Circular 38/2007/TT-BTT forest inventory concept

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Section II
Process and procedure of forest allocation

1. Forest allocation

❑ The State allocates forest without collecting fee:

↳ To allocate protection forest to a community, household, individuals who are living in the forest area;

↳ To allocate production forest (planted or natural) to a community, household, individuals who are living in the forest area;

Section II

4. Process and procedure on FA to communities

❑ Communities have to develop a forest management plan

❑ District functional office has responsibility:

↳ To specify characteristic of forests to be allocated

↳ After receiving forests, community has responsibility to demarcate boundaries with the attendance of representative of CPC and neighbouring forest owners

Section V
Specify forest characteristics

1. Position, boundary of forest area

- By administrative unit name, compartment, sub-compartment
- Forest area boundary identified on the map and in the field clear, visible and permanent.
-Administrative map VN 2000 supplied by DoNRE scale 1/5.000, 1/10.000 or 1/25.000 .

2. Forest type

-Following three type for forest classification

3. Forest area

- For each forest type

Section V
Specify forest characteristics

4. Forest stage

- If available aerial photo or satellite image used to identify forest stage through image interpretation and ground check.
-If no image available ground survey is required for all stands

5. Forest volume

a) For all existing forest ≥IIa,b
b) For each stand separately
d) Inventory concept and reporting see Annex 7

ANNEX 7

- Measurement of forest characteristics conducted by professional consultant;

- PPC and DPC shall decide which consultant organization and inform DARD and district agencies to attend.

- Assigned consultant must inform and permit involved organizations, households, individuals and communities to take part in process of defining forest characteristics.

- Borders of forest stands, blocks and individual forest owners must be permanently marked.

I. Definition of forest area

- ❑ Each forest block in a forest unit has to be measured.
- ❑ Small areas: Use of GPS hand receiver or measuring tape and hand-held compass
- ❑ Large areas: Use of aerial or satellite images
- ❑ Allowable deviation: The deviation between the total block area and the total compartments area must be less than 1/100; between the total compartments area and the total forest unit must be less than 1/50.
- ❑ Unit: hectare with 3 figures after the decimal point

II. Definition of sample intensity

Sample intensity:

Establishment of typical sample plots: Select 3 points in each forest block that represent the respective topography, situation of growth in order to establish 3 sample plots for the definition of standing volume.

This method is applied for production forests of small area which are plantation forest or natural forest.

The number of sample plots is calculated by using the following formula:

$$ni = \frac{4Ci^2}{\Delta i^2}$$

III. Defining plot layout

Sample plot layout:

In evergreen/semi-evergreen forest use standard plot of 500m², rectangular (20mx25m) or circle (radius of 12.6m)

- ❑ Plantation forest: trees ≥ 5 cm bdh; class width of 1cm
- ❑ Natural forest: trees ≥ 5 cm bdh; class width of 2cm
- ❑ Bamboo forest: trees ≥ 2 cm bdh; class width of 1cm

IV. Definition tree quality

Quality classes:

A: is a well - growing tree having good-looking, round and long under-branches stem without swollen knots or defects

B: is a medium - growing tree having an inconsiderable number of swollen knots, defects or pestilent diseases, and 50 – 70 % of its stem volume can be used

C: poor growth, crooked and diseased stem or topless and hollow stem, only < 50 % of its stem volume can be used.

❑ Define forest canopy layers: 1layer, 2 layers, 3 layers

V. Measurement of tree height

Technical options:

A) By the formula GxHxF - all tree heights to be measured

B) 2 factor equation FIPI - 3 trees with normal growth condition near the center of sample plot measured (min. 30 plots per forest status)

C) Six-tree sample method

VI. Definition stand volume

Calculation of standing volume:

A) G*H*f

B) Table of stem volume calculation with two factors

C) Stem weight calculation table (mainly bamboo).

❑ Coefficient F is 0.45 applied to natural forest and 0.50 applied to plantation forest.

❑ Standing volume of forest is calculated for each individual block to obtain an average data of each forest state and total standing volume of the entire forest area.

Proposed technical adjustments

Circular 38/2007/TT-BTT	Proposed technical concept
Involvement of local people in assessment of forest characteristics	Measure team: 1 recorder (technician) 2 local people (tree measurer)
Measurement of tree diameter	Adjusted girth measure tape with diameter classes
Rectangular plot size 20x25m	•Plot layout along transect line and nylon ropes • Slope correction in hilly areas
Measure tree height of 3 trees close to plot center	Spread measurements over all diameter classes to ensure good data for non-linear regression
Systemtic sample	Use GPS to identify plot location in the field
Develop 2 factor height equation	Automatic procedure using DataFit software
Develop forest characteristics for each stand	Automatic procedure using Excel database
Community responsible to write management plan	Stem number concept as applied in 40 commune CFM pilot and other ODA projects in Vietnam