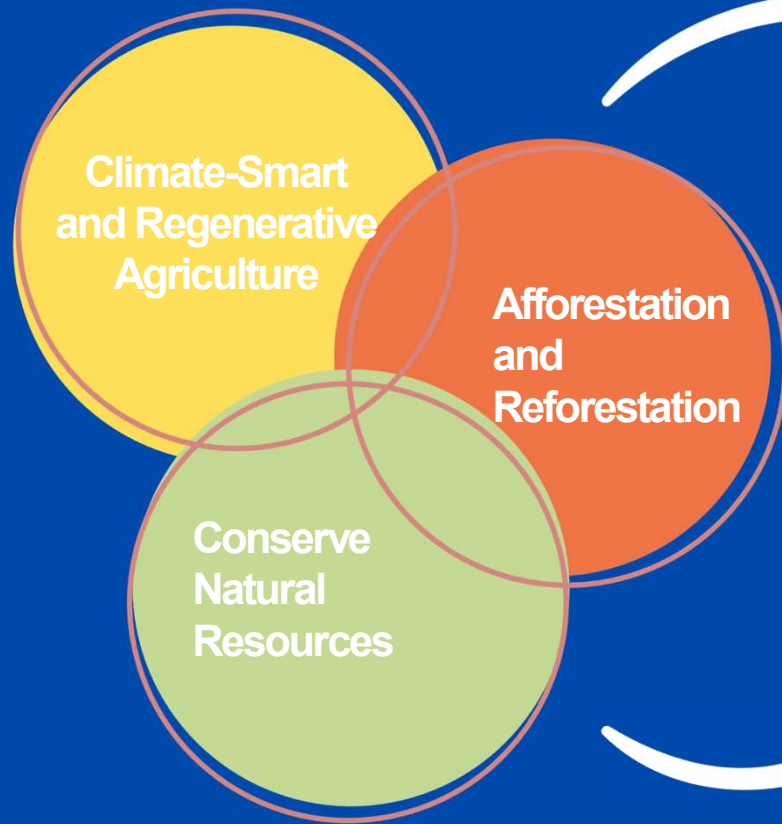


Interconnected challenges: Understanding farming practices in Timor-Leste

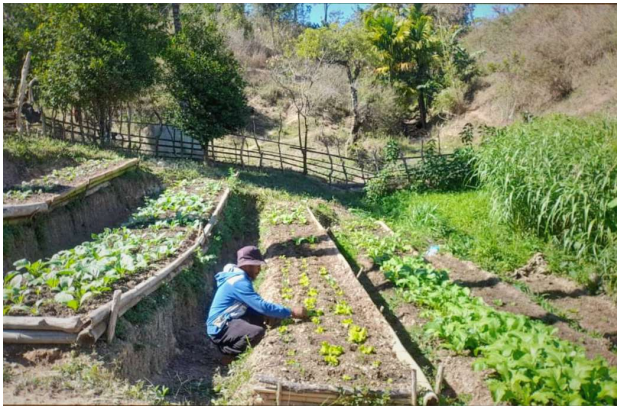


- Traditional slash and burn practices.
- Limited knowledge of natural resource management.
- Seasonal water scarcity, with most farming depending on rainfall.
- Limited crop diversity.
- Poor infrastructure and limited market access.

Introducing Sustainable Options:



Improving food and water availability:



**House garden and
Communal farm**



**Rainwater Harvesting
(NbS)**



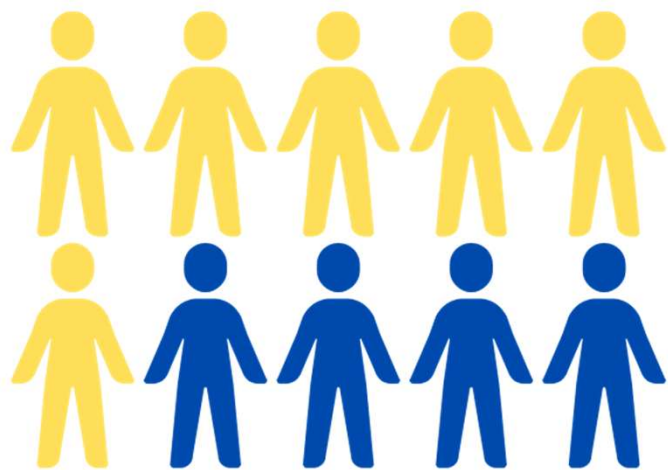
**Water infrastructure:
Reservoir tank**

