

INSTITUTIONAL DISASTER MANAGEMENT & CONTINGENCY PLAN

YT Nursing Academy, Bumthang
Population Capacity: 350 Members (Maximum,)

Legal Framework Notice: This plan is formatted explicitly for the unique spatial parameters of the YT Nursing Academy campus and operates in direct compliance with Section 77 of the Disaster Management Act of Bhutan 2013 and regional frameworks managed by the Bumthang Dzongkhag Disaster Management Committee (DDMC).

1. Regional Risk Profile & Campus Vulnerabilities

According to the regional Hazard, Vulnerability, and Capacity Assessment (HVCA) compiled for Bumthang, the campus area exhibits localized exposure vectors. Due to structural configurations—comprising high-density multi-floor residential components mixed with single-story ground units—the immediate institutional hazards are prioritized as follows:

- **Structural Fire (High Risk / Catastrophic Impact):** Driven by intense seasonal winter conditions, the required usage of wood-burning stoves (Bukhari) or electrical heating apparatus, and proximity to forested land. Multi-tier residential units face high internal layout vulnerabilities.
- **Earthquake (High Risk / Severe Structural Impact):** Bumthang is situated within a highly active seismic fault corridor. The critical vulnerability profile focuses on escape passage blockage, staircase failure zones within two-story facilities, and mechanical medical lab asset toppling.
- **Windstorms & Monsoons (Medium Risk / Moderate Impact):** Prevalent between December and May. Threat vectors manifest as roof anchorage decoupling from severe drafts. Secondary monsoon triggers introduce water line network damage along the access links.

2. Institutional Incident Command System (ICS)

The academy activates an internal Incident Management Team (IMT) structural grid during emergencies, ensuring direct reporting connectivity to the regional Dzongkhag Emergency Operation Centre (DEOC).

Incident Commander (IC) – Dean / Director

- **Pre-Disaster:** Authorizes safety resource allocations and signs structural clearance permits.
- **Emergency Phase:** Maintains singular policy control authority. Directs internal communications and interfaces directly with the regional Bumthang Dzongdag and DDMO.

Operations Desk – Senior Clinical Nursing Faculty

- **Tactical Control:** Directs all active field stabilization sectors at the main open muster site.
- **Response Infrastructure:** Manages the Search & Rescue (SAR) squad, Triage Area commanders, and evacuation tracking teams.

Logistics & Finance Desk – Administration Head

- **Supply Continuity:** Maintains locked life-support reserves, authorizes emergency spending protocols, and coordinates external backup utility deployments.

3. Targeted Egress & Evacuation Blueprints

Due to different building heights across the campus landscape, structural evacuation priorities must follow a strict, phased timeline to prevent congestion.

High-Density Multi-Tier Infrastructures (Boys & Girls Hostels - 2 Floors)

- **Exit Sequencing:** Stairwell pathways must remain completely free of obstacles (laundry infrastructure, student trunks). Upper floors have vertical egress priority.
- **Accountability Controls:** Hostel wardens execute door-to-door visual verification, lock room access bays post-exit to prevent re-entry, and carry physical clipboards containing matching residential logs.

Single-Tier Ground Structures (Academic Blocks, Labs, Administrative Spaces)

- **Lateral Egress:** Occupants immediately clear the structures horizontally through exit doors that swing outward, leading directly into the open central yard.

4. Hazard-Specific Standard Operating Procedures (SOPs)

SOP Protocol A: Structural Fire Event

- **1. Detection & Alarm Phase:** The individual discovering the flash must vocalize 'FIRE' locally and manually actuate the closest campus wall alarm point.
- **2. Containment Sequence:** Instructors exiting operational spaces must close structural doors behind the line of march to starve the internal space of air.
- **3. Marshalling:** All personnel move via designated pathways to the central Open Field Assembly Point near the access road.
- **4. Inter-Agency Relay:** The Operations Desk immediately contacts the Royal Bhutan Police Fire Brigade stationed at Bumthang.

SOP Protocol B: Seismic Motion Event

1. **Active Tremor Phase:** Execute 'DROP, COVER, AND HOLD ON'. Staff and students must seek shelter beneath heavy desks or adjacent to load-bearing columns. Stay away from windows and heavy laboratory equipment.
2. **Movement Constraint:** Do not run out of buildings during active structural movement due to the high risk of falling concrete or roofing materials.
3. **Post-Tremor Clearance:** Once movement ceases, execute a calm, orderly evacuation down staircases. Avoid using light switches or matching open flames due to potential gas line leaks.

