Indicator description	**Number of hectares where deforestation and degradation have been avoided through DFID support**
Type of indicator	Cumulative
Technical definition summary	This indicator will aggregate: a. the number of hectares where deforestation has been avoided; b. the number of hectares where forest degradation has been avoided; c. the number of hectares where afforestation has taken place; and d. the number of hectares where reforestation has taken place. The indicator will be measured though the annual monitoring and evaluation of bilateral forestry programmes and multilateral programmes funded by the UK under the International Climate Fund (ICF). The following document, saved on QUEST, has been constructed to help with this exercise: Data collection tool for hectares indicator. Deforestation, degradation, afforestation and reforestation of land are defined according to changes in forest type or land use, as categorised by the UN Food and Agriculture Organisation (FAO). These changes can be recorded by programme managers using the accompanying Excel template. The categorisations of forest types, land uses and degradation levels can be found at: http://www.fao.org/tc/exact/user-guides/en/ Programme managers should proceed in three stages: **Step 1**: Establish the counterfactual: what is the expected land use in the absence of the intervention? **Step 2:** Estimate the impact of the intervention: what is the expected land use after the intervention? **Step 3**: Calculate the difference between counterfactual and intervention. Because of the risks of leakage[1] and non-permanence[2], programme managers should in the first instance identify: (i) the geographical scope of programme (size of programme area) and (ii) the time-frame over which they expect the programme to have an impact. **Step 1: Establishing the Counterfactual** This step involves establishing the expected land use in the absence of the intervention. The first stage is to establish the current size and type of forested area

[1] Simply displacing deforestation into other areas.
[2] The reoccurrence of deforestation as soon as the programme ends.

	affected by the intervention. Key data sources here are the national and sub-national data on forest coverage in the Food and Agriculture Organisation (FAO)'s Global Forest Resources Assessment (FRA)[3]. An alternative would be to conduct a baseline specifically for the intervention. Forest type should be categorised according to the categories in the excel sheet. The programme manager should then estimate the expected changes in land use that would result in the absence of the programme, accounting for other deforestation pressures such as population growth, international timber prices, prices of substitutes, etc. • **Deforestation**: the number of hectares (within project area) where wood will be harvested in absence of intervention (in the reporting year) • **Degradation**: the number of hectares (within project area) where forest land will be degraded without the intervention (in reporting year) • **Afforestation**: the number of hectares (within project area) where forests will be planted, on previously unforested land, without the intervention (in reporting year) • **Reforestation:** the number of hectares (within project area) where forests will be replanted, on previously forested land, without the intervention (in reporting year) The counterfactual involves identifying the most likely economic activity on the land in the absence of an intervention. For example the programme manager may want to consider: • For natural forest land, is there pressure from agricultural expansion to convert it to cropland? • For degraded land, is there pressure from palm oil expansion to convert it into a palm oil plantation? • For deforested land, are there plans to reforest it or construct buildings to settle permanently? In the absence of local information, national rates of deforestation can be used to estimate the counterfactual land use. However, it is important to adapt these national rates if rates of land-use change are occurring at different speeds throughout the country. For example, some regions are experiencing fast deforestation due to easy access while others are still remote and therefore intact, e.g. inner versus outer Amazon regions. **Step 2: Estimating the impact of the intervention**

[3] See http://www.fao.org/forestry/fra/fra2010/en/. This is produced every 5 years through national reports. Contact details are available of officers who compiled the information and who may have more disaggregated data for their countries (http://www.fao.org/forestry/fra/67090/en/idn/).