Accessibility to financial inclusion and opportunities



- Establish Village Savings and Loan Associations (VSLAs) and Farmers' Cooperatives
- Strengthen Community Water Management Committees (GMFs)
- Engage street traders in project activities
- Diversify livelihood options

Impacts:



- Increased technical knowledge among farmers in applying organic fertilizer, cover cropping, intercropping, terracing, and other sustainable practices.
- Four demonstration plots have been transformed into communal farms, engaging more than 40 smallholder farmers.
- Farmers have successfully supplied agricultural produce to local markets, supermarkets, and school feeding programs.
- Improved water availability during the dry season.

OBRIGADU



Connecting agriculture, food & water security

Everything is Connected: Lessons from PNG, Solomon Islands, Timor-Leste & Vanuatu

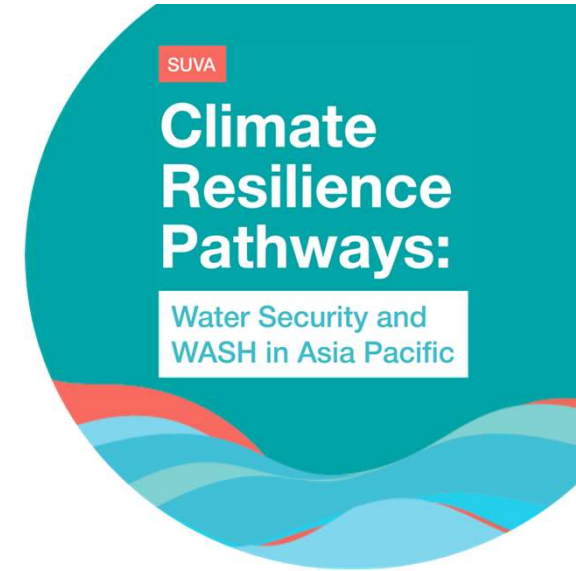
Dr Rob Kelly

World Vision Australia



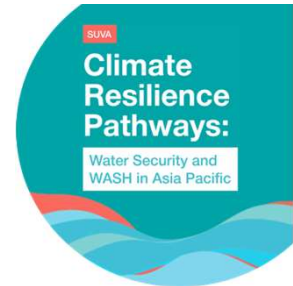
And colleagues from
Vanuatu, PNG,
Solomons & Timor-Leste

World Vision



Applying a nexus approach

Regreening
Communities



Landcare methods
restore hydrological
balance and improve
access to water

Farmers are assisted in
converting water into increased
production, improving soil
fertility on farm lands

Food security and
market-derived
income increased



Papua New Guinea

Improving integrity & extent of mangrove ecosystems builds climate resilience & improves biodiversity

Restoration of fish & mud crab populations contributes towards income & savings while supporting cultural values & nutrition



Environmental protection / FMNR / CSA



Food security / Nutrition



Climate change & DRR



Resilient livelihoods

Solomon Islands

Enhanced resilience of coastal catchments through community-based NRM supports food security, biodiversity & livelihoods



Environmental protection / FMNR / CSA



Food security / Nutrition



Water, Sanitation and Hygiene (WASH)



Climate change & DRR



Resilient livelihoods



Timor-Leste

Increased household & community resilience to impacts of climate change



Environmental protection / FMNR / CSA



Food security / Nutrition



Water, Sanitation and Hygiene (WASH)



