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## ୪୮. ଶିଦ୍ଧିତ୍ୱବିଦ୍ୟା

Department of Culture and Dzongkha Development  
Ministry of Home Affairs

# Standard Operating Procedure (SOP) Dzongkha Text-to-Speech (TTS) Audio Recording and Production

## 1. Purpose

This SOP outlines the standardized process, technical requirements, and quality assurance measures for recording, editing, and delivering high-quality Dzongkha Text-to-Speech (TTS) audio files to ensure consistency, clarity, and linguistic accuracy.

## 2. Scope of Services

1. The firm shall provide end-to-end Dzongkha TTS audio production services, recording, editing, quality assurance and final delivery.
2. Dzongkha text to be recorded will be in sentence format. Voice recording for individual sentences needs to be completed by the firm.
3. The recorded voice, for each sentence, needs to be edited for other noises and turned into a clear high-quality recording.
4. Each sentence voice recordings must be labeled as per the source text numbering format.
5. The deliverables will be high-quality audio recording with clear pronunciation and labelled as per Dzongkha text labelling.
6. The office will provide the Dzongkha text and the male or female cast whose voice will be recorded. Any payment for the text and cast will be borne by the office.
7. The firm must provide a recording hall for the cast to sit and record.

### 3. Service Requirements

The firm is required to provide the following services:

## 1. Recording and Editing

- Record Dzongkha TTS audio strictly as per the approved source text.
- Perform professional post-production editing, including:
  - Noise reduction,
  - Normalization,
  - Removal of errors, breaths, pops, and distortions.

## 2. Deliverables

- A total of 6,000 final audio files (Male 3000, Female 3000)
- Each audio file shall:
  - Be in WAV format (primary requirement).
  - Have an individual identification number corresponding exactly to the source text.
  - Match the file naming convention of the provided text files (one-to-one mapping).

### 3. File Naming Convention

- Audio file names must be identical to the text file names supplied.
- ~~No additional characters, spaces, or modifications are permitted.~~





#### 4. Work Requirements and Technical Specifications

##### a) Audio Format

- Primary format: WAV
- Optional preview format (if required): MP3
- MP3 bitrate: 320 kbps

##### b) Sampling Rate

- Minimum: 44.1 kHz
- Higher sampling rates are acceptable if consistent across all files.

##### c) Recording Environment

- Professionally soundproofed studio environment or of equivalent standards.
- Ambient noise must be negligible to none.
- No echo, hum, hiss, or background disturbances.

##### d) Audio Quality

- High-fidelity recording using professional-grade microphones and interfaces.
- Consistent volume levels across all recordings.
- No clipping, distortion, or compression artifacts.

#### 5. Quality Assurance and Review

- The firm shall conduct internal quality checks before submission.
- All audio files must be reviewed for:
  - Technical compliance,
  - Linguistic accuracy,
  - File naming correctness,
  - Completeness (no missing or duplicated files).
- Files not meeting the standards shall be re-recorded and corrected at no additional cost.

#### 6. Delivery and Submission

- All final audio files shall be delivered in an organized folder structure.
- Files must be grouped logically and labeled clearly.
- **A summary sheet listing:**
  - File names
  - Voice type (male/female)
  - Total number of files delivered shall accompany the submission.

#### 7. Compliance

- The firm must submit all voice folders and audio files as per the contract and within the given timeframe. Late submission or incomplete delivery will not be accepted and may require corrective action as per contractual provisions.
- Failure to adhere to this SOP may result in rejection of deliverables and request for re-recording to meet the required standards.



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## 8. Recording Duration and Final Submission.

### Overall Duration

The total duration for completion of the assignment shall be **one month** from the date of contract signing or issuance of the work order.

### Recording Phase

The firm shall complete the audio recording within one week, including voice artist coordination and studio recording, in accordance with the approved source text and technical specifications.

### Post-Production and Finalization Phase

The remaining three weeks shall be allocated for editing, quality assurance, file naming verification, linguistic checks, and other necessary post-production works to ensure full compliance with the contractual and technical requirements.

### Final Submission

All finalized voice folders and audio files must be submitted within the one-month project period, as per the contract and stipulated terms.

