PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL-SIZED PROJECT
TYPE OF TRUST FUND: GEF TRUST FUND

PART I: PROJECT INFORMATION

Project Title:	**GLOBAL FOREST WATCH 2.0 (GFW 2.0)**		
Countries:	Global – Madagascar, Georgia[1]	**GEF Project ID:**	**5356**
GEF Agency:	UNEP	**GEF Agency Project ID:**	1087
Other Executing Partners:	World Resources Institute (Leading all GFW2.0 partners), Ministry of Environment Protection of Georgia, Ministry of Environment and Forests of Madagascar	**Submission Date:**	15/04/2013
GEF Focal Area:	Multi-focal area (BD, CC)	**Project Duration(Months)**	36
Name of parent program:	SMF/REDD+	**Agency Fee (US$):**	**507,534**

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK:

Focal Area Objectives	Trust Fund	Indicative Grant Financing ($)	Indicative Co-financing ($)
BD 2: Mainstream Biodiversity conservation and sustainable land use into production landscapes, seascapes and sectors - Outcome 2.1 – Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation – Output 2. National and sub-national land use plans that incorporate biodiversity conservation and ecosystem services valuation.	GEF TF	1,780,822	10,000,000
LD 3: reduce pressures on natural resources from competing land uses in the wider landscapes - Outcome 3.1 enhanced cross-sector enabling environment for integrated landscape management – Output 3.1: integrated land management plans developed and implemented	GEF TF	890,411	6,000,000
CCM 5: Promote conservation and enhancement of carbon stocks through sustainable management of land use, land-use change and forestry - Outcome 5.1 Good management practices in LULUCF adopted both within forests and in the wider landscapes – and Outcome 5.3 GHG emissions avoided and carbon sequestered	GEF TF	1,335,616	17,000,000
SFM/REDD+ 1: Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services - Outcome 1.1 - Enhanced enabling environment within the forest sector and across sectors	GEF TF	445,205	15,300,000
SFM/REDD+ 2: Strengthen the enabling environment to reduce GHG emissions from deforestation and forest degradation and enhance carbon sinks from LULUCF activities - Outcome 2.1 Enhanced institutional capacity to account for GHG emissions reductions and increase in carbon stocks.	GEF TF	890,411	20,000,000
Total project costs		**5,342,465**	**68,300,000**

B. INDICATIVE PROJECT FRAMEWORK

Project Objective: develop and apply innovative GFW2.0 technology that will contribute to reducing deforestation, forest and land degradation, reducing illegal activities and supporting biodiversity conservation in the pilot countries, as well as on a global scale

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount ($)	Indicative Co-financing ($)
1. Application and enhancement of GFW 2.0 in pilot countries	TA	1.1 A new GFW 2.0 near-real time forest monitoring and deforestation alert system is designed and operational on a global scale, and applied in 2 pilot countries (Madagascar and	1.1.1 Innovative, peer reviewed, validated and calibrated algorithms and cloud-computing system generating 30m resolution forest cover change information and alerts across all types of forests, in near-real time. 1.1.2 Easy-to-use, free-of-charge, online "near-real-time" alert and monitoring system to	GEF TF	3,913,894	23,000,000

[1] *Indicative list of additional partner countries that may join GFW2.0 during the preparation phase*: Ecuador, Panama, the Democratic Republic of Congo, Republic of Congo, Cameroon, Gabon, Equatorial Guinea, Central African Republic, Kenya and Tanzania.

		Georgia), supporting: (a) improved management of existing forest areas and conservation of biodiversity, (b) reforestation/afforestation programmes, (c) improved control of deforestation on the ground and monitoring/protection of carbon stocks and (d) providing the information base for PES schemes (Payment for Ecosystem Services). The system will link directly with existing EU FLEGT Action Plans and will contribute to the development of MRV capacity for REDD+ programs. 1.2 Government and non-government agencies in pilot countries using GFW2.0 as the basis for collaborative Sustainable Management (SLM) initiatives across sectors, at the local and national scale	support: increased rapid response capacity of forestry law enforcement and PA management agencies; increased cost-effectiveness of law enforcement activities on the ground; more effective advocacy, linked to increased accessibility of information for all stakeholders; increased accountability, linked to more transparent performance monitoring – all leading to improved control of deforestation on the ground and better monitoring/protection of carbon stocks. 1.1.3 Ground-thruthing and field testing in 2 countries and in-country refinement of the methodology using initial standardised approaches developed by the GFW 2.0 partnership 1.1.4 Target end users trained and capable of using and promoting innovative ways to apply GFW 2.0 alert systems to support forest conservation and sustainable management 1.1.5 Integration of the near-real time alert system from pilot countries, into the GFW 2.0 global on-line platform 1.1.6 Targeted outreach effort focusing on governmental and non-governmental stakeholders in the pilot countries to support timely and wide-ranging system uptake 1.2.1 in pilot countries (and particularly in the context of Georgia), GFW2.0 is adopted and its use demonstrated as a forest management tool to support (a) the development and implementation of cross-sectoral integrated land use management plans and (b) the development of innovative policies that integrate the perspectives of multiple Forest users (including i.e. forestry, tourism, agriculture, watershed management, water resources management, energy / power generation, local community interests, etc.)			
2. System uptake and replication	TA	2.1 Lessons learned and experience gained in pilot countries support the increased utilization of the GFW 2.0 globally, and by a wide range of stakeholders - as a new user-friendly and cost-effective alert and monitoring system in support forest conservation	2.1.1 Analytical 'white papers' produced for each country participating in initial testing and application (Component 1), to (a) guide policy makers in addressing drivers of deforestation and forest degradation (b) emphasize the cost-effectiveness and impact of the Alert System, (c) analyze the impact on the country's forest resources and natural capital and (d) underline the importance of up-taking the system for enhanced transparency and better governance 2.1.3 Policy guidelines based on lessons learned from Component 1 are produced in soft and hard format and are widely disseminated to governments, CBD, UNFCCC, UNCCD, CSOs and private sector (using a wide range of modern communication tools and strategies)	GEF TF	526,549	14,000,000

			2.1.4 Simple GFW 2.0 user manual and guidelines are produced, translated in multiple languages, and made freely available on-line			
3.Strengthening and sustaining the GFW 2.0 partnership		3.1. The GFW partnership is strengthened, long-term financial sustainability is secured, and GFW 2.0 is increasingly regarded as a transparent and credible monitoring and management tool in support of forest conservation and sustainable use	3.1.1 User networks established in pilot countries first, and gradually expanded globally, with civil society coalitions engaged and supported in the focus countries and connected with the global GFW2.0 network, to ensure broad understanding and application of the information for improved forest management. 3.1.2 Sustainable financing plan for the GFW 2.0 system developed in collaboration with public and private sector as well as CSOs. 3.1.3 External and independent review and oversight mechanism established to guarantee highest degree of transparency and technical credibility	GEF TF	266,667	15,000,000
4. Private sector application to reduce deforestation in supply chains	TA	4.1 The national and global impact on forest conservation is significantly enhanced through the adoption of the GFW 2.0 system as a monitoring tool by the private sector	4.1.1 Partnership established with selected private sector companies active in pilot countries and/or globally, to assess user needs and requirements, and jointly explore the development of GFW 2.0 Specific Decision-Support tools tailored to PS operations, management systems, and covering various steps in range of commodity supply chains 4.1.2. Specific management tools for investors and private companies trading in forest ecosystem services and goods are developed 4.1.3 GFW 2.0 Tools for private sector widely promoted within private sector's relevant conventions and specific communication channels, supporting rapid global uptake	GEF TF	380,952	15,000,000
				Sub-Total	5,088,062	67,000,000
Project management cost				GEF TF	254,403	1,300,000
Total project costs					**5,342,465**	**68,300,000**

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, ($)

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount ($)
National Government	Government of Georgia	In-kind	2,000,000
National Government	Government of Madagascar	In-kind	2,500,000
National Government	Government of the Democratic Republic of Congo	In-kind	500,000
National Government	Government of Cameroon	In-kind	300,000
National Government	Government of Gabon	In-kind	300,000
National Government	Government of Equatorial Guinea	In-kind	300,000
National Government	Government of the Republic of Congo	In-kind	300,000
National Government	Central African Republic	In-kind	300,000
National Government	Government of Indonesia	In-kind	300,000
Bilateral Aid Agency	Government of Norway	Grant	7,500,000
Bilateral Aid Agency	Donor Governments (USAID, UK, Germany, The Netherlands)	Grant	20,000,000
Foundation	Tilia Fund	Grant	1,000,000