Child & maternal nutrition & health



Resilient livelihoods



Climate change / DRR

Vanuatu

Increase climate resilience by establishing Solar Powered Water Systems in 3 communities that provides reliable clean and safe water for cooking, drinking, bathing, supports renewable clean energy, and provides water year-round for gardens

Integration or layering of project approaches (infrastructure and behaviour change) creates a bigger impact to the community



Environmental protection / FMNR / CSA



Food security / Nutrition



Water, Sanitation and Hygiene (WASH)



Child & maternal nutrition & health



Resilient livelihoods



Climate change / DRR

Linking Environments & Livelihoods

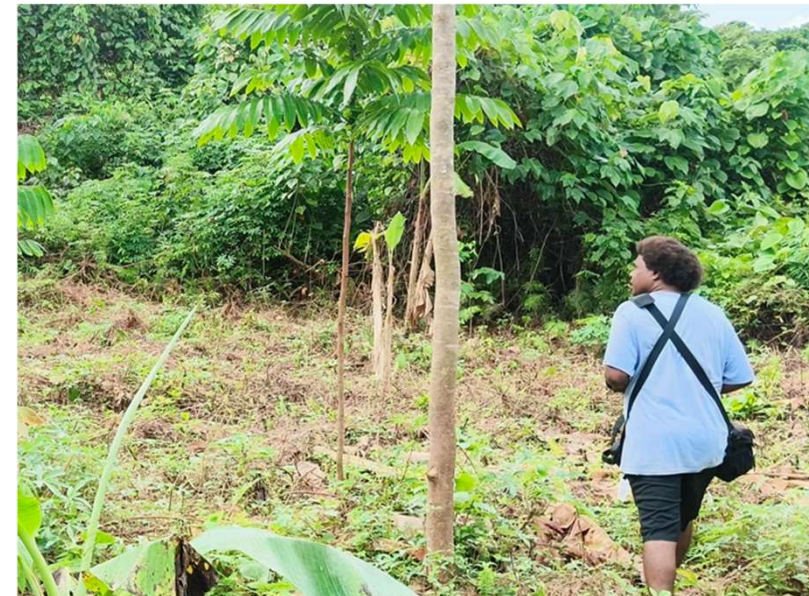
Environmental safeguarding

- Climate, Environment & DRR Integration Guidance (CEDRIG)
- Nexus Environment Assessment Tool (NEAT+) - emergency settings



