



EA Report on Timber Harvesting in FMUs & WSs April 2014

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Audit Objectives

- The RAA planned to examine whether timber harvesting operations conform to practices enabling sustainable harvesting and ecosystem management in FMUs & WSs;
- It is in this respect that the Royal Audit Authority set the following audit objectives:
 - ✓ To evaluate the effectiveness of plans and regulations in sustaining the forest resources in Forest Management Units (FMUs) and Working Schemes (WSs); and
 - ✓ To determine whether the timber harvesting operation is undertaken in a sustainable manner, giving due consideration to the environment and ecosystem.

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- 1) The Blue Pine species was found to be dominant, and demonstrating fast colonization and disturbing native species composition mostly in mixed conifer and fir forests;
 - 2) The condition of most fir forests in Bhutan is unfavorable as most available stocks in FMUs were either matured, diseased or in dying stage. Often, there was little or no regeneration of fir;
 - 3) The natural regeneration of broadleaved forests is challenged by limited understanding of the complex regeneration dynamics, and a rampant grazing problem in the areas;

- 4) Directional tree felling techniques that are vital for felling of trees in desired direction to maximize volume of commercially viable timber and minimize threats were executed properly;
- 5) Some of the designated areas under FMUs and WSs were found to be over-lapping with protected areas like national parks, nature reserves, and wildlife sanctuaries intend to protect important ecosystems and community forests;
- 6) There Forest Management Plans had inadequacies:
 - preparation of plans by individual planners rather than a team; and
 - lack of tentative schedule of management activities.

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- A small, grey, three-dimensional sphere icon is positioned to the left of the first list item.
- 7) Impact Assessment on flora & fauna or forest eco-system was not carried out. The timber harvest operation is likely to alter the quantity, quality, and distribution of flora & fauna habitat;
 - 8) Mutual understanding on standards, criteria and benchmarks on coupe clearance requirements between the DoFPS and the NRDCL was generally lacking;
 - 9) The monitoring & evaluation forms prescribed in the Forest Management Code of Bhutan were not fully maintained which may provide necessary basis and information for future planning and decision makings;

Findings

- 10) Some violations of the terms and conditions of the clearances issued by National Environment Commission Secretariat (NECS) were noted during the field visits, but it had not resulted in revocation of the clearances indicating inadequate monitoring by the NECS;
- 11) Occupational Health and Safety (OHS) measures were not adequately implemented at harvesting sites. There were several incidences of workers handling unsafe activities without basic safety gears; and
- 12) A review of the list of logging machineries revealed that some of logging machineries were as old as twenty years, posing serious hazards to operators and those working in the vicinity without proper safety gears.

Recommendations

- ❖ Based on well researched forest succession trends, the DoFPS needs to fit in appropriate prescriptions to guide tree species composition and maintaining healthy and native tree species composition;
- ❖ Robust management prescription should be provided to ensure successful regeneration of fir forests after harvest;
- ❖ Monitoring by the DoFPS in harvest operations needs to be strengthened and prescribed monitoring & evaluation forms of the Forest Management Code of Bhutan should be fully maintained and documented;
- ❖ Monitoring on compliances to clearance terms & conditions should be ensured by the NECS;

Recommendations

- ❖ Vigorous regeneration strategies, treatments and planning needs to be prescribed for broadleaved forests particularly in cases where regenerations were not effective;
- ❖ The issue of intersection or overlapping of FMUs areas with protected areas and community forests should be sorted out with appropriate authority;
- ❖ Preparation of forest management plans by individual planner should be discouraged. Plans should be prepared through involvement of a team or collective efforts;
- ❖ Tentative schedule of harvest, regeneration and other crucial management activities should be prescribed in the FMPs;

Recommendations

- ❖ Use of old heavy machineries and equipment should be discouraged to ensure safety of operators and those working in the vicinity;
- ❖ Occupational Health and Safety (OHS) measures should be implemented and use of safety gears in field should be supervised and monitored;
- ❖ Mutual understanding on standards, criteria and benchmarks on coupe clearance requirements between the DoFPS and the NRDCL should be established; and
- ❖ Post-Impact Assessments of few pre-selected major harvesting activities with immense foreseen threats to the environment and ecology should be carried out.



Thank you.