	This step is about the change in land use after the intervention. • **Deforestation**: the number of hectares (within project area) where wood was harvested (in the reporting year)) • **Degradation**: the number of hectares (within project area) where forest land was degraded (in reporting year) • **Afforestation**: the number of hectares (within project area) where forests were planted (in reporting year) • **Reforestation**: the number of hectares (within project area) where forests were replanted (in reporting year) **Step 3: Difference between counterfactual and actual** To calculate the total number of hectares figure, the programme managers should do the following calculation: (Expected ha deforested under counterfactual) – (Actual ha deforested) + (Expected ha degraded under counterfactual) – (Actual ha degraded) + (Actual ha afforested) – (Expected ha afforested under counterfactual) + (Actual ha reforested) – (Expected ha reforested under counterfactual) Key programmes which are expected to report against this indicator (and in turn be aggregated in order to calculate the headline 'total hectares' figure) include: • Forestry and Climate Change (DFID Climate and Environment Department, CED) • Forests, Governance, Markets and Climate (DFID CED) • Nepal Multi-Stakeholder Forestry Programme (DFID Nepal) • Reducing Deforestation in the Brazilian Cerrado (DEFRA) • South Asia Alliance for Climate Resilient Landscapes and Livelihoods (DFID Asia Regional Office) • Forests Investment Programme (multilateral programme managed by the World Bank) • Papua Comprehensive Programme on Spatial Planning and Low Carbon Development (DFID Indonesia) These programmes have been selected on the basis that they have already included some form of 'number of hectares' target in their Business Case or Strategic Case. **Additional contributions to this result/indicator from other programmes not listed here, or developed in the future, will subsequently be added to the list.** A simplified version of the reporting format from the UN FAO Carbon Balance tool (FAO EX ACT[4]) will be used as a template for programme

[4] http://www.fao.org/tc/exact/ex-act-tool/en/

	data collection[5]. This reporting format will also collect the data needed to calculate greenhouse gas emissions and the value of ecosystem services (reported under separate indicators). Programme managers will identify the most appropriate source of data, as there may be reliable data provided by national bodies or other international bodies. In some cases where interventions are location specific (in particular under Forests and Climate Change), the data will be collected from project level surveys. In other cases (for example, the Brazilian Cerrado programme and the South Asia Alliance for Climate Resilient Landscapes and Livelihoods) data from national forestry inventories will be used alongside programme survey data. DFID's corporate results framework only relates to DFID spend, not the wider ICF. Where a project or programme is co-funded with other departments, the number of hectares avoided will be attributed to DFID on a pro-rata basis according to contribution to specific programmes. However, as this indicator will also be used for ICF reporting, where it is possible to measure results from DECC and/or DEFRA reporting this should also be noted, so as to avoid a repeat exercise to generate the required data for the ICF Board. Some programmes will be able to report against multiple ICF indicators. For example, the Forest Investment Programme will also be expected to report on the indicator: 'millions of tons of CO2 emissions reduced as a result of reduced deforestation and degradation'. The CO2 figure is based on a hectares calculation, which will be used to inform this indicator. For multilateral programmes (e.g. the Forests Investment Programme) it will also be necessary to adjust the total number of hectares saved on a pro-rata basis and account for the ICF's contribution to the programme. It will be important to be clear about the funding channel through which results are secured, as results generated through multilateral funding may need to be reported slightly differently (e.g. using the multilateral fund's indicators and methodologies where these are compatible with, but not necessarily identical to, DFID's indicator). **Methodological points to note:** 1. This indicator does not measure changes in the international rate of deforestation and degradation as measured every five years by the FAO. UK spending is not thought to be sufficiently large that changes in international rates could be **directly attributed** to UK programmes. The 'number of hectares where deforestation and degradation has been avoided' is **designed to express UK contribution towards decreasing international trends.** 2. A hectare of avoided deforestation, of afforestation, or of avoided

