Readiness Preparation Proposal (R-PP)

For Country: Suriname
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Forest Carbon Partnership Facility (FCPF)

The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD)

Note: The text in red font in the R-PP reflects revisions made in the draft R-PP December 19th version to address TAP comments.

General Information

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Summary of the R-PP

Dates of R-PP preparation (beginning to submission):	July 2012 – February 2013
Expected duration of R-PP implementation (month/year to month/year):	2014-2018
Total budget estimate:	15.3 million USD
Anticipated sources of funding:	FCPF: 8.7 million USD UN-REDD: 3.6 million USD National government contribution: 1.5 million USD Other source: 1.5 million USD
Expected government signer of R-PP grant request (name, title, affiliation):	*To be determined*

Expected key results from the R-PP implementation process:	Outcome 1) Capable Institutions for REDD+ implementation Outcome 2) Improved national planning Outcome 3) Ability to maintain sustainable forest management and low forest degradation Outcome 4) Sustainable livelihoods for forest-dependent communities

List of abbreviations

ACT	Amazon Conservation Team
ACTO	Amazon Cooperation Treaty Organization
ADeK	Anton de Kom University of Suriname
AGB	Above ground biomass
ALCOA	Aluminum Company of America
ANRICA	Austrian Natural Resources and International Cooperation Agency
ASHU	General Suriname Timber Union
ATM	Ministry of Labor, Technological Development and Environment
BAU	Business as usual
CCDA	Climate Compatible Development Agency
CELOS	Centre for Agricultural Research in Suriname
CI	Conservation International
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSNR	Central Suriname Nature Reserve
DC	District Commissioner
EDU	Ministry of Education
EEPO	Environmental Education and Public outreach department of NIMOS
ELS	Environmental Legal Services department of NIMOS
EME	Environmental Monitoring and Enforcement department of NIMOS
ESA	Environmental & Social Assessment
ESC	Executive Steering Committee of IIRSA project
ESIA	Environmental and social impact assessments
ETG	Executive Technical Groups of IIRSA project
EU	European Union
FAO	Food and Agricultural Organization of the United Nations
FDC	Forest Dependent Communities
FCPF	Forest Carbon Partnership Facility
FGRM	Feedback and Grievance Redress Mechanism

FNC	First National Communication
FPIC	Free prior consent
FTAA	Free Trade Area of the Americas
FTE	Fulltime Equivalent
GFC	Guyana Forestry Commission
GHG	Greenhouse Gas
GIS	Geographic information systems
GLIS	Land registration and Land information system
GMD	Geological Mining Service
HFLD	High Forest Cover low Deforestation
HI	Ministry of Trade and Industry
IDB	Inter-American Development Bank
IIRSA	Integration of Regional Infrastructure in South America
IMAC	Inter-Ministerial Advisory Commission
IPCC	Intergovernmental Panel on Climate Change
ITTO	International Tropical Timber Organization
JSOOC	Jan Starke Training and Recreation Centre
KfW	Kreditanstalt für Wiederaufbau
KKF	Chamber of Commerce and Industry
LBB	Forest Service
LVV	Ministry of Agriculture, Animal Husbandry and Fisheries
MRV	Monitoring, reporting and verification
MUMA	Multiple-use management area
MW	Megawatt
NAMAs	Nationally Appropriate Mitigation Actions
NB	Nature Conservation Division
NBS	National Biodiversity Strategy
NFI	National Forest Inventory
NGO	Non governmental organization
NH	Ministry of Natural Resources
NIMOS	National Institute for Environment and Development in Suriname
NTFP	Non Timber Forest Product
OIS	Organization of Indigenous People in Suriname
OP	Development Plan Suriname 2012-2016

OGS	Commission for the Structuring of the Gold Sector
OW	Ministry of Public Works
PES	Payments for Ecosystem Services
PFE	Permanent Forest Estate
PG	Project Group R-PP
PH	Ministry of Public Health
PMT	Project Management Team for R-PP
PS	Private Sector
REDD+	Reduced Emissions from Deforestation and Degradation
REL	Reference Emission Level
ROGB	Ministry of Physical Planning, Land and Forest Management
RGM	Rosebel Gold Mines
RL	Forest Reference Level
RO	Ministry of Regional Development
ROM	Coordination Office for Spatial Planning and Environment
R-PP	Readiness Preparation Proposal
RPIN	Readiness Plan Idea Note
RSC	REDD+ Steering Committee
SBB	Foundation for Forest Management and Production Control
SCF	Suriname Conservation Foundation
SESA	Strategic Environmental and Social Assessment
SFM	Sustainable Forest Management
SNC	Second National Communication
SURALCO	Suriname Aluminum Company
TBI	Tropenbos International Suriname
TOR	Terms of reference
UNFCCC	United Nations Framework Conventions on Climate Change
UNFF	United Nations Forum on Forests
VIDS	The Association of Village Leaders of Suriname
VSB	The Association of Surinamese Companies
VSG	The Association of Saramaka Authorities
WRI	World Resources Institute
WWF	World Wildlife Fund

Letter of gratitude

After a hiatus from the R-PP drafting process from 2010-2012, it was the generous funding of the Guiana Shield Facility that enabled the final development of Suriname's R-PP with the 2012-2013 project: Finalization of the R-PP.

