



Cyclone Winston – Fiji Environmental Issues 2 March 2016

Purpose

This note provides a summary of key environmental considerations arising in relation to the passage of Cyclone Winston over Fiji. The note is based on reports available on ReliefWeb and through online searches.

Expected Negative Environmental Impacts

- Significant levels of organic and inorganic debris from wind damage to vegetation and buildings.
- Coastal and river/stream erosion causing damage to shores and banks as well as increased erosion of degraded lands, with run-off affecting off shore areas.
- Damage to housing and other infrastructure in flood zones near coast and rivers.
- Increase in breeding sites for insect-carried diseases, including Zika vector.
- Increased solid waste for disposal in landfills, which may be waterlogged.
- Increased burning of debris, leading to increased air pollution and ground and water pollution from incomplete burning.
- Loss of sewage and water treatment due to a lack of electricity and damage to infrastructure.
- Increased use of pesticides to control vectors.

Status of Specific Environmental Hazards of Concern

- Asbestos is reported to not be commonly used in Fiji.
- No reported damage to chemical storage locations.
- No reported grounding of ships and chemical releases.
- No reported chemical spills.

Possible Positive Environmental Results

- High level of reuse, recycling, repurposing of building debris possible for transitional shelter and permanent shelter will reduce need to import shelter materials.
- Composting and otherwise treating organic waste to improve soil fertility and as livelihoods opportunities.
- Moving housing and infrastructure away from coastal and other hazard zones.
- Introduction of climate risk management and climate change adaptation into recovery process.
- Introduction of natural and nature-based methods for flood risk management into recovery process.

Key Reference Documents

- *Fiji environmental laws and regulations*: <https://eialaws.elaw.org/eialaw/fiji>. Note that the EIA process in Fiji applies to some activities which could take place during relief and recovery (e.g., building more than 10 houses in a subdivision). There are provisions in the law on declaring environmental emergencies and waiving normal environmental review procedures in emergencies.
- *Climate change policy, impacts and adaptation*: <http://www.pacificclimatechange.net/index.php/country-profiles/fiji>. Note that most adaptation-focused projects address climate-related hazards such flooding or coastal erosion, which can be linked into relief and recovery activities.
- *Fiji weather and climate information* can be found at the Fiji Meteorological Service - <http://www.met.gov.fj/>. Fiji's wet season is from November to April, but rainfall is possible during other times of the year. During El Nino (currently trending) the dry season and dryer areas are more dry than average.

Environmentally Positive Interventions

- Shelter
 - Recycling materials for temporary and permanent shelter.
 - Relocation from hazardous (flood, coastal erosion, landslide) areas.
 - Improve structural resistance to wind in temporary and permanent shelters.
 - Consider climate factors (wind, heat, precipitation) in shelter design.
 - Add roof water collection to all temporary and permanent shelter.

- WASH
 - Labor intensive debris and waste collection and safe disposal.
 - Add roof water collection to all repaired or new structures.
 - Introduce improved designs of latrines and human waste management.

- Health
 - Enforce safe disposal of health care waste.
 - Ensure health care waste incinerators operate properly.
 - Minimize use of pesticides for vector control and emphasize environmental modification through education, labor intensive interventions and youth engagement.

- Infrastructure and Utilities
 - Introduce solar panels and support systems for use in public space (e.g., street lighting), in public facilities and for use by households.
 - Incorporate climate resilience and adaptation onto recovery plans.
 - Consider complementary natural and nature-based methods for managing drainage alongside roads projects.
 - Consider the road/path linkages between shelters, livelihoods, schools, and public spaces.

- Education
 - Use recycled materials for temporary and permanent school facilities.
 - Relocate from hazardous (flood, coastal erosion) areas.
 - Improve structural resistance to wind in temporary and permanent school facilities.
 - Consider climate factors (wind, heat, precipitation) in building design.
 - Add roof water collection to all temporary and permanent school facilities.
 - Consider options to improve human waste disposal in temporary, repaired and new facilities.

- Livelihoods
 - Use labor intensive debris removal, recycling and reuse, including composting as input into household level agriculture or soil erosion reduction efforts.
 - Use an ecosystem approach together with labor intensive works to repair environmental damage caused by the storm and reduce risk from flooding, coastal erosion and environmental degradation.
 - Avoid replacing lost boats and fishing gear at levels which will lead to unsustainable fishing or marine resource extraction.

Further Information

Additional information available from the Environment & Disaster Management Help Desk
www.envirodm.org or email envirodmhelpdesk@gmail.com