



Local Coping Strategies and Technologies for Adaptation in the Philippines

New Delhi, India

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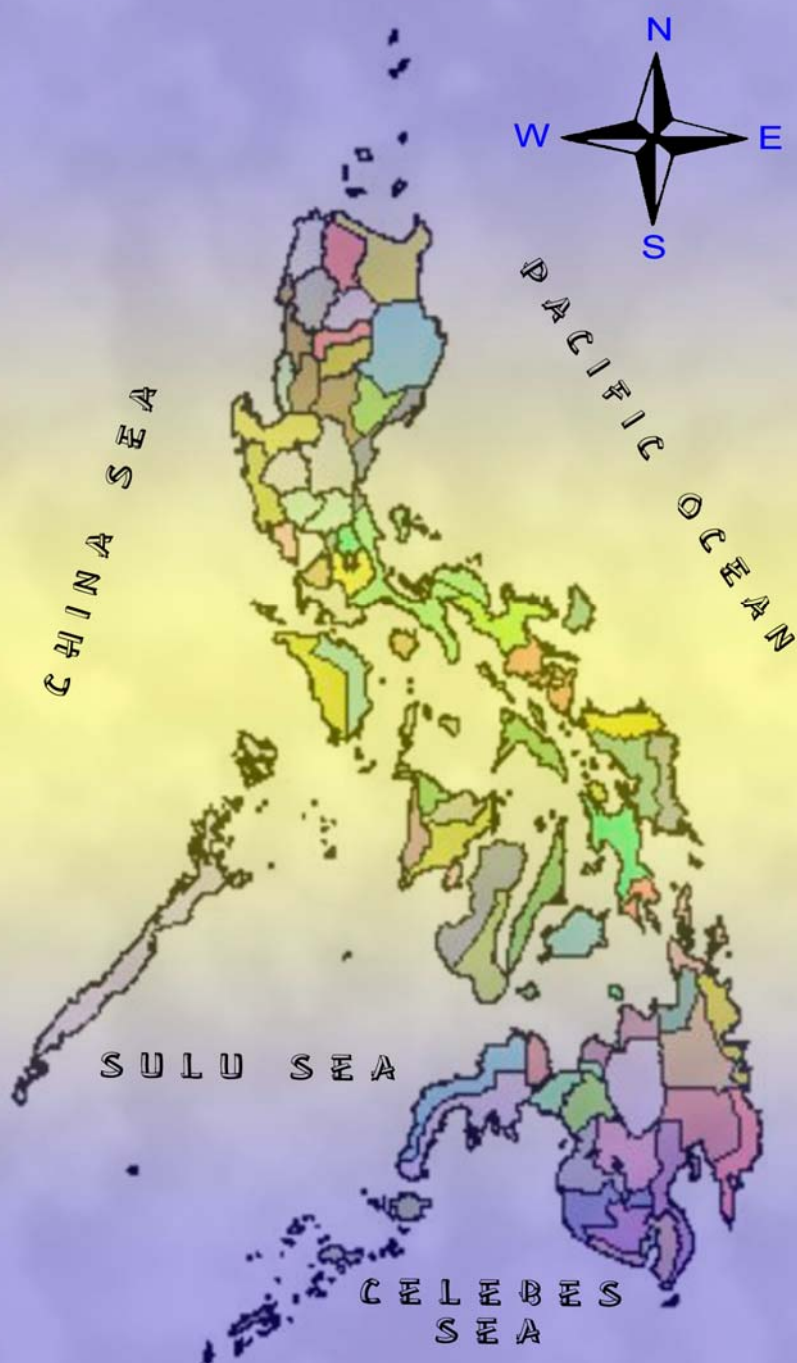
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PHILIPPINES