5. Clinical Triage & Welfare Scaling (350-Member Capacity Matrix)

To sustain a static community footprint of 300 students and 50 faculty/staff members during a 72-hour isolation window, resources are calculated using strict emergency metrics:

Logistics Class	Calculated Minimum Allocation Metric	Institutional Storage Directive
Potable Hydration	3,150 Liters minimum total volume	Stored in sealed, food-grade containers within the secure ground depot (3L/person/day for 3 days).
Sustenance Packets	1050 Rations	Shelf-stable nutritional units maintained by the Logistics administrator.
Trauma Medical Kit	35-40-Casualty stabilization index	Clinical-grade trauma kits, stretchers, neck collars, and oxygen reserves managed by senior nursing instructors.
Accountability Tools	3 Distinct Waterproof Rosters	Split inventory system covering the Boys Hostel, Girls Hostel, and Day Faculty members respectively.

Nursing Academy Medical Triage System

Because the student body consists of trained nursing candidates, the Academy Operations Desk will organize advanced first-aid teams at the Muster Field. The field will be split into three designated zones:

- **Immediate Care Sector (Red):** For the management of severe airway, circulatory, or traumatic complications.
- **Delayed Care Sector (Yellow):** For stabilized fractures and large-surface skin or soft tissue injuries.
- **Minor Stabilization Care (Green):** For superficial wounds and psychological stress care.

6. Plan Maintenance & Drills

- **Simulation Intervals:** Mandatory campus-wide evacuation and structural fire tracking simulation exercises take place twice every academic year.

- **Curriculum Link:** Disaster triage protocols are integrated directly into clinical practical assessments for senior classes.
- **Revision Control:** The entire plan is updated every year to align with new updates from the regional Bumthang Dzongkhag Contingency framework.

1. Campus Context & Hazard Profile

This institutional framework is established in direct alignment with Section 77 of the Disaster Management Act of Bhutan 2013 and the localized Hazard, Vulnerability, and Capacity Assessment (HVCA) compiled by the Bumthang Dzongkhag Administration. The academy profile incorporates a maximum capacity load of 350 operational members (300 nursing students and 50 faculty/administrative staff).

Spatial Parameters: Geographical & Structural Layout Context:

- **Location:** The campus layout comprises mixed-risk high-density structures situated adjacent to Sonam Kinphen Road, Chamkhar, Bumthang.
- **Multi-Floor Hostels:** The student residential quarters (Separate Boys and Girls Hostels) are designated as multi-level configurations featuring two full structural floors (Ground + Upper Level). These serve as high-density concentration points.
- **Academic Block:** The remaining operational zones—including clinical laboratories, lecture spaces, administrative offices, and centralized dining utilities—are configured as single-floor, ground-level structures designed for direct outward egress.

Primary Institutional Hazard Matrix

- **Structural Fire (High Risk / Catastrophic Impact):** Highly probable during dry winter periods (December to March) due to heavy deployment of localized heating installations (Bhukhari units), intensive institutional electrical loads, and combustible interior configurations.
- **Earthquake (High Risk / Critical Impact):** Bumthang is positioned within a high-intensity seismic zone. Threats include immediate exit channel blocks, multi-tier hostel stairwell damage, and laboratory utility disruptions.
- **Windstorms & Severe Weather (High Risk / Medium Impact):** Frequent from December to May. High winds compromise traditional roof anchorage metrics and threaten overhead power and communication lines.

2. Institutional Incident Command System (ICS)

In the event of an emergency trigger, the academy shifts from administrative routines to an active Incident Management Team (IMT) chain of command:

- **Incident Commander (IC):** Assumed by the Academy Principal / Director. Holds ultimate authority for structural evacuation declarations, emergency logistics procurement overrides, and acts as the sole Public Information Officer (PIO) connecting with the Bumthang Dzongkhag Disaster Management Committee (DDMC).
- **Operations Desk Chief:** Assumed by Senior Clinical Nursing Faculty. Commands the physical deployment of campus emergency marshals, controls the assembly area triage sectors, and manages tactical rescue responses.
- **Logistics & Finance Chief:** Assumed by the Administrative and Accounts Division. Coordinates emergency supply releases, tracks resource allocations, maintains communication lines, and drives rapid building infrastructure restoration.

3. Senior Nursing Student Roles & Marshalling Structure

Given their specialized medical training, senior nursing students (Year 2/3 cohorts) are designated as critical tactical assets within the campus safety network. They bridge the gap between initial hazard impacts and the arrival of professional first responders from the Royal Bhutan Police (RBP) and medical units.

Floor Marshals & Stairwell Clearance Teams

- **Corridor Clearance:** Two senior students are pre-assigned to each corridor wing within the Boys and Girls multi-floor hostels.
- **Stairwell Flow Control:** Upon an alarm trigger, Marshals assume command of the exit channels, forcing an orderly, single-file line down the stairwells. They prevent high-density bottlenecking or crushing hazards.
- **Sweep Protocol:** Marshals execute a sweeping check of all living cubicles and washroom facilities only if safe to do so, ensuring no incapacitated individual is left behind, before securing the exit doors.