Foundation	MacArthur Foundation	Grant	5,000,000
GEF Agency	UNEP-DEPI/DEWA/WCMC	In-kind	300,000
Private sector	ScanEx Corp. - satellite images and remote sensing TA	In-kind	24,700,000
CSO	WRI	In-kind	500,000
Private sector	ESRI	In-kind	1,000,000
Private sector	Google	In-kind	1,000,000
Private sector	Center for Global Development (CGD), NASA, Imazon, Transparent World, Global Forest Watch Canada, FORMA, Observatorie Satellital des Forets d'Afrique Central (OSFAC)	In-kind	500,000
Total Co-financing			**68,300,000**

D. INDICATIVE TRUST FUND RESOURCES ($) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY

GEF Agency	Type of Trust Fund	Focal area	Country Name/Global	Grant amount ($) (a)	Agency Fee ($) (b)	Total ($) (a + b)
UNEP	GEF TF	Land Degradation	Georgia	890,411	84,589	975,000
UNEP	GEF TF	Climate Change	Georgia	890,411	84,589	975,000
UNEP	GEF TF	Biodiversity	Madagascar	1,780,822	169,178	1,950,000
UNEP	GEF TF	Climate Change	Madagascar	445,205	42,294	487,499
UNEP	GEF TF	SFM REDD+	Global	1,335,616	126,884	1,462,500
Total Grant Resources				**5,342,465**	**507,534**	**5,849,999**

E. PROJECT PREPARATION GRANT (PPG)

	Amount Requested ($)	Agency Fee for PPG ($)
• (up to) $150k for projects up to and including $6 million	**136,987**	**13,013**

PPG AMOUNT REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES) FOR MFA AND/OR MTF

GEF Agency	Type of Trust Fund	Focal area	Country Name/Global	(in $)		
				PPG (a)	Agency Fee (b)	Total c = a + b
UNEP	GEF TF	Biodiversity	Georgia	22,831	2,169	25,000
UNEP	GEF TF	Climate Change	Georgia	22,831	2,169	25,000
UNEP	GEF TF	Biodiversity	Madagascar	45,662	4,338	50,000
UNEP	GEF TF	Climate Change	Madagascar	11,416	1,084	12,500
UNEP	GEF TF	SFM REDD+	Global	34,247	3,253	37,500
Total PPG Amount				**136,987**	**13,013**	**150,000**

PART II: PROJECT JUSTIFICATION

A. PROJECT OVERVIEW

A.1.Project Description

A.1.1 Global environment problems, root causes and barriers

Forest loss and land degradation continue across the tropical region, resulting in biodiversity loss, greenhouse gas emissions, soil erosion and changes in the micro climate and weather patterns, increasing the risk of decertification and food insecurity. Almost two billion hectares of natural forest have been cleared to meet human needs. A similar amount of forest has been degraded through fire, introduced pests, logging and other actions.[2] The drivers of forest loss include expansion of subsistence and large scale farming, illegal timber and fuelwood/charcoal extraction, and animal husbandry. The underlying causes are poverty, policy failures, and economic/market incentives. The continued loss of forests and degradation of forest landscapes are *symptoms of deeper deficiencies in markets and governance*.[3]

According to the latest Forest Resource Assessment (FAO 2010) net annual forest loss globally is 13 million hectares. Meanwhile a recent UNEP/Interpol report (Nelleman, C., 2012) estimates the economic value of global illegal logging, including processing, at USD 30-100 billion (10-30% of the global wood trade).

[2] See http://www.wri.org/map/global-map-forest-landscape-restoration-opportunities
Hanson, M.C., Potapov, P.V., and Stehman, S.V. 2010, Quantification of global forest cover loss, Proceedings of the National Academy of Sciences, 107 (19), 8650-8655.

[3] See for example, Governance, Development and Aid Effectiveness: A Quick Guide to Complex Relationships. ODI Briefing Paper, March 2006, http://www.odi.org.uk/resources/docs/218.pdf and A.Contreras-Hermosilla, 2000, CIFOR, Occasional Paper Number 30, http://www.cifor.org/nc/online-library/browse/view-publication/publication/626.html

A review of 152 studies of the proximate and underlying causes of tropical deforestation concluded that multiple factors best explain forest loss, with agricultural expansion associated with nearly all deforestation (96 percent of the cases), including for cropland and cattle ranching.[4] Policies supporting establishment of plantation industries, large-scale ranching, and agricultural colonization favoring large land holdings were identified as prominent underlying causes to deforestation, land and forest degradation. Road construction (access) was also found to be a major factor often unmitigated by policies and procedures for rational land use and infrastructure planning. Land tenure, and to some extent the legislation regulating property rights (especially in Asia) are also important in a majority of the cases.

There have been significant improvements in governance in many countries, such as decentralization of authority, recognition of local and traditional resource claims and rights, and certification systems that better connect concerned consumers with products of improved management. Indonesia and China, for example, have witnessed recent reforms in governance related to land and resource tenure by generally marginalized, poor, forest and land-dependent people. And in Latin America tens of millions of hectares of forest land has been returned to management by traditional, indigenous groups.[5] Meanwhile, however, in these and other regions, accountability mechanisms, transparency and channels of influence need substantial attention.

Growing concern internationally about forest loss, demands from consumers, and local social pressures leading to demands for greater roles for local people in decision making, as well as climate change and donor influence have contributed to improvements in governance.[6] *The availability of timely, transparent and accurate information on changes in forest cover is a critical element in improving governance*.

Accurate, accessible and timely information underpins effective forest conservation policy, incentives or payment-for ecosystem services, as well as law enforcement. However several critical barriers undermine the availability of suitable forest data and information, and hamper forest management. These critical barriers include:

- *Unavailable information:* many governments do not possess accurate information about forest cover change and forest ownership;
- *Timeliness:* when information is made available, it is often several years out of date;
- *Inaccurate:* information is often inaccurate, or its accuracy cannot be verified because the methods used are not available for scientific peer review;
- *Inconsistent:* comparisons across regions, between countries and from one time period to another are often impossible due to inconsistent data monitoring and analytical methods;
- *High costs:* remote sensing data remains expensive, and conducting independent analysis of changes in forest cover can be extremely costly and technically complex;
- *Top down, not interactive:* traditional approaches to forest monitoring do not take advantage of social networking and other advances that enable people to upload information;
- *Technical complexity:* while satellite imagery is readily available, its analysis and interpretation continues to be extremely challenging from a technical point of view;
- *Dispersed data:* other information, such as on logging licenses, agricultural investment, infrastructure and demographics, which needs to be analysed together with changes in forest cover, is usually housed in several separate institutions and in different formats preventing integrated analysis.

The proposed GEF project in support of Global Forest Watch 2.0 aims to address all the above barriers, building upon existing resources, and developing innovative and technically very advanced and user-friendly tools. In addition, the project will engage proactively with strategic user groups including government agencies, business and local NGOs to ensure that the information is used effectively and lessons learned are shared globally to accelerate progress elsewhere.

A.1.2 The baseline scenario and associated projects

Despite advances in remote sensing, bottlenecks in analysis and sharing of information mean analysis of forest cover change is often very dated when published. For instance, the most recent publicly available Landsat satellite data of Indonesian forests was taken in 2005/2006, analyzed in 2007, and posted on line in 2008. The FAO Global Forest Resource Assessment (FRA) which provides authoritative information on the changes in forest cover is produced only once every five years. These systems are not adequate to support timely, practical, day-to-day conservation action, law

[4] Geist H.J. & E.F. Lambin, 2002, Proximate causes and underlying driving force of tropical deforestation, Bioscience, 52 (2), 143-150.
[5] *Turning Point: What future for forest peoples and resources in the emerging world order?* Rights and Resources Initiative, 2012.
[6] A. Agrawal, A. Chhatre and R. Hardin, 2008, Changing Governance of the World's Forests, Science, 320, 1460-1462 http://www.sciencemag.org/content/320/5882/1460.full#aff-1

enforcement and policy development. Initiatives such as Terra-i[7] are seeking to address the time-lag issue for the usage of remote sensing to monitor habitat change patterns in almost real-time. However existing platforms are not yet capable of combining the technically complex remote sensing data and analysis with simple and user-friendly mobile applications that can be readily used by non-specialists such as conservation practitioners, forestry sector operators, government offices, private sector, conservation NGOs, community groups, etc. The systems are also currently limited to one continent (Latin America) or country (such as Brazilian Governmental and also Brazilian NGO Imazon's powerful systems).