[5] QUEST link: Data collection tool for hectares indicator

	degradation is treated with equal weight in the indicator calculation. Therefore this indicator **measures the absolute number of hectares of land** in which our programmes have been engaged. The impact of changes in forest quality will be measured within the greenhouse gas emissions and value of ecosystems indicators. 3. This indicator is reporting a gross figure. It does not directly measure leakage (for example, shutting down illegal logging in one region or country could simply displace companies to another area with weaker governance structures in place). More work will be done to ensure that programmes **measure leakage** through complementary programme level indicators as part of programme monitoring and evaluation. 4. Expected results (the target number of hectares that will be saved) will be calculated as the sum of the expected results from each of the contributing programmes. These should be in line with the economic assessment section of the programme Business Case. It may not be possible to estimate the target hectares saved for the whole ICF until all Business Cases have been completed and all programmes have established a baseline. 5. To date there is no standard methodology for modelling future rates of deforestation/degradation, and there are serious data limitations in many developing countries. Subsequently, a consistent methodology is being refined by CED and programmes will contribute to this process during the next Results Commission starting in February. Generally, programmes are expected to follow the methodology outlined above, but if this is not suited to their individual circumstances, they will devise an alternative methodology that CED will quality assure and standardise to contribute to the indicator. 6. Once the methodology has been refined and tested, CED will provide a worked example for successful reporting against this indicator.
Rationale	The aims of the UK's forest finance are to reduce greenhouse gas emissions from the forest sector, preserve bio-diversity and reduce poverty by reducing deforestation and forest degradation. This indicator will provide a broad measure of success against the headline forestry outcome of reduced deforestation and degradation of the world's forest land. Programme data will be used as opposed to international forestry data (available from the UN FAO) for the following reasons: • FAO data is only reported once every five years (though in the future this will be every three years) which is not thought to be sufficiently frequent for DFID reporting purposes; • As discussed in 'technical definition/methodology' section above, UK

	spending is not thought to be sufficiently large that changes in international rates could be reasonably **attributed** to UK programmes. It is reasonable to expect that **international rates of deforestation could go up as well as down** (for example, due to natural disasters or increases in productive industries using forest land). However, CED and cross-Whitehall colleagues plan to monitor international forestry trends reported by the FAO in order to triangulate project monitoring and evaluation data. Defra is also looking at ways in which satellite data could be used to measure changes in land use.
Data calculation and guidance	Aggregation of the total number of hectares of forest land where deforestation and degradation have been avoided in the seven selected programmes (and any other relevant ICF programmes developed).
Data source	Programme annual monitoring and evaluation data. For example, for the above identified programmes: • *Forestry and Climate Change*: To be finalised as part of the programme Business Case but likely to be based on estimates of avoided deforestation and degradation in the specific (localised) interventions made by the delivery body. Deforestation and degradation gains made through private finance leverage should be calculated pro-rata (for example, if 100 hectares saved, and private funders put in 75% of the finance, then HMG can claim to have saved 25 hectares). • *Nepal Multi-Stakeholder Forestry Programme; Reducing Deforestation in the Brazilian Cerrado; South Asia Alliance for Climate Resilient Landscapes and Livelihoods*: Changes in the amount of forest land (FAO definition and methodology) based on country forestry inventories where possible, and survey data collected from programme areas. Data can also be triangulated in some countries using information from the World Resources Institute. • *Forests, Governance, Markets and Climate*: More work to be done to finalise methodology but data likely to be drawn from country forestry inventories, timber trade, forestry revenues and information on trends in illegal logging. • *Forests Investment Programme (multilateral):* Calculated by the World Bank as part of programme reporting, based on national forestry inventories. Programme annual monitoring and evaluation data from relevant programmes, including those identified above. Some of these programmes (notably Forests and Climate Change) are still under development. Assuming that all pipeline programmes are approved, the seven programmes identified above will have a total **forestry** spend of

	£377 million over the ICF period (2011/12 – 2014/15). This represents 65% of the total programmed and pipeline ICF forestry spending[6]. The seven programmes that have been identified to feed into this indicator all directly tackle the drivers of deforestation and degradation in specific countries. Other forestry programmes that build national institutional capacity or develop knowledge and tools for forestry have not been included here because it is difficult to measure their impact on the number of hectares saved from deforestation and degradation.
Reporting roles	DFID Country Offices select the most relevant data and calculations and submit these to DFID.
Worked examples	See Technical Definition Summary
Baseline data	As part of programme monitoring and evaluation frameworks, programme officers will be required to submit: (i) a baseline level of deforestation, afforestation or forest degradation in the programme area or country where relevant; and (ii) an estimate of the 'business as usual' (or counterfactual) scenario that would occur if the programme did not take place. The counterfactual involves identifying the most likely outcome and economic activity on the land in the absence of an intervention. This information should be consistent with the economic options appraisal in the Business Case for the relevant programmes.
Return format	Number.
Data disaggregation	A total ICF figure will be reported but it will also be possible to report the number of hectares where deforestation and degradation has been avoided by country.
Data availability	Annual monitoring and evaluation reporting from relevant programmes (at a minimum the six identified above). More work needs to be undertaken at a programme level in order to identify the specific methodologies that will be used to calculate the baseline and counterfactual scenario in each intervention country. In particular CED will work to develop the reporting methodology under the Forests and Climate Change programme as part of the Business Case process. This programme at £290 million (£261 million is forestry spend) comprises 45% of the programmed and pipeline **forestry** spend under the ICF. Additional thought will be given to the methodology behind the hectares indicator for the Forests, Governance, Markets and Climate programme as this programme will have global rather than location specific impacts. Some countries have better land use monitoring systems and forestry inventories in place than others (for example, Brazil is likely to be fairly