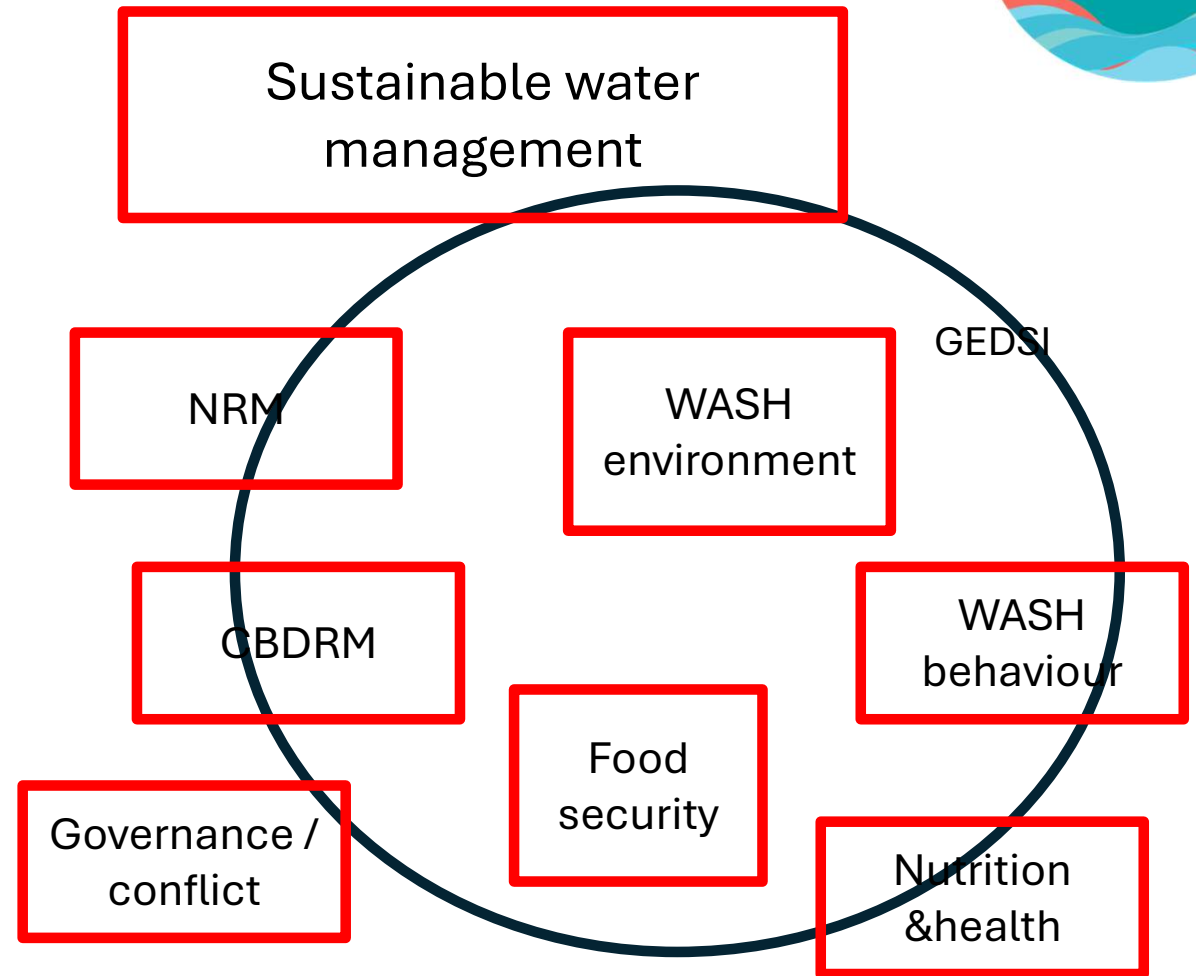
Climate mainstreaming

- Climate adaptation -> Regreening Communities
- Climate mitigation -> Carbon opportunities
- Market-linked -> Markets for Communities / Green Growth



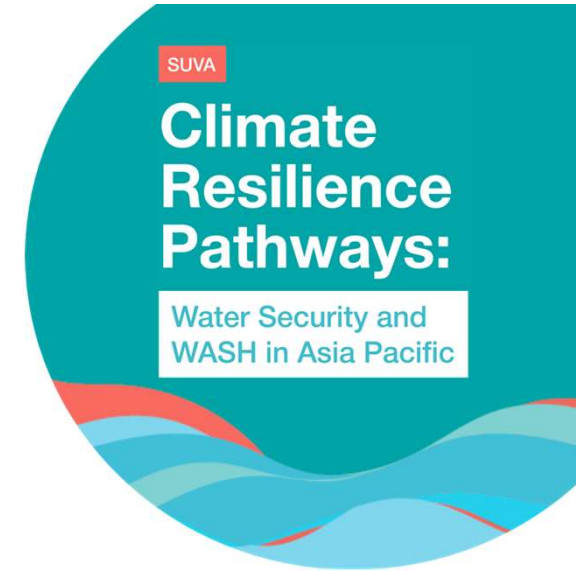
Everything is connected

- NRM links to WASH
- Governance links to NRM and WASH
- CBDRM links to NRM and WASH
- Food security
- Nutrition & health



Synergising Agriculture, Engineering and WASH for enhanced Food Security and climate resilience at Navesau Adventist Highschool