The Guiana Shield Facility is a multi donor facility dedicated to promoting conservation and supporting sustainable development. It's support to the development of REDD+ in Suriname as a catalyst and enabler in restarting this vital process for sustainable forest usage for current and future generations.

A special word of thanks is given to the UN-REDD, UNDP Suriname and WWF for their invaluable technical support and co-funding.

The current R-PP is the result of a rich and intense collaborative effort of over 50 project group members, REDD+ assistants, tribal chiefs and hundreds of stakeholders who have contributed both content and contextual insights.

The proposal before you is a true grass roots product and will serve as a roadmap for future REDD+ consultations as well as a blueprint for government and civil society engagement on Suriname's sustainable development.

Above all, the unwavering support of the President of the Republic of Suriname, his Excellency Desiré Delano Bouterse has been the key determinant in the implementation of the current project.

Table of Content

Executive Summary

Suriname, with a forest covering of 94.7% of total land area strives to implement REDD+ as a planning tool for sustainable development.

In this R-PP document the envisaged preparatory activities are described that will be executed by Suriname in order to be able to implement REDD+. Implementation of the R-PP itself will be done by existing and to-be-established institutions (Climate Compatible Development Unit within the Cabinet of the President of Suriname as the political focal point, NIMOS as the technical focal point, the 17 ministries because of their sector-specific environmental responsibilities) and by supporting entities (REDD+ Steering Committee, Major Groups Collective and REDD+ Assistants Collective, civil society, private sector and research institutes).

Tasks and responsibilities related to implementation of the R-PP are additional and relatively new, and will require extensive capacity building within the executing institutions. At the end of the implementation phase, in 2018, executing institutions will be strengthened and be fully capable to implement REDD+ activities.

For addressing grievances and conflicts a temporary three-tier approach will be set up, starting with the REDD+ Steering Committee. If issues cannot be resolved at this level, they can be submitted to the Bureau for Contact with the People in the Cabinet of the President and as an ultimate solution to the Parliamentary Commission on Climate Change.

All stakeholders (public sector, private sector, forest dependent communities, civil society and research institutes) will be consulted and will eventually participate in the design, implementation and monitoring of the R-PP activities.

Suriname, as a HFLD country, will focus of the to-be formulated REDD+ Strategy will be on limiting the growth in the forest-transition curve and associated emissions, without limiting economic and social development. A total number of 13 strategy options have been identified during dialogues with stakeholders. These 13 options will be further assessed, resulting in selected options to be part of the REDD+ Strategy. Two provisions, designed in a participatory manner, as part of the REDD+ delivery mechanisms will be established: a Climate Fund and a Benefit Sharing Mechanism.

Standard ESIA procedures, provided by NIMOS, will serve as the basis to conduct a Strategic Environmental and Social Assessment (SESA). The SESA will provide a comprehensive stakeholder analysis, a description of the initial social and environmental situation of the forest sector in Suriname, an analysis of the possible impacts of the several REDD+ strategy options scenarios, an analysis of impacts of different REDD+ alternatives and the verification of compliance with World Bank policies. SESA preparation will be the basis for the formulation of an Environmental and Social Management Framework that will help minimize and mitigate any potential negative impacts of REDD+ implementation on the social and environmental integrity of the country.

Suriname will establish a national forest reference level (RL), which will have the following characteristics: (i) it will be national in scope; (ii) it will be based on deforestation and forest degradation; (iii) it will include above- and below-ground tree biomass, dead wood, and soil, and; (iv) it will distinguish among emission factors on the basis of drivers. Specific actions to establish the RL for Suriname include updating the forest definition, analysis of historical data and acquisition of additional data to enable scenario modeling (projection of business-as-usual, projection of a development scenario in the absent of a REDD+ scheme, and a development scenario with REDD+).

A national forest monitoring system will be designed to follow changes in all five REDD+ eligible activities, i.e. reducing emissions from deforestation; reducing emissions from forest degradation; conserving forest carbon stocks; sustainable forest management; enhancing forest carbon stocks. It will build on available terrestrial inventory and remote sensing data, while aiming to incorporate new emerging technologies to continuously improve the quality and cost-efficiency of the national MRV system. The monitoring system will help to ensure that forests are uitlized efficiently. A monitoring system will also be developed for monitoring impacts on forest biological diversity and ecosystem services, socio-economic impacts, productive impacts and governance. Several organizations and stakeholders are expected to be part of the monitoring institutional structure to enable an efficient monitoring system: NIMOS, SBB, forest dependent communities, research institutes, Ministry of Natural Resources, Ministry of Agriculture, Animal Husbandry and Fisheries and Ministry of Public Works.