Meanwhile, GFW 2.0 has already achieved pan-tropical (58 countries) coverage with an on-line interface that is appealing, simple and requires no training use. It will achieve global coverage by late 2013. Key features of GFW2.0 are highlighted in http://www.wri.org/gfw2. The GFW2.0 partnership,[8] convened by WRI (recently rated as the world's top think tank for natural resources) is receiving significant support from a broad range of partners and donors including the Norwegian Climate and Forest Initiative, for the improvement, testing and consolidation of the GFW 2.0 platform on a global scale. The total baseline investments underpinning the proposed GEF project are currently estimated to be 65,000,000 US$ (ref. table C). The baseline scenario in the two pilot countries is summarized below:

Madagascar: Madagascar has several ongoing and planned initiatives on forests and REDD+. Madagascar has recently submitted its R-PP (REDD+ Readiness Plan - January 2013) which is expected to start implementation towards the end of 2013. Furthermore there is a national REDD+ bureau and platform which brings together the various SFM and REDD+ initiatives and is developing a national REDD+ strategy. There are also several ongoing conservation and REDD+ pilot projects which are led by non-government actors, including five international NGOs (WWF, WCS, CI, Good Planet & Inter-Cooperation) and a range of donors (USAID, GTZ, Air France, and the Biocarbon Fund). Three of these (CAZ, COFAV & Makira) are already certifying their carbon credits on the voluntary market using the Climate Community & Biodiversity Standard, while some of the pilot projects e.g., REDD-FORECA (GTZ/IC) focus on generating knowledge and capacity building for REDD issues in Madagascar. The local NGO *Observatoire National de l'Environnement et du Secteur Forestier* is also committed to independent analysis and monitoring efforts but lacks the powerful on-line monitoring and analytical tools that GFW2.0 can provide. Overall, Madagascar still lacks access to credible, independent and frequently updated information about its forests and Protected Areas of the kind that GFW2.0 will provide.[9] GWF2.0 will work closely with these processes to support them. The GFW 2.0 partnership (and WRI itself) has long standing working relationships with many of these groups which will be involved in the establishment of the national user network, ensuring the effective application and uptake of GFW2.0.

Georgia: Major natural hazards (floods, flash floods, landslides, mudflows, snow avalanches etc.) impact the national economy of Georgia, with significant damage to agricultural lands, buildings, roads, other infrastructure, human health and the environment. Georgia's National Environmental Action Plan seeks to set up a national early warning system for natural hazards, which includes regular monitoring and dissemination of timely warnings for expected natural hazards to decision-makers. Furthermore, in 2007-2008, the Georgian government launched a forest reform process that drastically changed the system of forest licensing and forest institutions. It shifted most forest management responsibilities from the government to the private sector (including to long-term forest use license holders). However, this process did not complement sustainable forest management principles, as it was not accompanied with relevant legal frameworks, institutional capacity and forest planning/inventory instruments and information. Target 2 under the NEAP (Forest section) seeks to end unsustainable and illegal use of forests and is thus *in the process of establishing forest information and monitoring systems* and organizing training. Target 2 under the NEAP Land degradation section seeks to enhance the existing capacity of the spatial-land information system to ensure improved management of land resources through application of modern tools and technologies. The present situation does not allow sufficiently reliable estimation of the level of illegal cuttings and status of forests and non-forest habitats of critical importance for the country's economy[10]. Overall, Georgia also lacks access to credible, independent and frequently updated information on the status of its forests and protected areas, of the kind that GFW 2.0 will provide. GFW 2.0 will help accelerate and greatly enhance these existing governmental efforts and structures, while ensuring the information systems effectively engage with the wider public and achieve optimum transparency and credibility, either directly or through partnership with GFW 2.0.

[7] Terra-i detects land-cover changes resulting from human activities in near real-time, producing updates every 16 days. It currently runs for the whole of Latin America and is being expanded over the next year to cover the entire tropics. Terra-i is a collaboration between the International Center for Tropical Agriculture (CIAT - DAPA, based in Colombia), The Nature Conservancy (TNC, global environmental organization), the School of Business and Engineering (HEIG-VD, based in Switzerland) and King's College London (KCL, based in the UK). (source: www.terra-i.org)
[8] Please refer to section A.2 of this PIF for a comprehensive list of GFW 2.0 partners and stakeholders
[9] Independent Forest Monitoring Madagascar, *Madagascar Conservation & Development*, Volume 5 (1), pp. 64-71.
[10] Petrauskas. 2010. Training of Forest Inventory Specialists in Georgia. Report, ENPI-FLEG. p.7.

A.1.3 The proposed alternative scenario

Brazil has reduced rates of deforestation in its Amazon region by almost 80 percent since 2004. This remarkable achievement was, according to senior Brazilian officials, in significant part a result of a concerted effort to ensure that near-real-time alerts of tree loss were consistently and readily available to law enforcement agencies – see box below. The enormous drop in rates of forest clearance in Brazil is among the greatest contributions to slowing greenhouse gas emissions and conservation of biodiversity ever. GFW 2.0 aims to scale up this approach globally and support in-depth engagement with key user groups in priority countries (*See Box below)*.

Global Forest Watch 2.0 will *reduce deforestation, forest degradation, greenhouse gas emissions and poverty* by uniting technology, transparency, and human networks to mobilize faster, more effective, rights-based, forest conservation and sustainable management. It combines various near-real-time tree cover loss alert systems, complementary satellite imagery and monitoring systems, a suite of maps, mobile technology, and a networked world to create never-before-possible transparency for what is happening in forests everywhere. *This transparency will enable governments, communities, civil society, companies, and the media to hold those responsible for forests accountable at a pace that matches the modern world and the threats facing forests.*

In the proposed alternative scenario, with GEF support, on a global level, GFW 2.0 can expand into the development of much higher resolution alert systems (improving from 250m to 30m resolution), which have been proven feasible through initial testing by the University of Maryland. At the country level, GEF support will enable, very importantly, "deep dive" partnerships in priority counties to achieve sustained impact, including through long-term partnerships with government agencies, civil society and the private sector. Forest stakeholders, such as governmental officers, civil society, donors and buyers of commodities, in the pilot target countries (Madagascar and Georgia), will acquire capacity and gain easy access to near-real-time and reliable data to support their forest conservation, sustainable forest management, REDD+ efforts and risk management.

The project will mobilize and support governmental counterparts and a broad range of national stakeholders to provide input on the design of a user-friendly interface which matches their daily need for information. The project will further link the national partners in the target countries with the GFW 2.0 global network to promote rapid uptake, adoption, and application of the GFW 2.0 tools and information. In the target countries, GFW 2.0 will contribute to the goals of the GEF SFM REDD+ focal area as well as the partner Norwegian Climate and Forest Initiative by supporting the measurement, reporting and verification (MRV) needs of performance-based REDD+ projects and programs through integration of forest cover change data with biomass maps being developed by groups such as Winrock and the Woods Hole Research Center.

GFW 2.0 will provide timely, peer-reviewed, accurate, and transparent data and indicators of annual, semi-annual, and monthly (consolidated based on16-day updates) rates of tree cover loss, forest degradation and tree cover gain at all geographic scales. These scales range from the local management unit such as an individual logging concession or community forest or protected area, to provincial, national and continental scales. GFW2.0 will greatly empower researchers and their understanding of the drivers of forest cover change.

Unlike its predecessors and other systems, GFW2.0 will also provide simple and accessible information in the form of SMS and other mobile alerts, ensuring utility in regions with low connectivity. GFW2.0 is expected to improve the effectiveness and reduce the cost of forest and habitat conservation efforts in pilot countries (and globally) in the following ways:

- *More rapid response capacity:* GFW2.0 will allow law enforcement and PA management agencies to achieve near-immediate response to tackle illegal deforestation activities, even in remote areas. This will dramatically reduce the impact of illegal activities that can often go unnoticed for extended periods due to lack of resources for patrolling and law enforcement on the ground or through aerial patrols.
- *Reduced enforcement cost:* agencies will be able to focus geographically interventions, using GFW 2.0 near-real-time alerts. This will reduce the costs of expensive on-the-ground and aerial patrolling activities.
- *More effective advocacy:* GFW 2.0 will be a publicly accessible, user-friendly and transparent system. Advocacy groups, local communities, private sector and government alike will be able to use GFW 2.0 to support science-based advocacy and community mobilization in support of forest conservation interventions.

- *Increased accountability:* GFW2.0 is designed to deliver transparent, credible and unbiased information. This will provide the basis for (a) timely monitoring of private and public sector performance in forest management, (b) defining and measuring baseline parameters, such as change in forest cover, for transactions in Payment for Ecosystem Services (PES) schemes, (c) enhanced measurement of changes in PA management effectiveness and (d) rapid assessment of the impact of management measures in forest areas and PAs alike.