Mere Vukialau-Taoui
FAO Fiji



Navesau Adventist High School PROJECT BACKGROUND

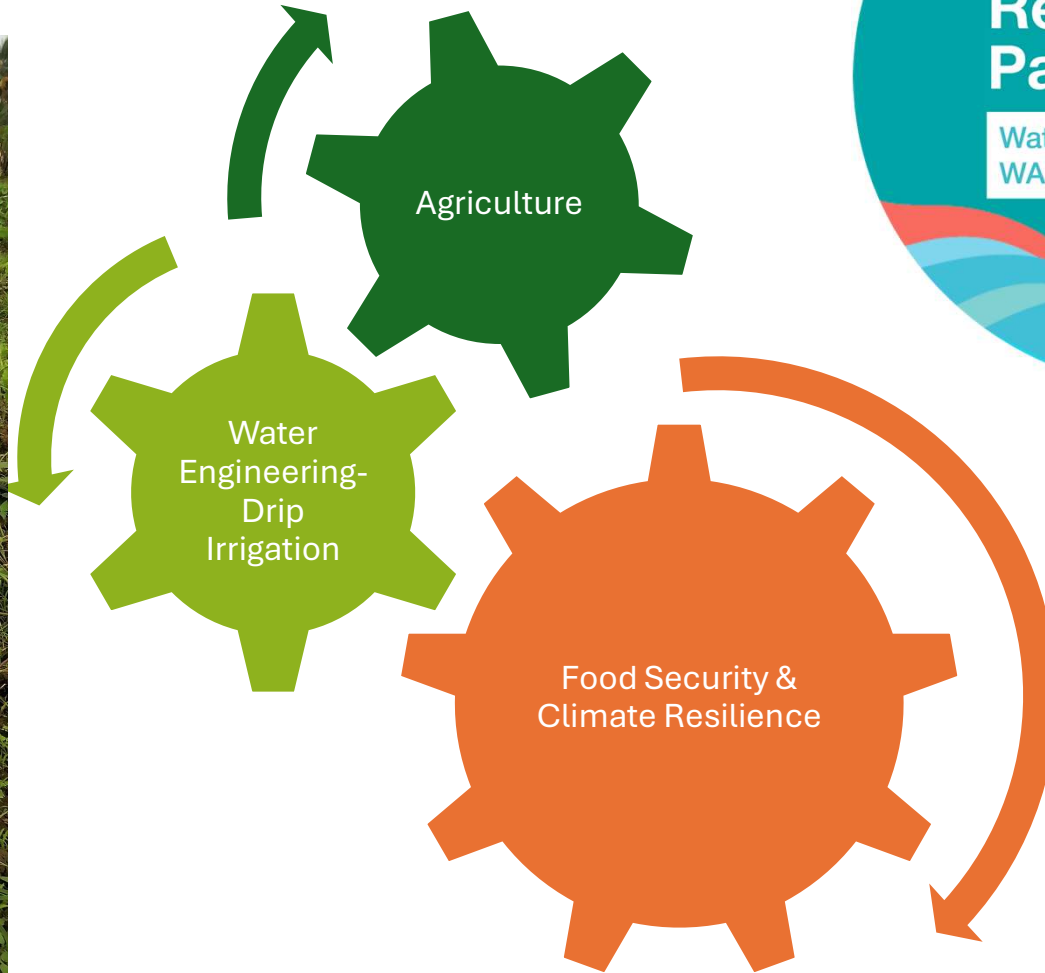


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APPLYING A NEXUS APPROACH



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Food
Security &
Climate
Resilience