A Program Monitoring & Evaluation Framework is designed but will be updated during the R-PP implementation phase.

The total budget for implementation of the R-PP is calculated at USD 15.5 mln. The Government of Suriname will finance USD 1,500,000. The FCPF will be requested to finance USD 8.6 mln. Additional funding will be requested from other donors such as UNREDD, GSF, CI, WWF Guinanas, UNFCCC, GEF, and the private sector of Suriname such as IAMGOLD, SURGOLD and Staatsolie.

Component 1: Organize and Consult

1a. National Readiness Management Arrangements

1a.1 General arrangements

The REDD+ readiness management program will be managed from the existing environmental coordination structures as in place in Suriname. Environmental coordination falls under the Cabinet of the President, in close cooperation with the entire ministerial council.

Methods of operation, roles and responsibilities and relative hierarchy

The current institutional structure is as follows:

- There is a coordination office for 'Spatial Structuring and the Environment', acronym **ROM**, within the organizational unit 'National Security' in the Cabinet of the President of the Republic of Suriname. The ROM coordination office is headed by the ROM Coordinator. National Security exists of 7 coordination offices, each headed by its own Coordinator. The Director of 'National Security' is supported by these 7 Coordinators.

  The ROM coordination office is supported by three pro-deo Expert Groups. These 3 Expert Groups are advisory groups, existing of mainly senior experts in Suriname on respectively Biodiversity, Climate Change and Land Degradation.

  It is planned that the current Climate Compatible Development Agency (CCDA) office will evolve into the to-be established Climate Compatible Development Unit (CCDU) within the ROM. This new Unit will be the political REDD+ Focal Point and responsible for:
  - international forest carbon market analyses,
  - financial management systems and incentives related to climate change,
  - international REDD+ and climate change negotiations,
  - climate change program development and
  - development of a carbon credit mechanism.

  The Climate Compatible Development Unit will deliver input to the National Institute for Environment and Development in Suriname (NIMOS).
  The climate compatible development officer in the Presidential Cabinet is also a member of the Climate Change Expert Group.

- Each of the 17 Ministries has sector-specific environmental responsibilities, stated in a State Decision S.B.2010/124. Each Ministry is also represented in the Inter-Ministerial Advisory Commission, acronym IMAC, where decision making on all environmental issues takes place, by all representatives of the Ministries. The IMAC meets at least every two months[1] (see also figure 1).

[1] *The political system in our developing country brings about changes after every national selection (once in five years) in the amount of ministries, and besides that, also changes in tasks of ministries. The IMAC structure guarantees that fully national environmental management coordination will take place any time, without excluding any environmental issue. This IMAC structure is essential for REDD+ implementation in our developing country*

As stated in the State Decree on the Tasks of Ministries 2010, the Ministries have their own state responsibilities for widely different aspects of national environmental management. The IMAC facilitates the interactions between NIMOS and all seventeen Ministries through regular meetings, and thus enhances coordination in and effective implementation of environmental matters. This also means that the existing Ministries and their departments relinquish their environmental and environment-related tasks and duties as assigned to them by law. (Included as Annexes—Description of tasks of Ministries)

- NIMOS was established in 1998, with funding from the Inter-American Development Bank (IADB), as an Institute to initiate development of a legal and institutional framework for environmental policy and management. NIMOS resides within the Cabinet of the President as an independent coordinating mechanism for environmental matters as well as a clearing house for environment. NIMOS and the Ministries form the Inter-Ministerial Advisory Committee (IMAC), where decisions about all environmental policies/ issues take place, under the non-voting chairmanship of NIMOS. In order to facilitate institutional coordination and enhance environmental policy effectiveness, NIMOS signed Memoranda of Understanding (NIMOS MoU) with the Ministry of Public Health, the Ministry of Regional Development, the Ministry of Natural Resources, the Ministry of Public Works, the Ministry of Planning and Development, and the Ministry of Social Affairs. This initiative has had some results, such as the joint development of environmental training programs with the Ministry of Social Affairs, the establishment of an environmental unit for the control of mining in the Geological and Mining Department, and completion of a forest sector environmental assessment, both with the Ministry of Natural Resources.

  NIMOS advises the ministries regarding the preparation, the monitoring and the implementation of sectoral environmental policies. In addition, NIMOS as Chairman of the IMAC will, *inter alia*, provide the institutional locus and coordinating mechanism for the Government's inter-sectoral discussions of REDD+ policies and activities.