Clinical Assembly Triage Teams

Nursing students not allocated to structural evacuation marshalling are integrated into the Medical Services Group at the Central Assembly Field. They establish an institutional triage center divided into clinical color codes:

- **Red Sector (Immediate Life Threats):** Positioned at the forward margin of the assembly area. Senior students perform immediate life-saving stabilization (airway management, active hemorrhage containment) under faculty supervision.
- **Yellow Sector (Delayed Urgent Care):** Handles secondary traumatic injuries, localized fractures, and controlled open wounds requiring immobilization and basic splint dressings.
- **Green Sector (Minor / Psychological First Aid):** Manages the minor abrasion population and handles psychological first-aid deployments to mitigate group panic and stabilize acute stress reactions.

4. Weekly Safety & Infrastructure Checklist

To be executed every Friday morning by the designated Facility Logistics Officer alongside the Hostel Wardens. Completed logs must be digitally archived and made available for review by the Bumthang DDMO.

System Category	Specific Inspection Metric	Target Condition	Status (Y/N)
Evacuation Routes	Hostel stairwells, exit corridors, and academic block doorways	100% clear of personal lockers, clothes lines, laundry racks, or equipment boxes.	

Fire Containment	Manual alarms, corridor fire extinguishers, and laboratory blankets	Pressure gauges in optimal zones; pins intact; no storage obstructions.	
Utility Systems	Bhukhari stoves, main electrical breaker boards, and laboratory gas lines	No frayed wires, loose stove pipe couplings, or unanchored cylinders.	
Reserves & Stockpiles	72-Hour Depot: Potable water levels, medical supplies, and dry rations	Minimum 3,150L of water verified; medical trauma kits fully restocked.	
Emergency Access	Primary gates connecting campus field to Sonam Kinphen Road	Padlocks operational; keys present in emergency break-boxes; gate paths clear.	

5. Annual Institutional Drill & Simulation Schedule

Simulation routines follow a structured progressive timeline over the academic cycle to build automatic crisis habits across the 350 campus members without disrupting clinical instruction schedules.

Academic Quarter	Drill Focus & Type	Operational Objectives	Nodal Agency / Support
Quarter 1 (March)	Structural Fire & Rapid Evacuation Drill	Unannounced activation; full clearing of multi-floor hostels under 3 minutes; alignment of the 350 members at muster fields.	Academy IMT / Bumthang RBP Fire Division
Quarter 2 (June)	Seismic Simulation & Drop-Cover-Hold Routine	Testing internal structural sheltering within single-floor blocks; post-shake orderly hostel egress; roll-call accuracy.	Academy Operations Desk / Bumthang DDMO
Quarter 3 (September)	Mass Casualty Triage & Field Mobilization	Simulation of 40 active severe injuries; activation of student triage teams (Red/Yellow/Green); stabilization field setup.	Clinical Faculty / Bumthang Hospital Units
Quarter 4 (November)	Logistics Deployment & Winterization Audit	Testing emergency communication networks; physical release and distribution of the 72-hour welfare stockpiles.	Logistics Desk / Regional De-suups Coordinator

6. Scaled 72-Hour Crisis Inventory (350 Members)

The campus supply metrics are calculated based on international institutional safety benchmarks for a standalone 72-hour window before regional logistical lines are restored by the central government:

- **Potable Water Supply: 3,150 Liters** Calculated at a baseline of 3 liters per individual per day for 3 days. Maintained in the ground-floor administrative storage depot.
- **Emergency Nutrition:** 1,050 standalone units of high-calorie, shelf-stable, dry food packs checked monthly for expiration metrics.
- **Clinical Medical Kits:** 35-40 concurrent trauma cases capacity. Includes tactical tourniquets, compression wraps, stabilization splints, burn care dressings, and emergency oxygen tanks.

7. Primary Crisis Communication Directory

- **Regional Disaster Authorities:** Dasho Dzongdag (Chairperson, DDMC): 17920090
Dzongkhag Disaster Management Officer (DDMO): 17581681
- **Emergency Responders:** Royal Bhutan Police Command Line (SP, Bumthang): 17118003
Bumthang RBP Fire Brigade Station: 17118003 / 112
- **Healthcare Installations:** Chief Medical Officer (CMO): 17767720
Dzongkhag Health Officer (DHO): 17606306
- **Volunteer Support Networks:** Regional Coordinator Office: 17928070

8. Emergency Agency Directory

Keep this directory physically posted at administrative desks, the security gatehouse, and both hostel warden stations:

- **Bumthang Disaster Management Officer (DDMO):** 17581681
- **Royal Bhutan Police (Superintendent Office):** 17118003
- **Bumthang Hospital (Chief Medical Officer Line):** 17767720
- **Bumthang Hospital (Dzongkhag Health Officer):** 17606306
- **De-suung Regional Coordination Desk:** 17928070
- **YT Nursing Promoter (Mr. Tharchen):** 17126478
- **Dean of student affairs (Mr. Chencho Dorji):** 17698578

YT Nursing Academy

Chummy, Bumthang.