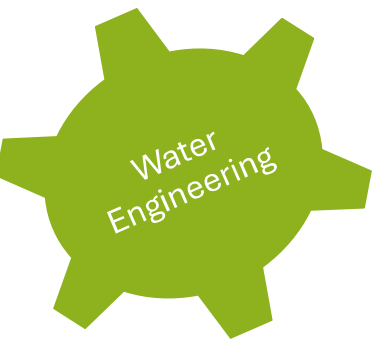
Nursery construction

Raising of seedlings

12 vegetable crops



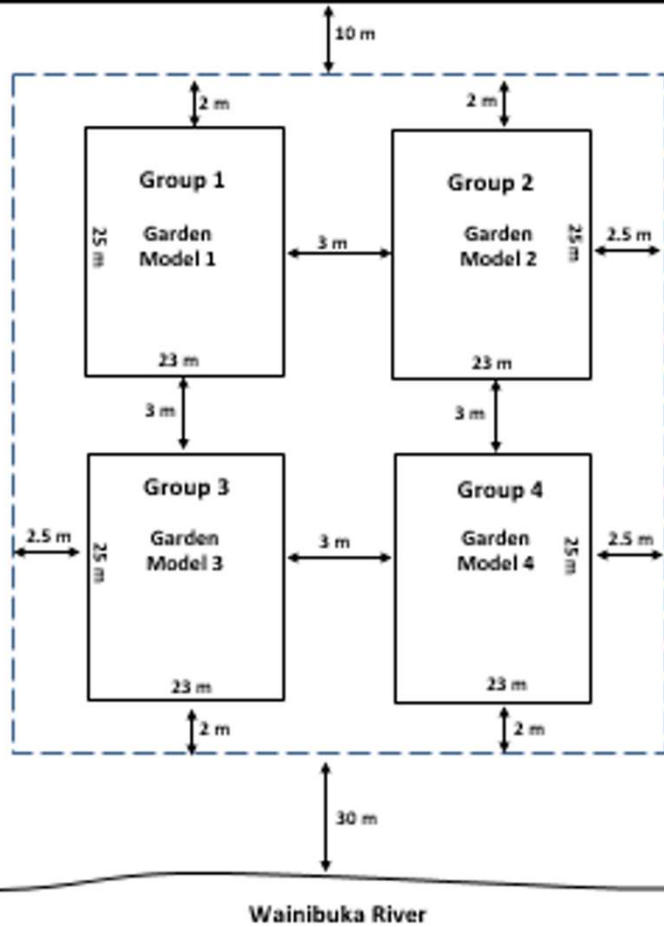




NAVESAU ADVENTIST HIGH SCHOOL SITE