[6] Based on total forestry ICF pipeline and programmed spend, including £131 million forestry contribution to The Green Fund.

	sophisticated whereas the Democratic Republic of Congo will have relatively basic systems). All countries report to the FAO Global Forests Resources Assessment[7] in a standardised format. Data on the number of hectares classed as 'forest land' (FAO definition) should therefore be obtainable from national government sources. Again, data quality will vary from country to country
Time period/lag	Programme managers should report the number of hectares where deforestation and degradation were avoided in the preceding year. Results will be compared to international changes in the area of forest land in intervention countries, as reported by the UN FAO on a five yearly basis.
Quality assurance measures	We anticipate three layers of QA: country offices, CED and FCPD. Within country offices there may need to be consultation with other donors working in the forestry sector.
Interpretation of results	This indicator should report a decrease in the total hectares of forest land deforested and/or degraded, while increasing the total hectares reforested or afforested. This indicator will report these two values combined so a positive value shows the number of hectares where deforestation and degradation have been avoided through DFID support.
Data quality	This output indicator is relevant to measuring DFID's public commitment to give more protection to the world's forests and the 1.2 billion people who depend on them. It aims to provide an easily understood high level figure relating to the number of hectares of forest where deforestation and degradation have been avoided. The indicator has proven difficult to apply in practice with only one programme in Nepal able to report progress so far – data quality for this programme is accurate. Many of DFID's forestry's programmes are not designed to plant trees or protect specific areas of forest from deforestation and degradation. Instead, the majority work on a range of governance and capacity building issues, many at international level. It is therefore particularly challenging to infer a direct causal link between our collaborative efforts in policy, legal reform, forest governance and knowledge across many regions, and avoided deforestation or degradation. An evaluation of the methodology for this indicator is being carried out by the University of Edinburgh, which includes the provision of advice and guidance on alternative methodologies that will enable programmes to report against this indicator in a cost effective way. The development of this indicator will be progressed further through the soon to be launched Results, Evidence and Knowledge of the International Climate Fund Programme. There is currently no international consensus on a suitable methodology to measure the number of hectares where deforestation and degradation have been avoided through interventions.
Additional	CED will undertake more work to identify a basket of indicators under

[7] http://www.fao.org/forestry/fra/en/

comments	each programme that will address some of the limitations of this headline indicator. In particular, programmes should seek to identify: • Changes in the quality of forest land, as reflected by biodiversity, ecosystem services and CO2 sequestration levels. • Measures of leakage – i.e. where deforestation and degradation have been avoided in intervention areas, has deforestation and degradation increased elsewhere? • Measures of permanence – will the reported results be undermined by an increase in deforestation at a later point in time? CED is also monitoring international trends in deforestation rates, which are reported every five years by the UN FAO Forests Resources Assessment. **In the future, we would like to improve this indicator by:** • Using satellite data to accurately measure changes in forest land and quality of forest land in intervention countries. Satellite data will also help us identify leakage. • Working with international experts such as the FAO, World Bank Forests Investment Programme staff, World Resources Institute, and the Government of Norway to develop more sophisticated methodologies and improved national forestry inventories.
Variations from the standard methodology	Please see the section on data sources above for more information on the different approaches taken by different programmes.