GFW2.0 will directly support the development and implementation of Voluntary Partnership Agreements (VPAs) in the framework of the *EU FLEGT Action Plan* (Forest Law Enforcement, Governance and Trade), by enhancing the effectiveness of on-the-ground law enforcement (see above), as well as providing key inputs for negotiating and monitoring the implementation of national VPAs.

The system will also be enhanced to assist with the MRV (Measurement, Reporting and Verification) aspects of REDD+ activities, by providing a rapid, easy-to-use and reliable forest cover monitoring and management tool for the provision and analysis of critical information. This will help with *reporting* by simplifying the visualization, analysis and communication of forest cover data, and greatly reducing the costs and time required for production of maps and reports.

GFW 2.0 will also facilitate the transparent *verification* of information provided by parties on changes in forest cover. GFW 2.0 includes in-depth ground truthing and training of medium resolution imagery (250m and 30m) with high-resolution imagery (0.3-5m, donated by ScanEx, Google, ESRI and Cosmogia), as well as through crowdsourcing of observations by people on the ground. An additional benefit of GFW 2.0 is that it has the potential to improve the monitoring of multiple benefits of REDD+, notably biodiversity conservation, through a number of proxy indicators for forest degradation, such as road density and habitat fragmentation. UNEP and WRI have been in discussion with FAO and intend to work closely with FAO (the lead agency on MRV within the UN-REDD Programme) on MRV aspects.

Box 1: Evidence from Brazil that better access to information leads to improved forest management

Case 1:
- Imazon's near-real-time system recorded a 500 percent surge in deforestation in Mato Grosso in April, 2011 that coincided with a legislative proposal to relax prosecution of illegal deforestation. Media covered this heavily.
- The Government space agency, INPE, confirmed the finding.
- Ministry of Environment set up a committee to discuss the issue and rapidly instituted a focused enforcement effort in the State.
- The Congress also learned that its legislative proposal had to be modified to avoid the risk of a massive uptick in illegal forest clearing.
- The swift, powerful reaction to this disclosure from NGOs and environmental authorities led to revision of the legislative proposal, more rigorous enforcement activity, and a documented fall in deforestation to previous levels by June, 2011.

Case 2:
- Near-real-time data showed a correlation between illegal forest clearing and new hydrodam plans in Rondônia.
- Journalists picked up on the correlation and then investigated in depth themselves, before the analysis had even been publicized.
- Media diffusion through Twitter, Facebook, etc. of evidence of deforestation by new hydroelectric projects in the Amazon region resulted in swift and powerful reaction from NGOs and environmental authorities with greater enforcement in the areas surrounding the projects.

Case 3:
- Paragominas municipality in the Eastern Amazon was blacklisted by the Federal Government due to high deforestation rate, barring landowners from access to agricultural credit from state banks.
- The municipal government asked Imazon for help, and used the alerts to target law enforcement.
- As a result deforestation rate dropped to almost zero and the municipality was the first to be removed from the blacklist across the Amazon.

Source: Imazon – see www.imazon.org.br

The project will support GFW2.0 through the 4 components summarized in Table B above, and below.

Component 1. Application and enhancement of GFW 2.0 in pilot countries

Outcome 1.1 *A new GFW 2.0 near-real-time forest monitoring and tree loss alert system is designed and operational on a global scale, and applied in 2 pilot countries, supporting: (a) improved management of existing forest areas and*

conservation of biodiversity, (b) reforestation/afforestation programs, and (c) providing the information base for PES schemes (Payment for Ecosystem Services). Key activities are as follows:

- Consultations and partnerships with GFW 2.0 users in the pilot countries. Long-term partnerships with relevant government agencies (forestry, agriculture, mines) will be established, to integrate them into the process of generating and using information that is part of GFW 2.0. This will involve bringing seconded ministry technical staff onto the GFW 2.0 team, together with other colleagues who become long-term participants, working together with WRI's technical team to build local mapping and data sharing capabilities. (WRI has successfully shown how this can operate in the six countries of the Congo Basin and be sustained for many years at low cost).
- Improved precision of the monitoring system through further ground-truthing, calibration and validation of the near-real-time forest cover change by trained national government agencies and NGOs.
- The resolution of the near-real-time prototype system about to be launched will be enhanced from 500m (MODIS based) to 30m (LandSat based), making it even more relevant to land-use planning, law enforcement, and corporate supply chain management through technical advances proposed by the University of Maryland, world leaders in the science of land cover change. The University of Maryland will coordinate this component, and will work in close collaboration with the local teams from the governments to enhance the calibration and validation of the annual LandSat forest cover change analysis and to help to develop the first-of-its-kind near-real-time LandSat-based alert system.
- Support for research teams in local universities and government agencies to develop their own value-added analysis utilizing the wealth of data that will become available through GFW 2.0.
- Targeted national awareness and outreach programs to engage key user groups and stakeholders in the uptake and use of the GFW2.0 and as contributors of information through the crowdsourcing functions.

Outcome 1.2 *Government and non-government agencies in pilot countries adopt GFW 2.0 as the basis for collaborating on Sustainable Land Management (SLM) initiatives across sectors, at the local and national scale:* In pilot countries (and particularly in the context of Georgia), the project will demonstrate the use of GFW2.0 as a shared and publicly available forest and land management tool that can support the development and implementation of collaborative cross-sectoral integrated land use management plans, at the sub-national scale (e.g. in pilot administrative region or district – to be identified at PPG). GFW 2.0 will be introduced as a management and decision making tool to support the joint development of innovative policies that integrate the perspectives of different forest uses, such as forest products, tourism, agriculture, watershed and water resources management, energy generation, and community use.

Component 2. System uptake and replication - ***Outcome 2.1*** *Lessons learned and experience gained in pilot countries support the increased utilization of GFW 2.0 at scale by a range of stakeholders.* Key activities include:

- Experience and lessons learned from application of GFW2.0 (Component 1) in the pilot countries and beyond will be immediately shared through the GFW 2.0 online platform using a wiki-like function, with automated translation across all the official UN languages and dozens of others.
- Guidance for policy makers in addressing drivers of deforestation and forest degradation will be greatly accelerated through rapid information sharing with their peers in many other countries.
- The cost-effectiveness and fundamental utility of the alert system will be maximized and carefully communicated to agencies, civil society, media and business increasing the likelihood that alerts will be acted upon.
- National and regional in-person and virtual workshops and other exchanges will be used to synthesize policy guidelines based on lessons learned from Component 1 for dissemination at very low cost through the GFW 2.0 platform. Special presentations and discussions will also be convened at CBD, UNFCCC, UNCCD, CSO and private sector meetings. (The effectiveness of these in building interest and partnership has already been seen with the previews of GFW 2.0 at Rio+20, the Doha UNFCCC COP and UNFF10).
- A simple and frequently updated GFW 2.0 user manual and guidelines will also be produced, translated in multiple languages, and made freely available on-line.

Component 3. Strengthening and sustaining the GFW 2.0 partnership - ***Outcome 3.1*** *The GFW partnership is strengthened, long-term financial sustainability is secured, and GFW 2.0 is increasingly regarded as a transparent and credible monitoring and management tool in support of forest conservation and sustainable use:* This component will support the following:

- Consolidation of a transparent partnership and trusted source of information which delivers high-quality, user-friendly and near-real-time information on forest cover change and land use to stakeholders. The project will facilitate stakeholder consultation and partnerships at the national level.
- Civil society coalitions will be engaged and supported in the focus countries and connected with the global GFW2.0

network, to ensure broad understanding and application of the information for improved forest management.

- Strengthened GFW 2.0 partnerships to ensure operational transparency and effective management, especially in regards to the latest remote sensing information, algorithms and needed computing power and the long-term sustainability of the initiative.
- Focus on the most effective strategies and investments to ensure that the information is widely used.
- Development of a sustainable financing plan in collaboration with public and private sector as well as CSOs. Mechanisms for external and independent review and oversight will be established to guarantee the highest degree of transparency and technical credibility.

Component 4. Private Sector application to reduce deforestation in supply chains - *Component 4.1* *The national and global impact on forest conservation is significantly enhanced through the adoption of the GFW 2.0 system as a supply chain management tool by the private sector.* Activities will include:

- GFW 2.0's emerging global partnerships with the Consumer Goods Forum, World Business Council for Sustainable Development and some of the largest commodity companies will greatly accelerate partnership with local subsidiaries (for example of Nestle and Unilever), joint-venture partners, and suppliers of agricultural products linked with deforestation and forest degradation. (Funding for the wider global corporate engagement by GFW 2.0 over five years is in detailed discussion with USAID as part of the Tropical Forest Alliance 2020).
- Partnership with these local companies to integrate GFW 2.0 information into their management systems, and encourage them to provide additional information (as WRI has piloted successfully with the Forest Transparency Initiative, supporting the FLEGT and EU Timber Regulation processes in Central Africa).
- Multi-stakeholder groups will be set-up, including business and NGOs to explore the implications of GFW 2.0 information and support their activities to apply this information and engage with the national policy making processes.
- Specific decision-support tools will be developed and tailored to the companies' needs, learning from similar work elsewhere under the wider GFW 2.0 partnership, and covering various steps in a range of commodity supply chains.
- Specific tools for investors and private companies trading in forest ecosystem services and goods will be developed. Such tools for private sector will also be documented and widely promoted through corporate conventions (such as UNEP FI, the CFA Institute and the associations mentioned above) supporting rapid global uptake.

A.1.4 The incremental cost reasoning and expected baseline contributions

Baseline Scenario (Business As Usual)	GEF Incremental Contribution (what the GEF project will contribute)	Key Outcomes expected with the Alternative Scenario (BAU+GEF Increment)
Component 1. Application and enhancement of GFW 2.0 in pilot countries GFW2.0 Alert System is set-up on a global scale but operating only at 500m resolution. The resources to enhance the resolution to 30m, and to enhance precision in pilot countries, are not yet available	Resolution of GFW 2.0 is significantly enhanced from 500m 30m through further calibration in project pilot countries supported by ground trothing and crowdsourcing. GFW 2.0 is fully applied in the pilot countries, national professional capacity is developed, IT equipment is installed and operational also for off-line use in key agencies. Wide range of stakeholders informed and engaged in the use of GFW 2.0 as a management and awareness raising tool, from public, private, academic and CSO sectors in the pilot countries.	A new GFW 2.0 near-real time forest monitoring and deforestation alert system is designed and operational on a global scale, and applied in selected pilot countries, supporting: (a) improved management of existing forest areas and conservation of biodiversity, (b) reforestation/afforestation programs, and (c) providing the information base for PES schemes (Payment for Ecosystem Services).
Component 2. System uptake and replication GFW2.0 Alert System is set-up on a global scale, however its application in the pilot countries is very limited.	Experience of enhanced GFW 2.0 application in pilot countries is well documented and widely disseminated at national and global level, using a wide range of communication tools and involving the broadest range of stakeholders to support rapid uptake and broad use of GFW 2.0. Uptake nationally is strong and sustained through concerted communications efforts and direct engagement of many local users with the GFW 2.0 partners.	Lessons learned and experience gained in pilot countries support the more rapid and increased utilization of the GFW 2.0 globally, and by a wide range of stakeholders - as a new user-friendly and cost-effective alert and monitoring system in support forest conservation. Rates of forest loss and degradation are measurably reduced (*ref. table in section A.1.5, and more accurate estimates of greenhouse gas mitigation impacts to be developed during full project proposal preparation in detailed consultation with national experts and stakeholders*).

Component 3. Strengthening and sustaining the GFW 2.0 partnership GFW 2.0 is taking working toward full launch in mid-2013. However there is a risk that the partnership is not sufficiently integrated and sustained.	The GEF incremental contribution will support the timely development and upgrading of GFW 2.0 partnership to the level of an internationally-accepted, financially self-sufficient, and trusted tool that support enhanced management of forest resources, as well as facilitate reporting to various conventions, bi/multi-lateral partnerships and private sector frameworks such as forest certification, PES schemes, REDD+ MRV, etc.	The GFW partnership is strengthened, long-term financial sustainability is secured, and GFW 2.0 is increasingly regarded as a transparent and credible monitoring and management tool in support of forest conservation and sustainable use for at least 10 years to come.
Component 4. Private Sector application to reduce deforestation in supply chains GFW 2.0 has initiated engagement with private sector companies, however it does not have the resources to develop tailor-made partnerships and tools and dedicated systems for use by private sector in the pilot countries.	The GEF increment will specifically support engagement and joint work with private sector in the pilot countries, complementing and benefiting from global partnerships. This will generate pilot examples and lessons that will be documented and applied on a global scale, through the GFW 2.0 partnership.	The national and global impact on forest conservation is significantly enhanced through the adoption of the GFW 2.0 system as a supply chain management tool by the private sector, and through greater transparency for all of those supply chains and their impacts in the pilot countries.

A.1.5 Global environmental benefits

As the home of two-thirds of all plants and animals living on land, forests are the most biodiverse terrestrial ecosystems (Schmitt et al. 2009, FAO 2010, IUCN 2010). Emissions from deforestation and forest degradation accounts for 15-17% of global human induced GHG emissions and without addressing poor forest management it will be impossible to limit global warming to the target of two degrees Celsius (UNFCC). The project will generate significant global environmental benefits by:

- Supporting the improved conservation and management of a total of approximately **15.4 million ha of forest habitats**[11] only in the pilot countries (Madagascar and Georgia)
- Contributing to the enhanced management effectiveness of a total of **97 protected areas** in the pilot countries, **covering a total of 2.275 million ha**.
- Supporting the enhanced conservation of the natural habitat for over **15,000 species** in the two pilot countries alone, including many that are on the IUCN red lists and at various levels of extinction or endangerment risk (especially in Madagascar).
- Preliminary estimates of greenhouse gas emissions reductions resulting from the GFW2 project, and only in target countries, indicate a range from **6,177,136 to 18,531,409 tons of CO_2 equivalent**. The estimates used three possible scenarios for the reduction of annual deforestation rates: 25%, 50% or 75% [considering that Brazil achieved an 80% reduction since 2004, in significant part a result of a concerted effort to ensure that near-real-time alerts of tree loss were consistently and readily available to law enforcement agencies - ref. section A1.3 and Brazil case studies in box 1]. These estimates will be further developed and presented at CEO endorsement.

Estimated avoided emissions due to changes in law enforcement and extension efforts supported by GFW2
(tons of CO_2 Equivalent)

Project Country	Scenario (a) Decrease of 25% annual deforestation rates	Scenario (b) Decrease of 50 % annual deforestation rates	Scenario (c) Decrease of 75% annual deforestation rates
Georgia	193,540	387,079	580,619
Madagascar	5,983,597	11,967,193	17,950,790
Total	**6,177,136**	**12,354,272**	**18,531,409**

Source: UNEP REDD + team, with data and coefficients from: State of the World's Forests 2010 (FAO) and National Reports to UNFCCC from the pilot countries.

Lessons learned from in-depth engagement in the pilot countries will be shared globally through the GFW 2.0 networks and partnership multiplying the actual impact of the GEF investment and the total global environmental benefits generated.

In each of the project pilot countries, GFW2.0 will work at the national level. It will therefore generate global environmental benefits by enhancing the conservation status of a wide range of globally important species and habitats, and particularly of all forest habitats in each country. Key features of the biodiversity, forests and land use in the pilot countries that will benefit from the project are summarized below.

[11] Sources: country NBSAPs of Madagascar and Georgia.

Georgia: The Caucasus is an eco-region of global importance characterized by high species diversity, a high degree of endemism, diversity of vegetation types and rare biomes at global level (WWF). Forests cover about 2,795,000 ha in Georgia (about 40% of the country and including an estimated 0.5 million ha of primary forests, 2.2 million ha of natural modified forests and 60,000 ha of protective artificial plantations). Annual deforestation rates in Georgia stand at -0.09%. Improved forest management has the potential to enable Georgia to become a significant source of net reforestation and restoration, enhancing habitat areas, reducing fragmentation and sequestering greenhouse gases.

Forests are the most important biome for biodiversity conservation in Georgia, harboring many endemic and relic species of woody plants and herbs, and providing habitats for globally rare and endangered animals. All forests of Georgia are state owned, and over 80% of electricity in the country is generated by hydropower, utilizing only 18% of the estimated hydropower production capacity of the country, which relies largely on the preservation of forest cover in the mountains for the continued flow of this critical ecosystem service. *This indicates potential for establishment of national and sub-national water/forest PES schemes supported through monitoring by GFW 2.0*. The project will directly contribute to the enhanced conservation of all habitats and ecosystems of global importance in Georgia, including forests.

As of 2010, 50 protected areas were established in Georgia (14 strict nature reserves, 8 national parks, 14 natural monuments, 12 managed natural reserves and 2 protected landscapes) covering 7.1% (493,988 ha) of the area of the country. In addition, 17 sites of special importance for biodiversity conservation are included into the Emerald Network, and 31 important bird areas (IBAs) have been identified. Two wetlands in the Kolkheti lowland are included on the Ramsar Convention list of Wetlands of International Importance. Georgia is a biologically very rich country (especially considering its relatively small area), hosting 4,130 species of vascular plants including some 600 species (14.2% of the total number of species) which are Caucasian endemic and about 300 species (9.0% of the total number of species) are Georgian endemics. 16,054 faunal species have been described in Georgia, 758 of which are vertebrates. Due to habitat destruction, deforestation and extensive, unregulated exploitation, many plant and animal species have become endangered: 29 mammal, 35 bird, 11 reptile, 2 amphibian, 14 fish and 56 woody plant species are currently included on the national Red List. In addition, 44 vertebrates found in Georgia are globally endangered and included on the IUCN Red List as vulnerable, endangered or extremely endangered species.

Madagascar: Madagascar is the fourth largest island in the world, and is one of 17 mega-diverse countries that represent 80% of the world's biological diversity (CI 2000). It shelters four of the WWF's Global 200 terrestrial ecoregions (forests and shrublands; dry deciduous forest, spiny thicket and mangroves) and one freshwater ecoregion. As a result of its long geographical isolation and its highly varied geomorphology and micro-climates, it has a high variety of terrestrial ecosystems. The known species count includes 210 species for mammals (98% of which are endemic), 310 species for the avifauna (60% endemic), 630 species for herpetofauna (98% endemic), 164 species for freshwater fishes (60% endemic), and 13,700 species for higher plants (>90% endemic). Some key examples include lemurs, all but one species of which occur naturally only in Madagascar and of the 8 species of baobab found in the world, six are endemic to Madagascar making it one of the most diverse floras on the planet (for comparison, tropical Africa has 30,000-35,000 species and covers almost 35 times as much area as Madagascar. In addition, Madagascar is home to a large diversity of medicinal plants that are of critical importance to the pharmaceutical industry. Inventory and research on biodiversity of Madagascar is still far from complete and many more species remain to be discovered. From 1999 to 2010, scientists discovered 615 new species in Madagascar, including 41 mammals and 61 reptiles. Most remarkable is that Madagascar harbors endemism at the higher taxonomic level (genus and family level). It provides for 5 endemic botanic families and 5 endemic primate families. In comparison, Brazil, the largest tropical country of the world, does not have one single endemic family. Madagascar has an estimated forest cover of 12,578,000 ha (approximately 22% of the country's land area), and annual deforestation rates stand at a comparatively high rate of 0.45%. The country also hosts a national network of protected areas, which covers 47 sites and an area of 1,781,465 hectares, or (a rather low) 3 % of the territory. These protected areas are managed under the National Environmental Action Plan (NEAP). The PA system does not represent the country's bio-geography fully and some forest habitats are critically under-represented e.g., high montane forest, mangroves, western deciduous forests, sub montane forests and riparian forests.

A.1.6 Innovativeness, sustainability and potential for scaling up

The GFW 2.0 initiative is a partnership of many organizations which provides a totally new opportunity for a broad range of stakeholders to collaborate in the monitoring of forests and land use. For a comparison between GFW2.0 and existent systems, illustrating the technical complexity and innovativeness of the project, please refer to http://www.wri.org/gfw2. The GEF project will support system enhancement, including the global first of tree-loss alerts generated using 30m LandSat simultaneously with full global coverage, and application in selected pilot countries. It will also support the

achievement of financial sustainability as well as scaling up and rapid application of lessons learned at a national and global level (component 3).

The global demand and scaling up potential for innovative and user-friendly tools such as the GFW2.0 is quite evident (see videos of endorsements from key stakeholders at http://www.wri.org/gfw2). The project will provide an innovative, cost-effective, credible and transparent tool for observing key aspects of performance of forest certification, payment for ecosystem services schemes and REDD+ MRV, while increasing the opportunities for actually responding rapidly enough to illegal forest clearing and logging.

The project promises an innovative tool to governments and non-government stakeholders alike, significantly increasing the efficiency and cost-effectiveness of their forest stewardship efforts. As new satellite constellations with greater spatial and temporal resolution are launched, or as new algorithms for interpreting remote sensing data are developed and rapidly adopted by GFW 2.0, the initiative will integrate information from these new platforms and new algorithms into the GFW 2.0 system. The specific project deliverables and lessons learned under component 1 and 2 are designed to be rapidly shared and replicated in other countries.

The pilot countries will also benefit from the GEF-supported testing and fine-tuning of the GFW 2.0.

A.2. Stakeholders

At the Global level: the World Resources Institute is the lead executing agency of the GEF project, and it will coordinate the work of several other key partners in the GFW2.0, including Imazon, University of Maryland, OSFAC, Google, Center for Global Development, ESRI and ScanEx. The GFW 2.0 initiative is a rapidly growing partnership of many organizations managed, coordinated and mobilized by WRI. The list of GFW 2.0 partners include: Google (http://earthengine.google.org), ESRI (http://www.esri.com), Vizzuality (http://vizzuality.com), NASA (http://landsat.gsfc.nasa.gov and http://modis.gsfc.nasa.gov), ScanEx (http://www.scanex.ru/en/), University of Maryland, (http://www.geog.umd.edu/facultyprofile/Hansen), FORMA (http://www.cgdev.org/section/initiatives/_active/forestmonitoringforactionforma), Center for Global Development (CGD) (http://www.cgdev.org), Imazon (http://www.imazon.org.br), Transparent World (http://www.transparentworld.ru/en), Global Forest Watch Canada (http://www.globalforestwatch.ca), Observatoire Satellital des Forêts d'Afrique Centrale (OSFAC) (http://www.osfac.net), UNEP (http://www.eyeonearth.org and http://www.unep.org). A summary description of the above GFW2.0 partners and their roles can also be found at http://www.wri.org/gfw2.

GFW 2.0 will also engage with many target users and applications that will catalyze conservation and sustainable management of forests through a wider range of stakeholders, including:

- **Governments** who will improve forest governance by more effectively enforcing laws, designing smarter forest and land use policies, and monitoring rates of tree cover loss and gain.
- **Producers and buyers of major commodities** who make new commitments to "deforestation-free" supply chains and more effectively ensure compliance with their commitments.
- **Local communities and grassroots organizations** that have more secure livelihoods due to an enhanced ability to document and defend their rights to forest land and resources.
- **NGOs and media** become more effective advocates for forests and people, mobilizing action against deforestation, contributing to policy debates, and fighting corrupt practices.
- **International public and private investors and funders** more effectively target their impacts due to enhanced ability to track and analyse results and trends.
- **The research community** uses timely and globally consistent data to generate a deeper understanding of the drivers of deforestation and degradation, produces more accurate global modelling, and more precise, timely advice to policy makers.
- **In the project pilot countries:** the project will be coordinated at the national level by the Ministry of Environment Protection of Georgia, and by the Ministry of Environment and Forests of Madagascar. The involvement of project key stakeholders in the pilot countries will be coordinated by the above national coordinating bodies, and key stakeholders will include: Forestry Departments, Protected Areas Management Authorities, Law Enforcement authorities, environmental CSOs, local community groups living within and near forested areas and protected areas, academic and training institutions, and private sector (esp. sectors involved in forestry operations).

The project will also seek to engage directly with existing national FLEGT programs (e.g. in Madagascar: http://www.euflegt.efi.int/portal/partner_projects/?did=123) as well as with the MRV components of national REDD programs.

A.3. Risks

GFW 2.0 uses the latest technology and data sources. This creates some technology development risks though the system is now sufficiently advanced and tested that these risks are considered low. To address these risks, the GFW 2.0 partnership seeks to, through the GEF funded project, formalize and strengthen the GFW2.0 partnership and establish mechanisms to conduct due diligence on technology aspects, especially with a view to future enhancments. National governments are also being engaged directly in the pilot countries to ensure that national sovereignty and data ownership issues are fully respected from the start. All governments engaged by GFW2.0 so far have been strongly supportive of the GFW 2.0 initiative. Project related risks are outlined below:

Identified Risk and Level of risk likelihood/ severity	Proposed risk management measures
1. Complex coordination arrangements at the global scale and country level - Level: L	This risk may negatively affect timely and effective implementation and will be mainly addressed by building upon the strengths of the established WRI and UNEP networks, using the existing GFW2.0 consultative and information sharing platforms to support a lean and effective Project Steering Committee including key global partners and representatives of the GFW2.0 pilot countries. WRI has 30 years of success managing complex partnerships.
2. Weak coordination among ministerial bodies and lack of support from national governments in pilot countries Level: M	Building on the lessons of other UNEP implemented projects of a global/regional nature, it will be critical to foster national governments' ownership from the onset. Practical measures to pre-empt this risk will include the establishment of GFW2.0 coordination teams in each pilot country, comprised of both civil society and government personnel. Country teams will also be involved at the strategic level as members of the global GFW2.0 Steering Committee as the main project governance structure. To ensure sustainability, measures will be taken to ensure that the government and non-government partners are fully enabled to continue to take full advantage of the GFW2.0 after the project cycle has ended.
3. Suboptimal capacity in pilot countries hampers sufficient uptake of the GFW2.0 Level: M	Existing gaps in capacity in pilot countries will be identified during the PPG phase of this project. A sound and well-designed capacity building program targeting government and non-government partners is considered as a critical element of the project, and it will be essential for project success and the basis for long-term sustainability. This will also include enhanced networking among GFW2.0 practitioners at the global level. In addition, the strength of GFW2.0 is the ease of use and public, free availability of data. This will remove most barriers to a broad use at national and global level, as the uptake of GFW2.0 will require minimal capacity and will thus be accessible to most stakeholders without the need for dedicated training.
4. Insufficient awareness of biodiversity conservation, land degradation and climate change issues Level: M	With respect to biodiversity and climate change, several project partners in the WRI and UNEP networks are already quite active on addressing these issues and working collaboratively with the GFW2.0 pilot countries and globally through synergistic parallel projects (ref sections B.3 and A.4). The project will build upon the above initiatives to support and enhance project interventions in the pilot countries by highlighting the potential of GFW2.0 to improve livelihoods while reducing land degradation, supporting biodiversity conservation and contributing to climate change mitigation.
5. Political instability and potential social upheaval. Level L (Georgia) and H (Madagascar)	The socio-political in the pilot countries is such that it is not expected to hamper implementation of the project if appropriate mitigation measures are put in place (see also risks 2 and 3 above). The GFW 2.0 is hugely beneficial to countries that are relatively well governed (such as Georgia) since they can rapidly take full advantage of and embrace the capabilities of the system. Countries that may have a higher risks of slipping towards weaker governance or political instability (such as Madagascar in recent years) can also benefit from the continued transparency and flow of information provided by GFW2, even in the worst of times. The project will support a completely open design of the GFW 2.0 global platform and the continued crowdsourcing and even potential whistleblower capabilities. Therefore it is expected that the very open and transparent nature of the GFW2 system, and the wide range of government and non-government stakeholders that will be able to access GFW2, will provide sufficient mitigation for this risk and ensure the impact and sustainability of project results, irrespective of evolving socio-political contexts in the pilot countries. An updated summary of the political situation in both countries can be found at: https://www.cia.gov/library/publications/the-world-factbook/geos/ma.html and https://www.cia.gov/library/publications/the-world-factbook/geos/gg.html
6. The needs and priorities of the more disadvantaged groups of society, including Indigenous groups and Women Groups are not adequately taken into account by the project Level: M	All aspects of the project's design, implementation strategy and monitoring and evaluation process will closely look at this important aspect and take this risk into account. This will inform the set-up of adequate stakeholder consultation and involvement mechanisms in pilot countries from project outset, with full support from all project partners, and under the auspices and supervision of UNEP as the GEF implementing agency. Continued and focused and well-targeted communication, consultation, education and involvement efforts with local community groups will be implemented in the pilot countries. A comprehensive and well-costed communication plan for each pilot country will be developed during the PPG and operationalised as a first step at the outset of the project to inform and engage national partners in the new GFW2.0 initiative and mitigate any risks of misunderstanding or conflict. The project will also place emphasis the generation of socio-economic benefits associated with the increased use and open access to a transparent GFW2.0.

A.4. Coordination

The project will build upon the existing and effective coordination mechanisms established as part of the GFW 2.0 partnership, which is convened and managed by the WRI (which is the lead executing agency of this GEF project). Regular GFW 2.0 meetings and internal and existing external communication channels will ensure adequate coordination with other initiatives and with the broad range of partners and stakeholders mentioned in section A.2. The project will closely align (through WRI's direct involvement in both programs) with the Norwegian Climate and Forest Initiative by supporting the measurement, reporting and verification (MRV) needs of performance-based REDD+ projects and programs in the pilot countries. The GEF Implementing Agency (UNEP) will be part of the project Steering Committee and will also contribute to ensuring that appropriate linkages and coordination is maintained with relevant programs of all other relevant UN agencies, the UN REDD programs, the UN Finance Initiative, the UNEP Forest Group, the UNEP-UNDP Poverty and Environment Initiative, the UNEP-supported "Eye on Earth" and the "Global Environment Alert System" (ref. section B.3), as well as with global environmental conventions and particularly with UNFCCC, CBD and UNCCD as well as the newly formed IPBES. UNEP and WRI have a long and successful history of productive partnership.

B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

B.1.National strategies and plans or reports and assessments under relevant conventions:

In both countries, the maximum level of integration with ongoing and planned national activities will be achieved thanks to the critical coordination and facilitation role played by the national Ministries (ref. also section A.4). This will ensure timely and consistent alignment and synergy with all relevant ongoing and planned programs aimed at reducing deforestation, preventing land degradation and conserving biodiversity in the pilot countries. This approach will guarantee the complementarity and incrementality of the GEF intervention, and will directly contribute to augmenting progress towards the achievement of relevant goals set in national plans and strategies. Specific plans and strategies that the GEF project will support are listed below for the two pilot countries:

Georgia: Georgia signed the UNCCD in 1999 and the UNFCCC in 1994. The project is aligned with the National Action Program to Combat desertification (2003) and particularly with the priority actions listed in Chapter 11 (actions 19, 20), Chapter 13 (4,5,8), Chapter 15 (3,5). The project is also aligned with the national priorities set forth in the latest National Communication to the UNFCCC (2009), and will specifically support the implementation of strategic objectives #: 1, 2, 3, 5, 6, 7, 12, 14 and 24. The project is also aligned with Georgia's ongoing program to address the key rural issues within the framework of the Sustainable Agricultural Development Plan for Georgia (SADG, 2012-2022). Georgia's National Environmental Action Program 2012-2016 (NEAP-2) also outlines eleven themes including "*Improve the functional state of forests through the development of sustainable forestry*." NEAP-2 also presents several cross-cutting issues, such as environmental impact assessment and permitting, enforcement, monitoring, the scientific basis for decision-making and the need for geo-informational systems. It further highlights as areas of major need monitoring, inspection and enforcement systems. GFW 2.0 will support Georgia in providing a monitoring and management tool which can help direct law and license enforcement, fire monitoring, private sector partnership and innovation, and education efforts and thus improve and safeguard the delivery of forest ecosystem services by contributing to Target 2 "reduction of unsustainable and illegal forest use" and its action measures 1) Develop and test Forest Information System, 2) Develop and test forest monitoring system and 3) develop and implement training modules in forest enforcement.

Madagascar: Madagascar signed the CBD in 1996, the UNFCCC in 1999. The Project contributes to the implementation of relevant national sustainable development plans and strategies and particularly to "Madagascar Action Plan" 2007 – 2012 (MAP), which, given current politics, is still the valid national socio-economic develpoment plan. This is focused around 8 commitments, of which the seventh is "Madagascar will be a world leader in the development and implementation of environmental best-practice…. We will become a "green island" again…". The MAP includes Madagascar's strategy and priority programs for addressing deforestation and forest degradation. The GFW2 will contribute to the achievement of four major challenges outlined in MAP:

Challenge 1. To increase the protected areas for the conservation of land, lake, marine and coastal biodiversity - Goal: to increase the area of protected areas from 1.7 million to 6 million hectares

Challenge 2. To reduce the natural resource degradation process - Goal: to maintain the remaining 9 million hectares of forest and wetlands for the conservation of its natural resources and the sustainable use of its forest, lake, marine and coastal resources.

Challenge 3. To develop the environmental reflex at all levels - Goal: to mainstream the environment into all sectoral plans and develop a strong and effective environmental reflex

Challenge 4. To Strengthen the effectiveness of forest management - Goal: to strengthen the institutions responsible for environmental management – the ministry and environmental protection agencies – to ensure professional policy making and regulatory framework and to provide technical support to the development and implementation of sector strategies.

