**Part 4 of the Report- Food Security**

The first input will always be:

* The Area Councils that have been affected by the Cyclone
* The Category of Cyclone for each Area Council
* The tables outlined below show every administrative boundary: National (Vanuatu), Province (Torba, Sanma, Penama, Malampa, Shefa, Tafea), and the Area Councils underneath their Province. However, the report should show the National, and only the Provinces and Area Councils affected by Cyclone.

Analysis:

* The analysis is four steps:

1. Baseline
2. Estimate Damage from Cyclone
3. Resources Needed to be Sent to Those Affected
4. Estimate Financial Damage from Cyclone

* The analysis will be carried out at the Area Council level as the primary unit.

1. Provincial figures will be generated by summing the results of all Area Councils within each province.
2. National figures (Vanuatu) will then be produced by summing the results across all provinces.
3. **BASELINE: Households & Production of Staple and Cash Crops**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Region** | **STAPLE CROPS** | | | | | | | | | | | |
|  | **Island Cabbage** | | **Banana** | | **Taro** | | **Kumala** | | **Manioc** | | **Yam** | |
|  | **HH** | **Production** | **HH** | **Production** | **HH** | **Production** | **HH** | **Production** | **HH** | **Production** | **HH** | **Production** |
| **VANUATU** |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Region** | **CASH CROPS** | | | | | | | | | | | | | | | |
|  | **Kava** | | **Coconut** | | **Cocoa** | | **Coffee** | | **Vanilla** | | **Tahitian Lime** | | **Pepper** | | **Noni** | |
|  | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** |
| **VANUATU** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

1. **ESTIMATED DAMAGE FROM CYCLONE**

* Inputs:

1. Number of households (HH) engaged in production by Area Council (AC) and by product type:
2. Staple crops: island cabbage, banana, taro, kumala, manioc, yam.
3. Cash crops: kava, coconut, cocoa, coffee, vanilla, Tahitian lime, pepper, noni.
4. Timber: kauri, koyu/natora, mahogany, nangae, natapoa, pine, whitewood.

* Reported production levels by product type and AC.
* Cyclone category (with corresponding damage multiplier).
* Formulas:

1. Households affected = (Number of households by product type × Damage multiplier).
2. Production lost = (Reported production by product type × Damage multiplier).

* Example:

1. Cyclone Category 5 in Torres (damage multiplier = 0.8).
2. Cyclone Category 4 in Ureparapara (damage multiplier = 0.7).

* Torres (Staple crops: Banana and Taro; Timber: Pine):

1. Households affected:
2. Banana HH × 0.8
3. Taro HH × 0.8
4. Pine HH × 0.8
5. Production lost:
6. Banana Production × 0.8
7. Taro Production × 0.8
8. Pine Production × 0.8

* Ureparapara (Cash crops: Kava and Coconut; Timber: Whitewood):

1. Households affected:
2. Kava HH × 0.7
3. Coconut HH × 0.7
4. Whitewood HH × 0.7
5. Production lost:
6. Kava Production × 0.7
7. Coconut Production × 0.7
8. Whitewood Production × 0.7

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Region** | **STAPLE CROPS** | | | | | | | | | | | |
|  | **Island Cabbage** | | **Banana** | | **Taro** | | **Kumala** | | **Manioc** | | **Yam** | |
|  | **HH** | **Production** | **HH** | **Production** | **HH** | **Production** | **HH** | **Production** | **HH** | **Production** | **HH** | **Production** |
| **VANUATU** |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Region** | **CASH CROPS** | | | | | | | | | | | | | | | |
|  | **Kava** | | **Coconut** | | **Cocoa** | | **Coffee** | | **Vanilla** | | **Tahitian Lime** | | **Pepper** | | **Noni** | |
|  | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** |
| **VANUATU** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Region** | **TIMBER** | | | | | | | | | | | | | |
|  | **Kauri** | | **Koyu/Natora** | | **Mahogany** | | **Nangae** | | **Natapoa** | | **Pine** | | **Whitewood** | |
|  | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** | **HH** | **Prod** |
| **VANUATU** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