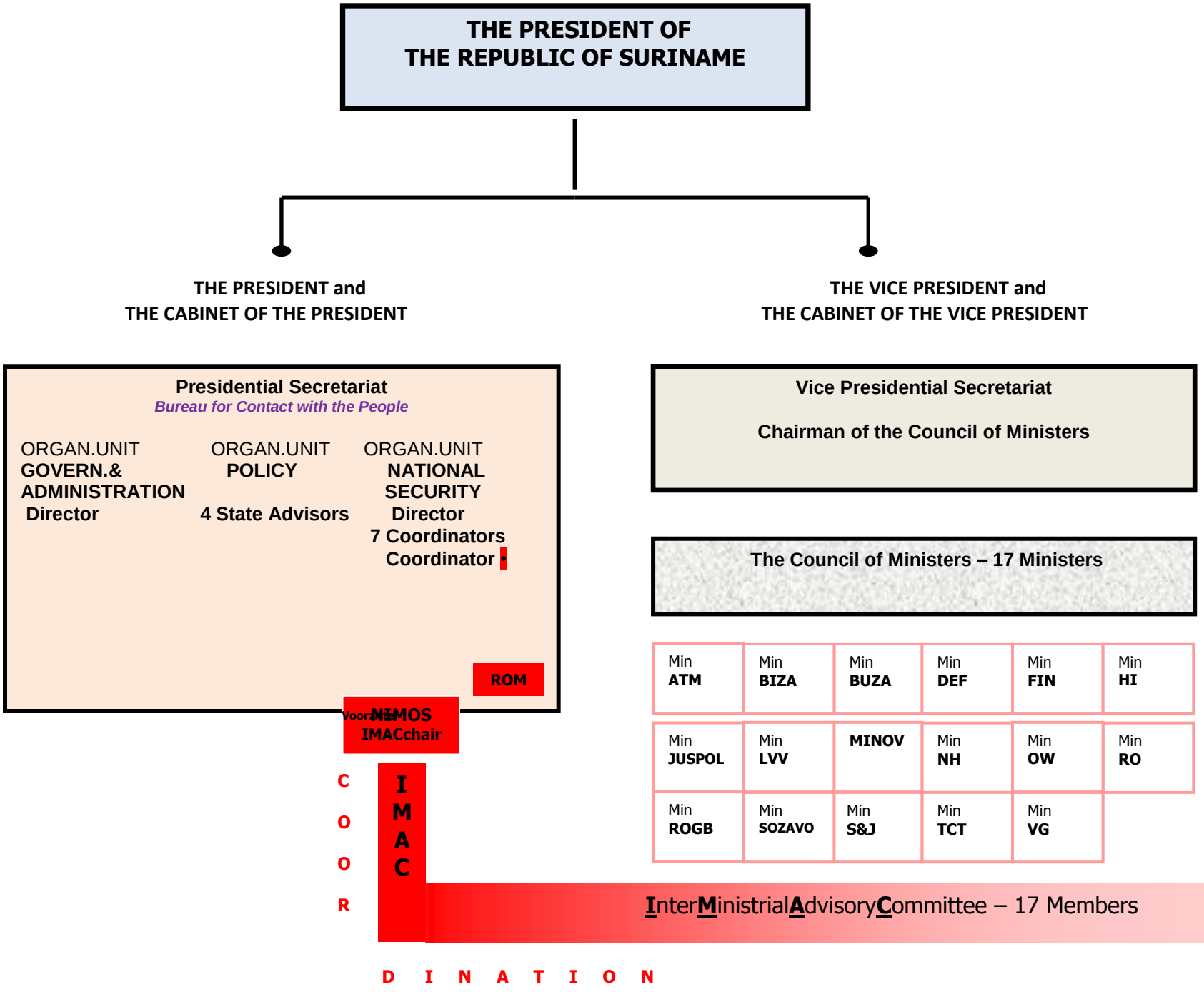


Figure 1. Institutional arrangements for environmental coordination

1a.2 REDD+ specific arrangements

Within the existing institutional arrangements NIMOS as coordinating entity for REDD+, will be supported by the following structures and institutions (see also figure 2):

- The REDD+ Steering Committee (RSC) will advise NIMOS, will disseminate received information to their own target group and will monitor if the R-PP implementation goes as planned. The RSC will emerge from the Project Group established during the R-PP preparation stage. Ministries, private sector, Anton de Kom University, Woman Groups, Youth organizations, NGOs, VSB and forest-dependent communities will all be represented in the RSC. The constitution of a national multi-stakeholder RSC will help foster collaboration among stakeholders having diverse perspectives on REDD+ and forest governance and will help to give stakeholders a voice.
  The RSC allows observers at all times during meetings and other activities to increase transparency. The observers are international observers, representing inter alia, World Bank, UNDP, Guyana Shield Facility, UNREDD, UNFCCC, FAO, IADB.
  Observers will also collaborate with other relevant institutions and if the need arises, they can provide technical assistance or expertise to the RSC.

- NIMOS will also be advised by a soon-to-be established Major Groups Collective (MGC) which will include representatives of the Major Groups, recognized by the Government (Agenda 21), as was requested during a R-PP Project group meeting by members of the Tribal communities. The Major Groups Collective will provide advice to NIMOS and bring forward any concerns and requests for clarification from their corresponding target group regarding environmental and social issues.

- The REDD+ Assistants Collective (RAC) will be involved for facilitation of the local dialogues, execution of the Consultation and Participation plan and during other future local activities on REDD+.