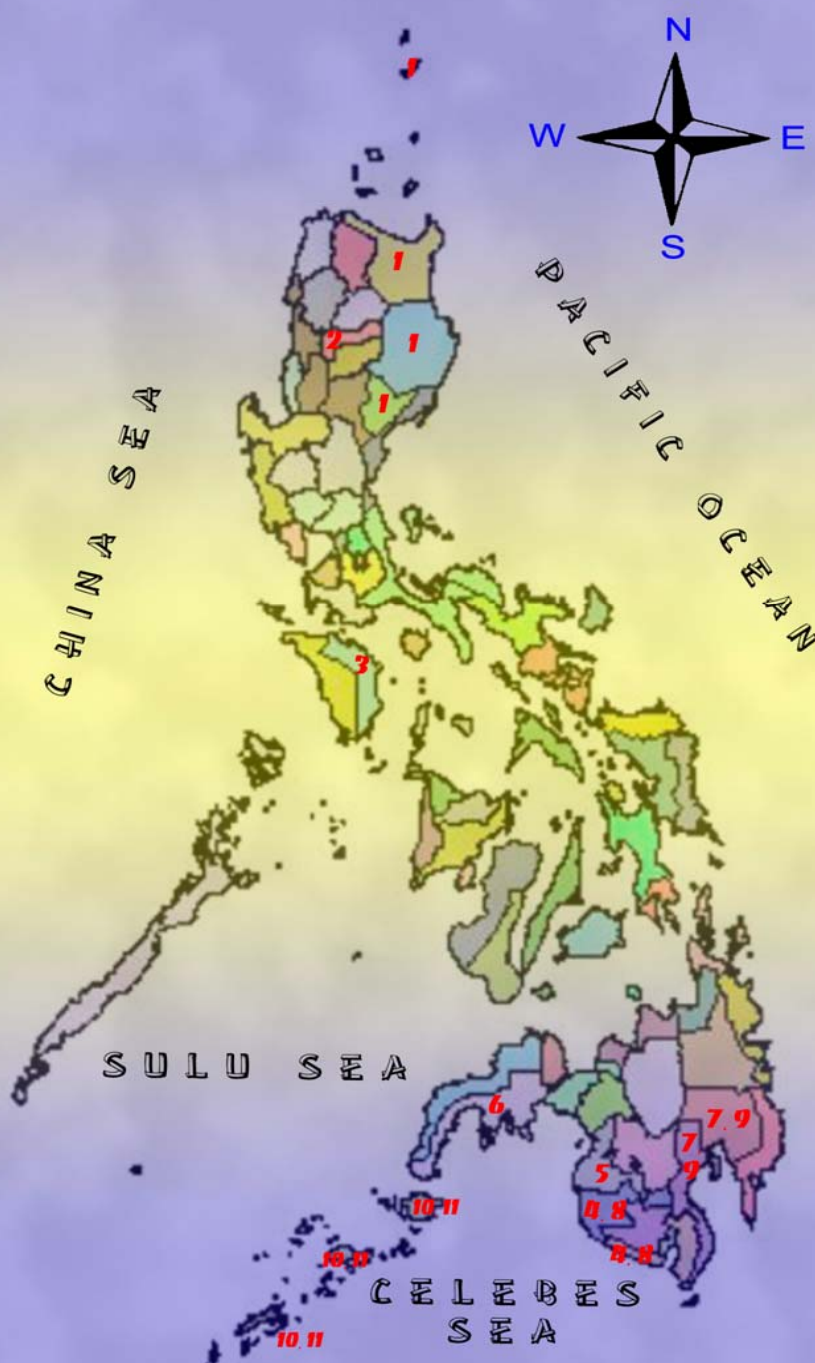
Characteristics of climate in the Philippines which define its vulnerability to climate-related hazards and impacts:

Tropical cyclones, storm surges, floods and droughts are inherent in its climate:

- 20 tropical cyclones per year
- Storm surges occasionally occur affecting coastal communities especially in big cities
- Floods are common during tropical cyclone season and especially during La Niña events
- Droughts are ENSO-related



SOME INDIGENOUS COMMUNITIES IN THE PHILIPPINES



- 1 Ivatans, Ibanags, Bugkalots
- 2 Tribes in the Cordillera (Igorots)
- 3 Mangyans
- 4 B'laans
- 5 Maguindanaos
- 6 Subanens
- 7 Mandayas/Mansakas
- 8 T'bolis
- 9 Maranaws
- 10 Tausugs
- 11 Samals and Yakans

Coping Strategies

Tribes Practising

1. Forecasting and prediction techniques through indigenous ways (i.e. abnormal behavior of animals, appearance of clouds, etc.)

all

2. Early warning systems (use of horns, drums, etc.)

all

3. Storage/stock piling of food and emergency supplies

- subsisting on hunting and / wild plants/animals
- preserving food to be stored through drying
- locating water sources in hills / mountains

All

6,8

8

7

4. Carefully choosing settlement sites (hazard mapping)

1,2,3,9

- above rivers or in areas between opposing hills/mountains to ensure typhoon winds are weakened

3,9

- settling in upper parts of the mountains or hillsides or in the middle portion of the mountain

3,9

- choosing areas where there are no ground cracks and loose soils above their settlements

3,9

Coping Strategies

Tribes Practising

5. Building flood-and typhoon- resilient houses and/or strengthening houses, infrastructures

- use of high and strong posts of houses

1,5

- building houses close to the ground/over areas with stable foundation, with tapered roofs and tightly-closed windows

2

- building houses with stilts or wooden piles (towering 3 to 7 meters from the ground along slopes of mountains)

2,4,6

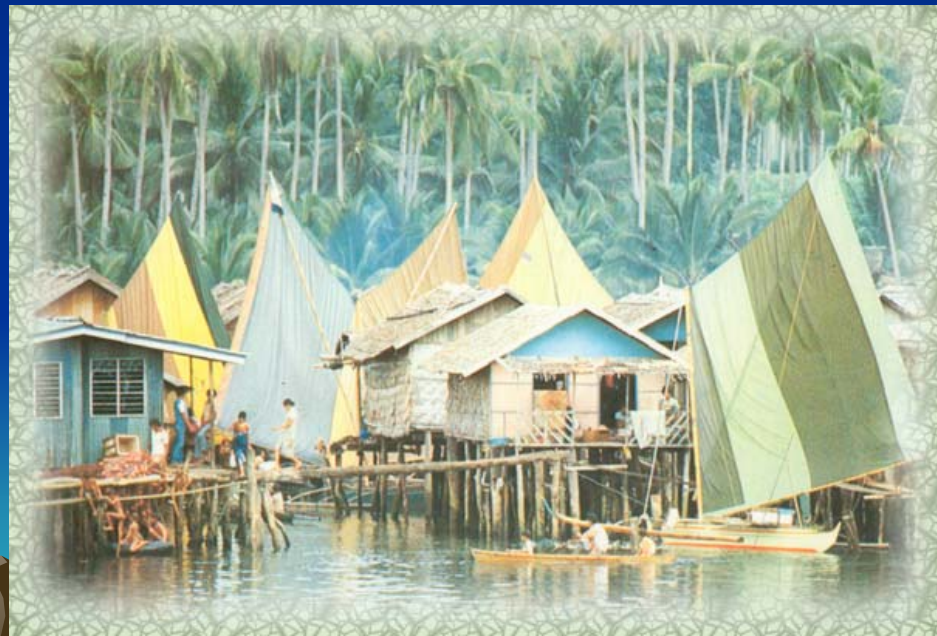
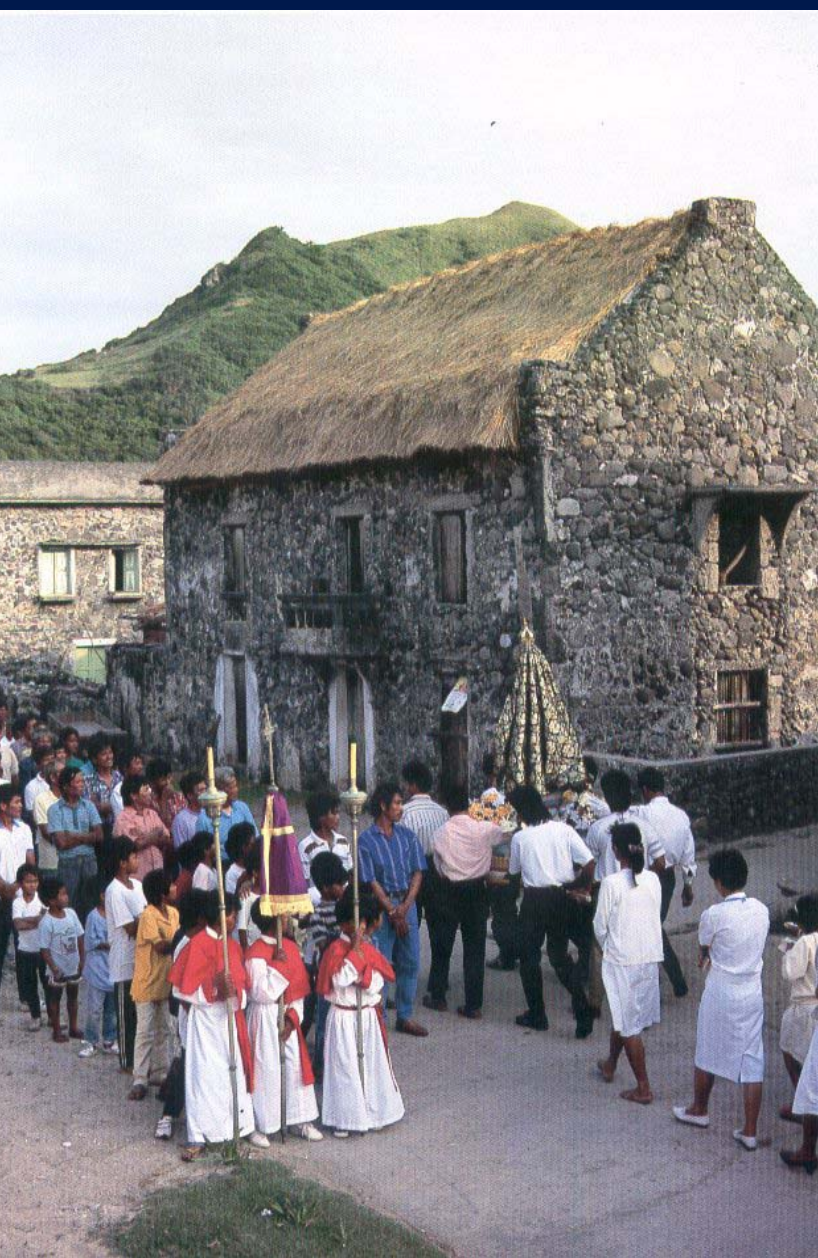
- building houses to take advantage of the contour of the terrain/situated near the sea/facing the direction which affords protection from frequent strong winds