1. **Resources sent for response**

* Formulas:

1. Island Cabbage cuttings = (# of households by AC × cyclone multiplier × standard number of cuttings per household)
2. Taro seedlings = (# of households by AC × cyclone multiplier × standard number of seedlings per household)
3. Kumala cuttings = (# of households by AC × cyclone multiplier × standard number of cuttings per household)
4. Manioc cuttings = (# of households by AC × cyclone multiplier × standard number of cuttings per household)
5. Yam cuttings = (# of households by AC × cyclone multiplier × standard number of cuttings per household)

* Example Scenario:

1. Cyclone Category 5 (multiplier = 0.8) hits Torres.
2. Cyclone Category 4 (multiplier = 0.7) hits Ureparapara.

* Torres (e.g., 20 HH grow island cabbage, 15 HH grow taro, 10 HH grow manioc):

1. Island cabbage cuttings = 20 × 0.8 × [cuttings per HH]
2. Taro seedlings = 15 × 0.8 × [seedlings per HH]
3. Manioc cuttings = 10 × 0.8 × [cuttings per HH]

* Ureparapara (e.g., 10 HH grow yam, 12 HH grow kumala):

1. Yam cuttings = 10 × 0.7 × [cuttings per HH]
2. Kumala cuttings = 12 × 0.7 × [cuttings per HH]

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Region** | **STABLE CROPS** | | | | | | | | | |
|  | **Island Cabbage**  **(cuttings)** | | **Taro**  **(seedlings)** | | **Kumala**  **(cuttings)** | | **Manioc**  **(cuttings)** | | **Yam**  **(cuttings)** | |
| **VANUATU** |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |

1. **Financial recovery**

* Formula:

1. Financial Damage per crop/timber type = (Production volume × Unit value per unit of production × Cyclone multiplier)

* Inputs Needed:

1. Reported production levels by crop/timber type and Area Council.
2. Staple crops: island cabbage, banana, taro, kumala, manioc, yam.
3. Cash crops: kava, coconut, cocoa, coffee, vanilla, Tahitian lime, pepper, noni.
4. Timber: kauri, koyu/natora, mahogany, nangae, natapoa, pine, whitewood.
5. Unit value of each crop/timber (per kg, per tonne, per cubic metre, etc.).
6. Cyclone category multiplier (e.g., Cat 5 = 0.8, Cat 4 = 0.7).

* Example Scenario:

1. Cyclone Category 5 in Torres (multiplier = 0.8).
2. Cyclone Category 4 in Ureparapara (multiplier = 0.7).

* Assume unit values:

1. Banana = 100 VT per kg
2. Kava = 500 VT per kg
3. Pine = 2,000 VT per m³

* Torres (Banana = 1,000 kg; Kava = 500 kg; Pine = 20 m³):

1. Banana = 1,000 × 100 × 0.8 = 80,000 VT
2. Kava = 500 × 500 × 0.8 = 200,000 VT
3. Pine = 20 × 2,000 × 0.8 = 32,000 VT

* Ureparapara (Banana = 800 kg; Kava = 400 kg; Pine = 15 m³):

1. Banana = 800 × 100 × 0.7 = 56,000 VT
2. Kava = 400 × 500 × 0.7 = 140,000 VT
3. Pine = 15 × 2,000 × 0.7 = 21,000 VT

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Region** | **STAPLE CROPS** | | | | | | | | | | | |
|  | **Island Cabbage** | | **Banana** | | **Taro** | | **Kumala** | | **Manioc** | | **Yam** | |
| **VANUATU** |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Region** | **CASH CROPS** | | | | | | | | | | | | | | | |
|  | **Kava** | | **Coconut** | | **Cocoa** | | **Coffee** | | **Vanilla** | | **Tahitian Lime** | | **Pepper** | | **Noni** | |
| **VANUATU** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Region** | **TIMBER** | | | | | | | | | | | | | |
|  | **Kauri** | | **Koyu/Natora** | | **Mahogany** | | **Nangae** | | **Natapoa** | | **Pine** | | **Whitewood** | |
| **VANUATU** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |