Assessment of Chokhatauri Forests Against SFM Criteria & Indicators  
(MCPFE, 2002a)

Criterion 1: Maintenance and appropriate enhancement of forest resources and their contribution to global carbon cycles

<table>
<thead>
<tr>
<th>1.1 Forest area</th>
<th>Total forest and forest lands area is decreased by 9%. According to 2003 year data the area was 57244 hectares which decreased by 5329 ha. Forest cover in municipality is 60.7% of the total municipality territory.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 Growing Stock</td>
<td>Decreased by 8% in comparison to 2003 year data</td>
</tr>
</tbody>
</table>
| 1.3 Age structure and/or diameter distribution | Forests became younger by 26 year, share of mature and over mature stands decreased by 9099 ha, accordingly decreased number of bigger diameter trees. Uneven distribution by age classes is obvious:  
  Young stands - 8%  
  Middle age - 50%  
  Maturing - 16%  
  Mature and over mature - 26%. |
| 1.4 Forest carbon | Decreased by 407,2 thousand tones |
Criterion 1: Maintenance and appropriate enhancement of forest resources and their contribution to global carbon cycles
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- Criterion 1: Maintenance and appropriate enhancement of forest resources and their contribution to global carbon cycles

![Diagram showing changes of average age per species from 2003 to 2017]
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Criterion 1: Maintenance and appropriate enhancement of forest resources and their contribution to global carbon cycles

Total Area changes from 2003 to 2017

2017 Total ha 2003 Total ha change Total ha
Criterion 1: Maintenance and appropriate enhancement of forest resources and their contribution to global carbon cycles

<table>
<thead>
<tr>
<th>Species</th>
<th>Accumulated carbon(C) thousand tone</th>
<th>Accumulated carbon(C) 1988</th>
<th>Absorption of CO2 Th. tone total</th>
<th>Absorption of CO2 tone per 1 ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coniferous 1988</td>
<td>1173</td>
<td>143</td>
<td>4301</td>
<td>524</td>
</tr>
<tr>
<td>Coniferous 2017</td>
<td>959</td>
<td>123.3</td>
<td>3516</td>
<td>452</td>
</tr>
<tr>
<td>Difference</td>
<td>-214</td>
<td>-19.7</td>
<td>-785</td>
<td>-72</td>
</tr>
<tr>
<td>Broadleaved 1988</td>
<td>3411.6</td>
<td>72</td>
<td>12509</td>
<td>264</td>
</tr>
<tr>
<td>Broadleaved 2017</td>
<td>3218.4</td>
<td>67</td>
<td>11800</td>
<td>245</td>
</tr>
<tr>
<td>Difference</td>
<td>-193.2</td>
<td>-5</td>
<td>-709</td>
<td>-19</td>
</tr>
<tr>
<td>Total forest 1988</td>
<td>4584.6</td>
<td>82.1</td>
<td>16810</td>
<td>301</td>
</tr>
<tr>
<td>Total forest 2017</td>
<td>4177.4</td>
<td>74.8</td>
<td>15317</td>
<td>274</td>
</tr>
<tr>
<td>Total difference</td>
<td>-407.2</td>
<td>-7.3</td>
<td>-1493</td>
<td>-27</td>
</tr>
</tbody>
</table>
Assessment of Chokhatauri Forests Against SFM Criteria & Indicators (MCPFE, 2002a)

Criterion 2: Maintenance of forest ecosystems’ health and vitality

| 2.1 Deposition and concentration of air pollutants | Absorption of CO2 is decreased by 1493 thousand tones |
| 2.4 Forest damage | 2023 ha of chestnut forests are totally damaged by *Cryphonectria parasitica* |
Assessment of Chokhatauri Forests Against SFM Criteria & Indicators (MCPFE, 2002a)

Criterion 2: Maintenance of forest ecosystems’ health and vitality

Changes of Average Density from 2003 to 2017

- Caucasian pine
- Caucasian spruce
- Caucasian fir
- Georgian oak
- Oriental beech
- Caucasian hornbeam
- Maple
- Mountain Ash
- Sweet Chestnut
- False Acacia
- Wild Cherry
- Common walnut
- Pyrus
- Morus
- Aspen (poplar)
- Caucasian ash
tilia
- Oriental Oak
- Cherry laurel
- Rhododendron
- Rhododendron
- Tamarow’s birch
- Tung oil tree
- Tree of heaven (platanus)
Assessment of Chokhatauri forests against SFM Criteria & Indicators (MCPFE, 2002a)

Criterion 3: Maintenance and encouragement of productive functions of forests

<table>
<thead>
<tr>
<th>3.1 Increment and fellings</th>
<th>Mean increment is decreased 19 thousand cub. meter</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2 Roundwood</td>
<td>Roundwood is mainly produced at the licensed area in amount of 7 thousand c.m. Demand for fire wood is approximately 34 thousand c.m.</td>
</tr>
<tr>
<td>3.5 Forests under the management plan</td>
<td>Last management plan for the target areas was prepared in 1988. No update since that period</td>
</tr>
</tbody>
</table>
Criterion 3: Maintenance and encouragement of productive functions of forests

- Different types of forest cut is planned on 10% of the total forest area
- 91% of total annual harvesting volume is 77,460 thousand cubic meters
- Harvesting volume is considered for removal of wood waste

Distribution by cut types:

- Final felling
- Sanitary cut
- Special cut
- Thinnings
- Reconstruction cut
- Removal of wood waste
Assessment of Chokhatauri Forests Against SFM Criteria & Indicators (MCPFE, 2002a)

Criterion 4: Maintenance, conservation and appropriate enhancement of **biological diversity** in forest ecosystems

| 4.1 Diversity of tree species | Mainly saved, though it is obvious that some species (morus, pyrus and wild cherry) are under the threat |
| 4.2 Regeneration | Natural regeneration of main tree species is not satisfactory |
| 4.3 Introduced tree species | Areas covered by introduced tree species (tung oil tree and ailanthus) is significantly increased |
| 4.4 Dead wood | Dead wood in the forest is much more than it is required by international standards (4-5 cubic meter per 1 ha) |
| 4.7 Threatened species | Areas covered by Red List species Chestnut (*Castanea sativa*) and wild cherry (*Cerasus avium*) are significantly decreased. The same trend is with the main tree species (beech, fir and spruce) |
| 4.8 Protected forests | No protected category forest (in accordance to Protected Areas law) on the territory |
Assessment of Chokhatauri Forests Against SFM Criteria & Indicators (MCPFE, 2002a)

Criterion 5: Maintenance and appropriate enhancement of protective functions of forest

5.1 Protective forests - soil, water and other

More than 80% of the target forests are allocated to different protective functions
## Criterion 6: Maintenance of other socio-economic functions and conditions

<table>
<thead>
<tr>
<th>6.1 Forest Holdings</th>
<th>All forests are state owned, on part (about 8 thousand hectares) are under 20-year use license</th>
</tr>
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<tbody>
<tr>
<td>6.5 Forest sector workforce</td>
<td>There are 20 permanent staff (1 head of Chokhatauri forest unit and 19 Rangers) employed by Regional office of NFA. Approximately 60 persons might be employed by 10 primary wood processing factories registered in Municipality</td>
</tr>
<tr>
<td>6.9 Wood energy</td>
<td>According to World Bank study wood use for energy in total energy balance of the Municipality may achieve 70-80 %</td>
</tr>
</tbody>
</table>
Strategic Vision for SFM in Chokhatauri Forest

- Improvement of forests ecological stability, including resilience to climate change
- Biodiversity conservation and enhancement
- Increase of forest economic potential
- Strengthening of the role of forests in social environment
Strategic Vision for SFM in Chokhatauri Forest

Improvement of forests ecological stability, including resilience to climate change

- Increase potential of carbon sequestration through the establishment (afforestation/reforestation) resilient to climate change forest stands
- Conservation of carbon sink through SFM, in particular through effective control of forest fires and pest and diseases
- Adapted to climate change land use planning and management
Strategic Vision for SFM in Chokhatauri Forest

Biodiversity conservation and enhancement

- Conservation of species under threat (in-situ, ex-situ)
- Control of spread of invasive species
- Identification of key species and habitats and enhancement of their conservation
Strategic Vision for SFM in Chokhatauri Forest

Increase of forest economic potential

- Development of multipurpose use of forest resources, including establishment of first protected area in the region based on Pontic Oak forest stands
- Develop new technologies for diversified use of total wood biomas (e.g. wood pellets and briquettes)
Strategic Vision for SFM in Chokhatauri Forest

Strengthening of the role of forests in social environment

- Through development of multipurpose forestry establishment of alternative employment opportunities for local population
- Establishment of sustainable fire wood use practice