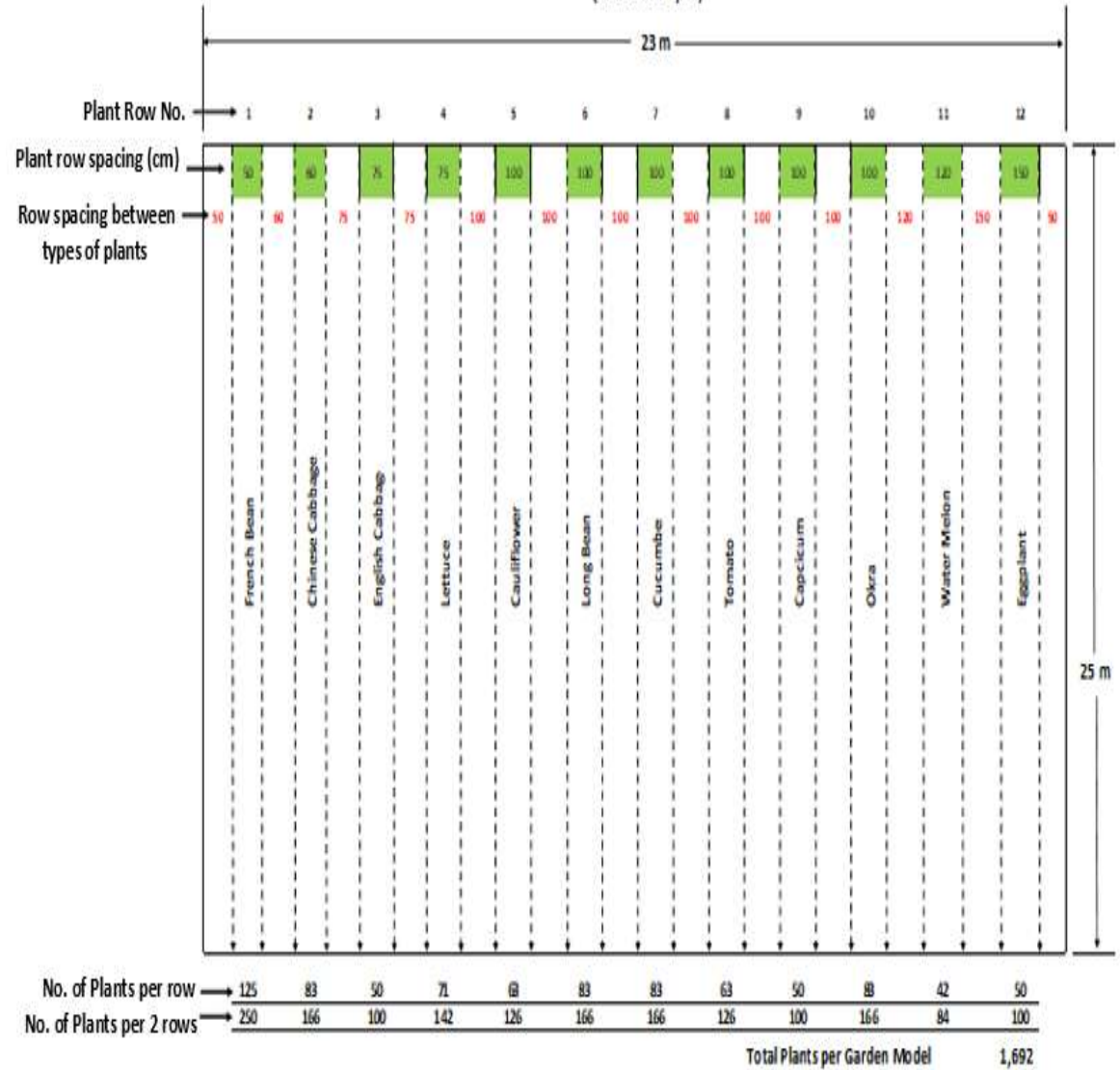


Kings Road



DESIGN & LAYOUT OF THE ORGANIC HOME GARDEN MODEL IN NAVESAU ADVENTIST HIGH SCHOOL

(AREA= 575 sq. m)