- The Ministry of Regional Development (Min RO) with its structure of district commissioners and sub regional coordinators will assist and facilitate activities for awareness raising, information sharing and dialogue and the consultations and the participation meetings in the interior.

- The Ministry of Physical Planning, Land and Forest Management (Min ROGB), together with its technical unit the Foundation for Forest Management and Production Control (SBB), will support formulation and implementation of the REDD+ strategy options and MRV activities.

- The Forest Dependent Communities (FDC) will participate in decision-making. The principles of free, prior and informed consent will be applied at all stages of future project and all relevant aspects of REDD+ program design (e.g. grievance mechanism and benefit sharing).
- The Private Sector (PS), especially the forestry sector, the mining sector and the agricultural sector will be heavily involved in REDD+ strategy option analysis and in program implementation.

- Civil Society (CS) will be involved to guide the protection of rights of forest-dependent communities, specifically land rights, and to ensure that implementation of R-PP and REDD+ are in line with the results of the Consultation and Participation activities.

- Research institutes (RI) such as AdeKUS, CELOS and Herbarium, will provide capacity building services and will encourage the inclusion of REDD+ issues in the curricula of academic institutions.

- The 'Bureau Contact with the People' (BCP) in the President's Secretariat is responsible for registering concerns of people on Suriname's territory, and help bringing adequate and sustainable solutions for issues.

- The permanent Parliamentary Commission on Climate Change (PCC) is responsible for advising the Parliament on regulations related to climate change.

Sometimes you can say what you want and sometimes what you would rather not want. I would rather not see the role of the forest communities to fall under any Ministry. It has to be a separate body.

Rudi Clemens, REDD+ project group member and representative of the Kwinti Tribe, 15 Nov 2012 PG group meeting

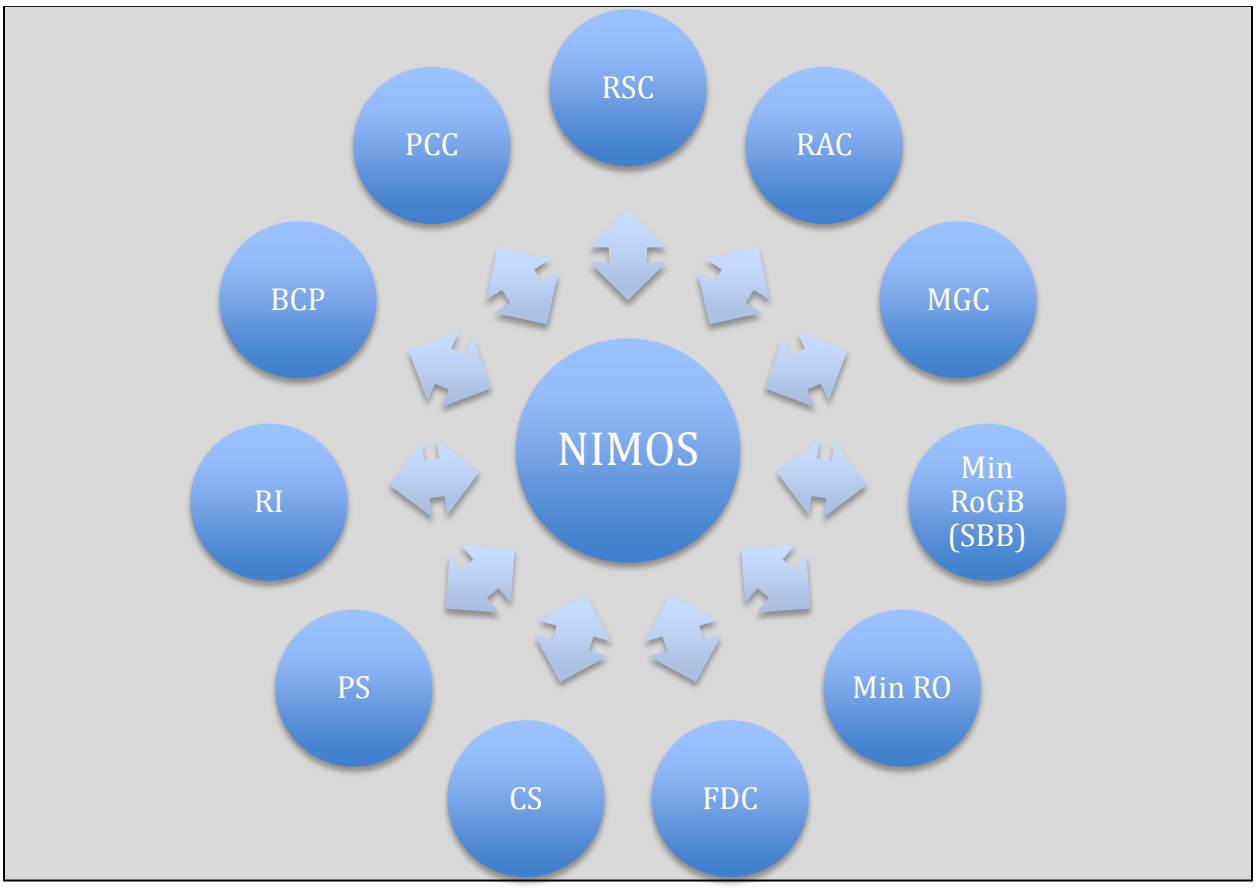


Figure 2. Overview of REDD+ specific arrangements

1a.3 Description of NIMOS

Since NIMOS's mandate comes directly from the President, it is in the correct position to exercise its function in coordinating environmental policies and advising Ministries regarding their sector-specific environmental responsibilities. In this regard, emphasis will be put on expanding the number of Ministries with whom the NIMOS Memorandum of Understanding (MOU) will be signed.