The project is aligned with the priorities identified in the second National Report to the UNFCCC (2010), and particularly with the priorities set in section 5.4.2.3 (page 83): "*le renforcement des Programmes Forestiers Nationaux (PFN) par le boisement ou reboisement avec des espèces diversifiées, la mise en place d'un programme de grande envergure de boisement et de reboisement par l'augmentation des budgets gouvernementaux affectés à la protection et la création des forêts.*". The project also contributes to the implementation of the following plans and strategies: National Forestry Policy (1997), which has a strong focus on conservation; The National Strategy for Forest Genetic Resources (2007) and the National Report on Forest Genetic Resources (2012) which both place a strong emphasis on the conservation of key endemic tree species.
In Madagascar The project is hosted in the same ministry as the Forest Carbon Partnership Facility (FCPC) - REDD+ process. The FCPC Readiness Plan (RP) for MRV in Madagascar is just taking first steps. The GFW2 will diretly contrinute to varioues elements of RP's implementation, and the set up and testing of the GFW2 will also be aligned with the components of the RP.
The project is aligned with all relevant National Environmental Policies, notably as reflected in the National Environmental Action Plan and the 3rd Phase of the National Environmental Program; Environmental Charter (Updated in 2012). The Project also contributes to the implementation of the following biodiversity plans and strategies: The Madagascar National Biodiversity Strategy and Action Plan (2000); The 'Durban Vision', announced in September 2003 at the World Parks Congress in Durban, to triple Madagascar's protected areas in five years and increase the country's protected habitats from 1.7 to 6 million hectares - or from 3 to 10 percent of the nation's area; The 4th National Report to the Convention on Biodiversity (2011) which identifies the importance of conserving key flora and fauna species.
The project will directly contribute to the achievement of the **Aichi Targets** of the Convention of Biological Diversity (CBD) as illustrated in the table below:

CBD Aichi 2020 Targets which the project will contribute to	How the project will support the achievement of each target – initial SMART indicators (to be further selected and refined at CEO submission)
Target 3 (incentives for BD conservation)	GFW2.0 will monitor and independently verify incentive and 'payment for ecosystem services' schemes, to support the conservation and sustainable use of biodiversity – # of new schemes adopting GFW2.0 as a management/verification tool, and areas covered by GFW2.0-supported schemes (ha).
Target 5 (loss of natural habitats including forests)	GFW2.0 will monitor and independently verify with great accuracy and in near-real time the rate of loss of all natural habitats, including forests, and monitor trends in forest degradation and fragmentation, and support forest conservation and law enforcement measures – reduced rates of forest loss and degradation.
Target 12 (species extinctions)	GFW2.0 provides an essential management tool to enhance the conservation effectiveness of existing protected areas, as well as monitor habitat status for non-protected areas – no. of protected and non-protected areas adopting GFW2.0 as a biodiversity conservation tool, and areas covered in ha. It also can monitor extinction risk for red list species and generate habitat analysis for Alliance for Zero Extinction species.
Target 14 (ecosystem services - ES)	GFW2.0 will monitor and independently verify incentive and 'payment for ecosystem services (PES)' schemes, to support the conservation and restoration of degraded ecosystems and associated flow of ecosystem services – # of new PES schemes adopting GFW2.0 as a management/verification tool, and areas covered by GFW2.0-supported schemes (ha).
Target 19 (BD science improved)	GFW2.0 provides an innovative, highly effective, near-real-time, free and user-friendly management tool to support BD conservation and monitor the status and trends of habitats hosting globally important biodiversity – level of GFW2.0 uptake: i.e. no. of studies, reports and publications on biodiversity conservation adopting GFW2.0 as a habitat monitoring tool.

Furthermore, GFW 2.0 has the potential to significantly contribute to the delivery of the targets and objectives of both the UNFCCC and UNCCD. Parties under the UN Framework Convention on Climate Change (UNFCCC) are negotiating the REDD+ framework (reducing emissions from deforestation and forest degradation, and enhancement of forest carbon stocks in developing countries) and the project will provide a platform for all MRV effortts. The UNCCD also seeks to monitor and address land degradation which is also largely induced by deforestation and forest degradation, and the GFW2.0 can be instrumental in defining policies and supporting action in signatory countries worldwide.

B.2. GEF Focal area and/or fund(s) strategies, eligibility criteria and priorities:
This multi focal area project will support pilot countries that have allocated different combinations of their STAR resources to join this Global initiative, reflecting their specific national priorities and availability of STAR allocation at the time of submission (i.e. Madagascar: BD 2M and CCM 0,5M; Georgia: LD 1M and CCM 1M). The project is aligned with Biodiversity Focal Area Objective 2: "Mainstream Biodiversity conservation and sustainable land use into production landscapes, seascapes and sectors" and will contribute to the achievement of Outcome 2.1: "Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation" and specifically to Output 2: "National and sub-national land use plans that incorporate biodiversity conservation and ecosystem services valuation".

The project is also aligned with the Land Degradation FA Objective 3: "reduce pressures on natural resources from competing land uses in the wider landscapes", Outcome 3.1 "enhanced cross-sector enabling environment for integrated landscape management", Output 3.1: "integrated land management plans developed and implemented"; and with the climate Change Mitigation objective 5: "Promote conservation and enhancement of carbon stocks through sustainable management of land use, land-use change and forestry", Outcome 5.1 "Good management practices in LULUCF adopted both within forests and in the wider landscapes", and Outcome 5.3 "GHG emissions avoided and carbon sequestered". The project contributes significantly to the cross-cutting SFM/REDD+ Focal Area objective 1: "Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services", Outcome 1.1 "Enhanced enabling environment within the forest sector and across sectors", as well as SFM/REDD+ objective 2 "Strengthen the enabling environment to reduce GHG emissions from deforestation and forest degradation and enhance carbon sinks from LULUCF activities" Outcome 2.1 "Enhanced institutional capacity to account for GHG emissions reductions and increase in carbon stocks."

B.3. The GEF Agency's comparative advantage for implementing this project:

The project is fully aligned with UNEP's mandate, with the *Bali Strategic Plan for Technology Support and Capacity-building*, with the goals of the UNEP Mid-Term Strategy (Ecosystem Management, Environmental Governance and Early Warning sub-programs), and with the current UNEP Program of Work. UNEP's Division of Early Warning and Assessment (UNEP-DEWA) will also be involved in technically supporting this GEF project. UNEP-DEWA focuses on environmental assessment, monitoring and capacity building. Establishing and maintaining effective partnerships and networks to keep the world environmental situation under review underpins the work program of DEWA and is consistent with UNEP's role as a catalytic organisation by mobilising institutional cooperation at the relevant level. UNEP also works closely with a wide range of technical partners and UNEP satellite research centers that host relevant expertise and offer potential linkages for the GFW2.0 project, including, i.e.: GEMS Water, ECOLEX, AEIN, GEO Partners, UN-GIWG, GEOSS, IWG – ENV, CCSA, Ecoinformatics, ESRI, GRID, AIT-UNEP Regional Resource Center for Asia and the Pacific, EWIN, AGEDI, Inter-agency and Expert Group (IAEG). The UNEP World Conservation Monitoring Centre (UNEP-WCMC) in Cambridge, UK is one of UNEP's collaborating organizations which already provides key data for GFW 2.0 including e.g., datasets on protected areas and biodiversity. UNEP-WCMC is well placed to supply and provide advice on the interpretation and use of protected areas data. In addition they would ensure that any data collected or updated as part of the project in incorporated back into the World Database on Protected Areas (WDPA) at the end of the project. Other key UNEP global programs with relevance to the GFW 2.0 include the "Eye on Earth" and the "Global Environment Alert System". The '**Eye on Earth'** is a 'global public information network' for creating and sharing environmentally relevant data and information online through interactive map-based visualisations. The overall goal is to improve the environment by sharing information and knowledge. The philosophy of Eye on Earth and GFW 2.0 is similar and thereby stand to benefit from the lessons learnt under respective initiative and potential collaboration. The GFW 2.0 has also a natural link to UNEP's The **Global Environment Alert Service** (GEAS). UNEP's regional offices for Africa (ROA) and Europe (ROE) will also provide liaison and technical support functions to support project implementation at the country level, in the project pilot countries. UNEP is also establishing a country presence in Madagascar and this will provide support to project execution by WRI and GFW2.0 partners.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

(Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*
Nino Tkhilava	Head, Department of Environmental Policy and International Relations	MINISTRY OF ENVIRONMENT PROTECTION OF GEORGIA	MARCH/14/ 2013
Ralalaharisoa Christine Edmée	General Director of Environment	MINISTRY OF ENVIRONMENT AND FORESTS	MARCH/18/ 2013

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.					
Agency Coordinator, Agency name	**Signature**	**DATE** *(MM/dd/yyyy)*	**Project Contact Person**	**Telephone**	**Email Address**

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