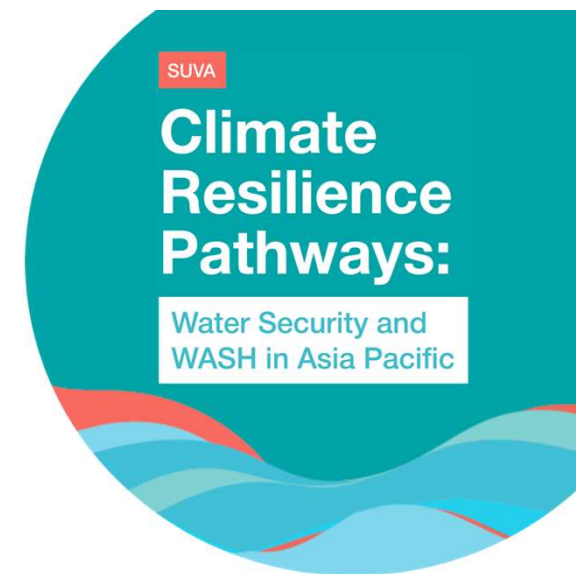


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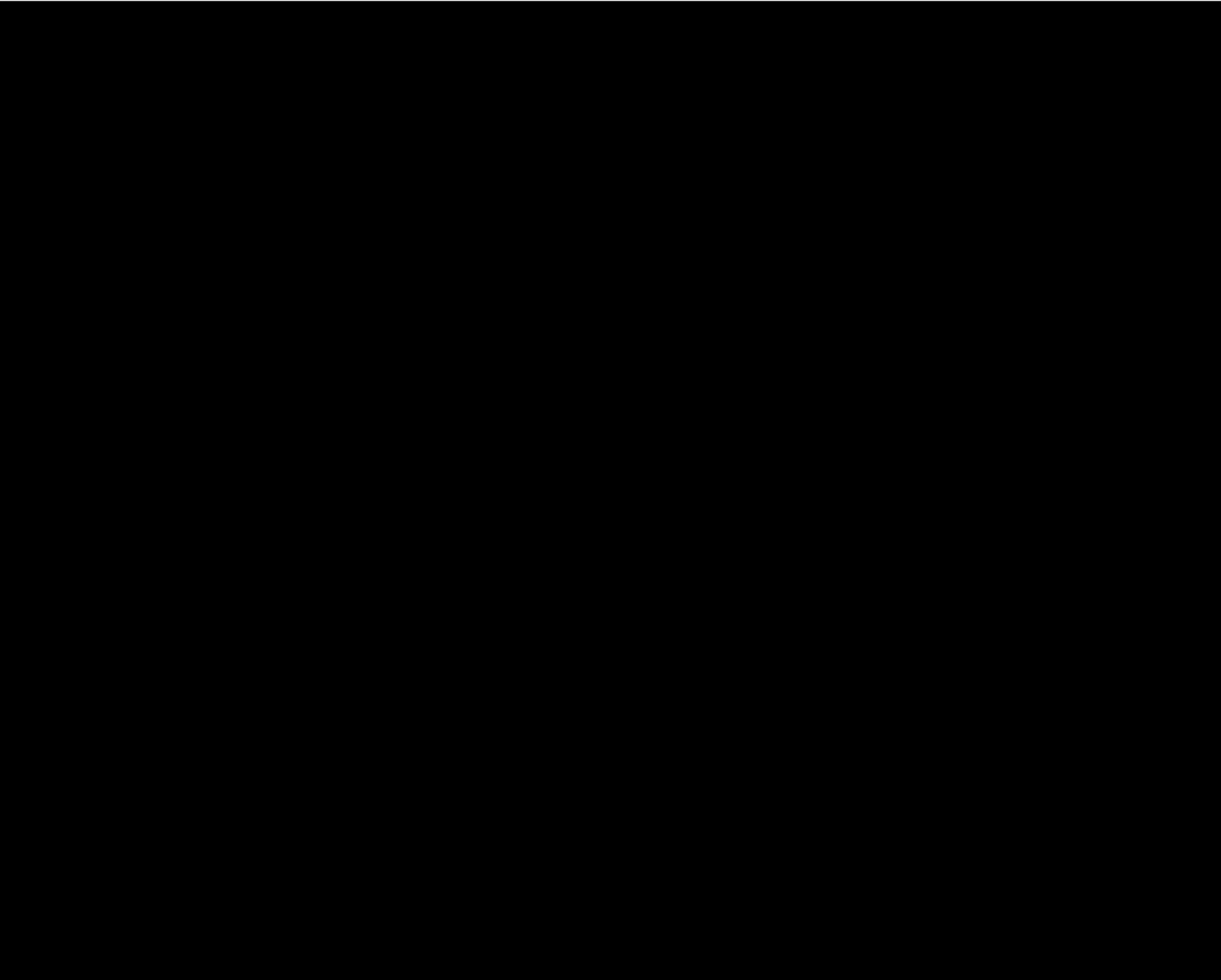
Water Security and WASH in Asia Pacific

Commissioning of the Project-July 5th ,2023



Lessons Learnt:
Its all about PLANNING!!

1. Crop plan
2. Procurement plan
3. Nursery Plan
4. Weeding and maintenance plan



Navesau Video

<https://www.facebook.com/fiu.mani.520/videos/681394653946241>

Connecting agriculture, food & water security

Topics for group discussion

- **PRACTICE:** (Huger/Tom)
 - Are there any technologies or practice (both smart, physical, nature based) that projects are using or think could be applied to strengthen water and food security? MEL
- **OPPORTUNITY:** (Meredith)
 - Funding
 - Community benefit
 - Program design / framing
 - Contextual factors
- **INSTITUTIONAL:** (Mere/Rob)
 - Strategies for working with government on nexus projects that span multiple ministries, lessons learnt on this
 - Any lessons or reflections on how to ensure integrated programming, avoiding silos between staff working on water security and those working on food security