NIMOS is in an appropriate institutional position to take on the responsibilities associated with being the coordinator for preparing readiness and implementation of REDD+ policies. NIMOS will be responsible for coordination and overseeing implementation of the R-PP and ultimately for REDD+ implementation. NIMOS will have responsibilities for administrative and technical aspects of REDD+, e.g. project management and reporting. NIMOS will function as the REDD+ coordinating body, involving a wide range of stakeholders in national-level dialogue and seeking to achieve cross-sectoral agreement and collaboration, using IMAC as a coordinating mechanism.

Organizational structure of NIMOS

NIMOS is structured around a General Director and nine offices.

Currently, the following five offices are staffed and fully operational:

1. Administration
2. Environmental & Social Assessment (ESA)
3. Environmental Monitoring & Enforcement (EME)
4. Environmental Legal Services (ELS)
5. Environmental Education & Public Outreach (EEPO)

In the near future, the following offices will be staffed:

6. Planning
7. Research
8. Financing/ Funding
9. Conflict Resolution

The expansion of NIMOS from 20 to 35-40 staff members is included in the National Development Plan and is scheduled to take place from 2013 onwards. The National Development Plan also includes funding for capacity building and institutional strengthening of the NIMOS. The structure of NIMOS is shown below in figure 3.

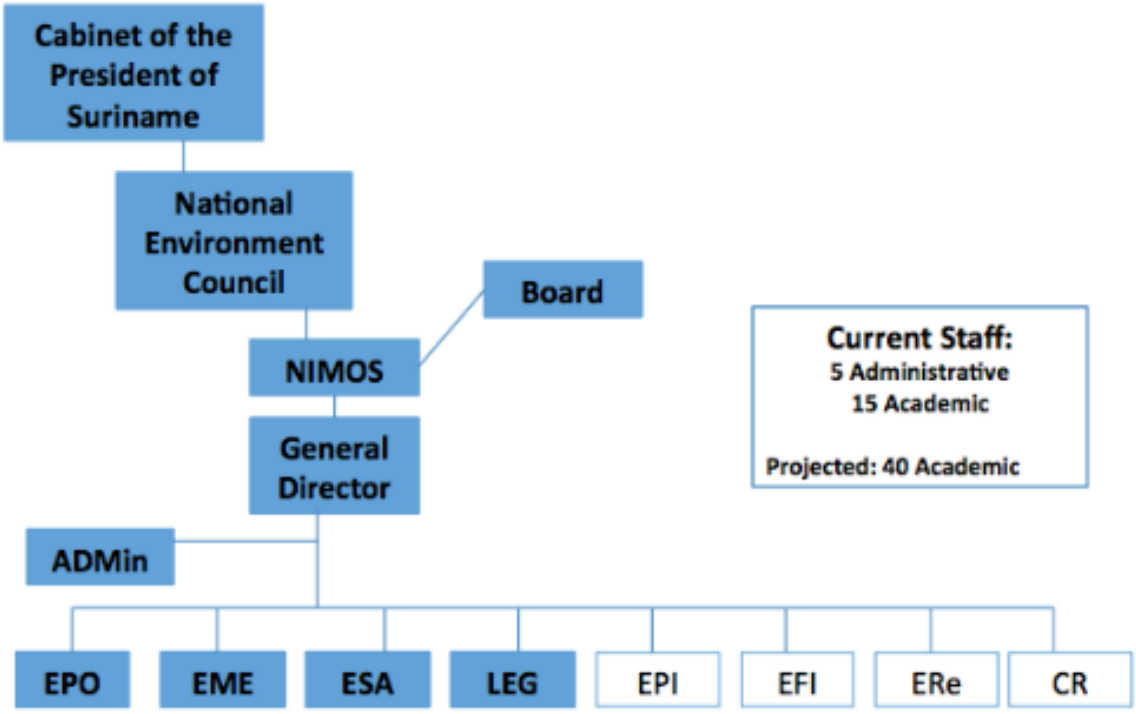


Figure 3. Coordination for environmental management: NIMOS in the Government

The role of NIMOS during R-PP implementation

The R-PP implementation process is rather new and has not yet led to internal adjustments in corresponding organizations such as NIMOS. NIMOS has established units dedicated to relevant tasks such as awareness building, environmental and social assessment, monitoring and enforcement. However, these are units composed of a limited number of people. To fulfill its responsibilities of a REDD+ Project Management Unit, there is a need for institutional strengthening and expansion of the existing and envisaged number of personnel. The required capacity will be strengthened through R-PP implementation.