2

- lessen the effects of wind loading by aligning windows directly

8





Coping Strategies

Tribes Practising

6. Easy mobility

- during floods, small boats called bancas are held ready & used/ non-motorized modes of transport are also used
- migration to higher grounds/seeking refuge in caves, big trees, etc.
- transfer to productive areas located deep into the mountains where water sources could be found

5,6,7,8

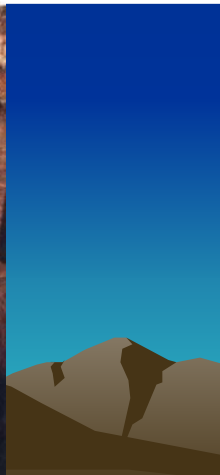




7. Crisis-adaptive agricultural practices

- planting of tree belts along farm boundaries as wind breakers,
- pruning and cropping of fruit and flowering trees to lessen weight of trees,
- multicropping and intercropping,
- planting fields are usually located in high elevated and mountainous slopes,
- use of ditches/canals to divert rainwater away from their crops during rainy days,
- herding of cows/buffalos to the part of the hills where wind velocity is less,
- speedy harvest of ready crops before the typhoon hits the area, and
- use of drought-resistant crops/root crops only

1
1
1
1,2
1,2
1
3,9
6



Coping Strategies

Tribes Practising

8. Agricultural/engineering interventions and countermeasures

- construction of seawalls, embankments and more massive ripraps (usually a meter thick and 2-3 meters tall) as protection against storm surges/floods/ to prevent water from overflowing to rice paddies/terraces
- planting trees in areas above carefully-chosen settlements,
- rainwater collection technique as used by tribes in Mindanao,
- planting of trees along riverbanks and steep inclines, and
- declogging of waterways/river flow (creeks/canals, etc.) of debris

1,2,7,10

3,9

10

8


7





Tausug house with rainwater collection system

Coping Strategies	Tribes Practising
<p>9. Organizing themselves and through the “bayanihan “ spirit, establish self-sufficiency efforts for a more profitable livelihood than farming or when farming becomes untenable</p>	2,5,10
<p>10. Setting up guiding principles by tribe elders, specifically the empowerment of the tribes with primary right over the management of the ancestral domains together with tenured migrant settlers (i.e. sustainable harvesting of products, hunting only those destructive to crops, planting indigenous species, etc.)</p>	8
<p>11. Conservation of forest cover of the watersheds</p> <ul style="list-style-type: none"> - woodlot forests (“Muyung”) to prevent soil runoff and erosion, - preserving mangroves growing at or near piers 	2,9 10





Preservation of mangrove

Coping Strategies	Tribes Practising
12. Preparing/implementing comprehensive land use plan to protect watersheds	2
13. Proper maintenance of the catchment areas and rational/proper utilization of all available natural resources	9
14. Organizing women of the tribes as a support group when natural disasters occur	9,11



Opportunities

Barriers

- Among the indigenous communities, continued/sustained practice of these strategies is certain because the elders who constitute their councils are chosen on the basis of their perceived wisdom and credibility
- The practice of carefully choosing sites for settlements is a clear sign of the indigenous people's propensity for hazard mapping
- The spirit of "bayanihan" could be exploited to foster self-help and self-sufficiency
- Sustainable harvesting of forest products could be adopted even in other communities
- The devolution of local government could be conducive to easier replication of sound strategies in grassroot level

- May not be replicated successfully in non-denominational communities because spirit of togetherness or sense of belonging is not strong
- These communities may be averse to changes when these are warranted
- Some activities like stockpiling of crop seeds/fodder varieties may not always be possible unless assistance is provided by the national/local government
- Maybe highly dependent on government support
- Adoption of certain strategies may need support from national level

Long live communities



Thank You