By the end of 2018, it is foreseen that NIMOS will be fully capable of fulfilling its REDD+ responsibilities. An estimated 17 new staff positions—including technical, social, communications, public outreach and financial experts—will need to be created within NIMOS for management of REDD+.

NIMOS tasks, being the REDD+ Technical Focal Point, will be:

1. Overall coordination of REDD+ readiness activities and donor efforts supporting REDD+;
2. Project management;
3. Record minutes of IMAC meetings and be responsible for disseminating all information in a transparent and timely manner
4. Disseminate periodic reports regarding REDD+ Project Implementation to all relevant institutions and interested stakeholder
5. Conduct awareness raising, information sharing and dialogue;
6. Conduct consultations and facilitate participation of stakeholders;
7. Oversight for particular gender concerns for all aspects of R-PP implementation;
8. Finance management and tracking expenditures during R-PP implementation;

9. Ensure that the environmental and social impact assessment guidelines are being developed and executed considering the requirements of the FCPF Common Approach, UNDP and World Bank safeguard policies, national environmental policies and national ESIA guidelines. Monitoring guidelines and programs will be developed in collaboration with the Ministry of ROGB, i.e. the SBB.
10. Ensure participation in decision-making concerning REDD+ strategies and activities beyond Readiness phase (for the Consultation and Participation plan).

Additional capacity building needs related to building NIMOS' REDD+ capacity are included in the work plan of subcomponent 1a.
Box 1 illustrates the high level tasks assigned to NIMOS

Box 1. High-level tasks assigned to NIMOS

1. Prepare and encourage economic, legal and governance arrangements necessary to enable the country to implement its REDD+ strategy options
2. Ensure identification and understanding of key social, political, economic and environmental risks of REDD+ strategy options
3. Plan, implement and monitor REDD+ readiness activities
4. Ensure that environmental and social impact assessment guidelines are being developed and executed considering the World Bank safeguard policies, national environmental policies and national ESIA guidelines
5. Assess and address environmental and social risks, associated with REDD+ strategy options (SESA)
6. Prepare an ESMF for avoiding, mitigating, and managing environmental and social risks
7. Establish and manage a Climate Fund

1a.4 Description of REDD+ Steering Committee

The REDD+ Steering Committee will serve as an independent oversight and advisory body for the REDD+ readiness programme in Suriname. The RSC forms an important link between Government, Civil Society and NIMOS. The RSC will disseminate received information to their corresponding constituencies, so as to build ownership and understanding of REDD+ within each group. The RSC will also serve conduit to bring forward any concerns and requests for clarification from their corresponding constituencies.

Composition of the REDD+ Steering Committee (RSC)
The RSC will be composed of representatives from governmental institutions, the private sector, indigenous, Maroon and other forest-dependent communities, civil society and academia. The RSC is envisaged to have a rotating Chairmanship and to adhere to the principles of self-selection and fair representation.

Envisaged members of the RSC, and their prospective roles, will be as follows:

- Cabinet of the President of the Republic of Suriname

- The role of the Cabinet of the President is to ensure a coordinated implementation of the R-PP and the REDD+ readiness strategy within the context of the environmental commitments of the Government of Suriname.

- Ministry of Physical Planning, Land and Forestry (ROGB)
  - The ministry is responsible for adjusting existing laws (Forest Act, Forest Management Act) and establishing new regulations such as for land use change. It will assist in the full implementation of the R-PP and REDD+, taking into consideration the National Forest Policy and other related policies.
- Ministry of Natural Resources (NH)
  - The role of this ministry is to ensure a thorough assessment of existing and future drivers of deforestation and forest degradation, including mining and energy production activities. The development of adequate monitoring systems and/or the upgrading of existing monitoring schemes used in the mining sector will be taken into account. The role of this Ministry is to keep the NIMOS informed of all infrastructural activities regarding the exploration phase, resulting in a plan that minimize clear cutting.
- Ministry of Agriculture, Animal Husbandry and Fisheries (LVV)
  - The main focus of this ministry is to ensure a thorough assessment of existing and future drivers of deforestation and forest degradation, with due respect for land use changes and (new) agricultural activities, which may have an impact on the implementation of REDD+. The development of adequate monitoring systems and/or the upgrading of existing monitoring schemes used in the agricultural sector will be taken into account.
- Ministry of Regional Development (RO)
  - The Ministry of RO will work in close collaboration with NIMOS regarding consultation and participation. They have the responsibility to inform all relevant forest dependent groups, in particular forest-dependent communities and Indigenous and Maroon communities and ensure they have been effectively consulted regarding the implementation of the R-PP and the REDD+ readiness strategy.
- Ministry of Public Works (OW)
  - The role of this ministry is to keep NIMOS informed of all infrastructural activities that may have an impact on the implementation of the REDD+ readiness strategy, such as the improvement of existing infrastructure, as well as new infrastructural works (roads, bridges, dikes and other infrastructure).
- Foundation for Forest Management and Production Control (SBB)
  - SBB will be responsible for mapping land cover, land use and vegetation and calculating a national forest reference level. SBB will manage all technical issues with respect to:
    a. Developing a model for Carbon Monitoring and monitoring programs, in collaboration with ACTO;
    b. developing a framework for the establishment of reference levels;
    c. developing guidelines for MRV mechanism;
    d. developing training programs and time schedules for training sessions, meetings and workshops on technical issues regarding the implementation of the MRV;
    e. conducting training sessions, meetings and workshops with a focus on capacity building of (governmental) institutions and relevant stakeholders, in collaboration with national and international experts.[2]

[2] Components 3 and 4 below provide additional details related to the role of SBB.

- Forest sector, comprised of General Suriname Wood Union (Sawmill owners) (Algemene Surinaamse Hout Unie) and the Platform Timber Sector (Platform Hout Sector) and other large private timber companies
  - Look after the interests of the actors in this sector and ensure that the REDD+ readiness activities follow the Consultation and Participation Plan.
- Mining and Agricultural sectors, comprised of private sector organizations in mining, and of medium-sized and large mining companies and large and medium-sized agricultural companies in the future:
  - Look after the interests of the actors in this sector and ensure that the REDD+ readiness activities follow the Consultation and Participation Plan.
- Civil society and forest-dependent communities
  - The role of these representatives is to ensure continuous involvement of the communities and ensure feedback from the people whom they represent. Furthermore, their representation ensures that the implementation of the R-PP and REDD+ are in line with the results of the Consultation and Participation activities.
- Academia, research institutes including the Anton de Kom University of Suriname
  - The role of the above mentioned representatives is to ensure that research activities are properly conducted and that, where possible, all research institutions represented are indeed engaged. The representatives will furthermore encourage the inclusion of REDD+ issues in the curricula of academic institutions.

With the participation of especially the Ministries of ROGB, LVV, & NH as well as SBB, the Forest Sector and the Communities in the REDD+ Steering Committee, it is envisaged that REDD+ strategies will be incorporated into the existing working structures and processes for national forestry and land use policies. It is also foreseen that the IMAC will play an eminent role in integrating REDD+ strategies into the existing working structure and processes for national policy and decision-making.

1a.5 Description of REDD+ Assistant Collective

The implementation of the R-PP will be conducted with the support of REDD+ Assistants. REDD+ Assistants are representatives of local tribes and selected by their own communities to be trained in conceptual understanding of REDD+. The REDD+ Assistants Collective will be used to effectively involve Indigenous and Tribal People, which include soliciting the ideas and concerns of the stakeholders after they have been informed about the concept of REDD+ and the Government's plans for implementing REDD+ activities.

During R-PP formulation preparatory work was done towards the establishment of the REDD+ Assistants Collective. The four indigenous tribes and the six Afro-Surinamese tribes on Suriname's territory were invited by the Cabinet of the President to send two persons from each tribe to be trained in REDD+ facilitation by a local facilitation consultant. The purpose of the training sessions is to enable them to facilitate the local dialogues, and the consultation and participation sessions, which will be held in the various Tribal communities.

Those of us who are a bit more highly educated can understand this subject, but we need the time to translate that information for the target groups. We cannot ignore this issue; otherwise we will not get things done.

Josien Aloema – Tokoe, chair of the OIS
8 October 2012, Inception Workshop

During the training four components were emphasized: 1) understanding of the concepts of climate change and REDD+, 2) communication and communication tools, 3) the facilitation process and facilitation tools and 4) how to train others.
Seventeen REDD+ Assistants completed the training and became a supporting collective in facilitation of the local dialogues during the R-PP formulation phase, and during all the coming activities on REDD+.
They will also be helpful to make climate change and REDD+ understandable in the local communities in between REDD+ activities.

I have come, because I was invited. Although I do not understand this REDD+ thing clearly, I am willing to learn and then share it with my people.

Chief Ashongo Alalaparoe, from Kwamalasemutu, South West Suriname
24 October 2012, PG meeting

1a.6 Dispute settlement

NIMOS decisions regarding REDD+ Readiness coordination will be made known to the RSC. The RSC will seek to mitigate potential conflict among stakeholders and across sectors and institutions by maintaining a high level of transparency. This will in part be achieved through a continuously updated website as well as through the observers, who will act as independent monitors of the REDD+ process.
In addition, a 3-tier approach, namely a feedback and grievance redress mechanism (FGRM) will be created in the early stages of the R-PP implementation phase. Given that Suriname is also operating under the UN-REDD Programme, this mechanism will also need to adhere to the principles and standards outlined in the UN-REDD Programme Guidelines on FPIC.

The issue is also how people in the city talk accusingly about the interior and then get a mining concession themselves. In my village there is also a concession. How would you like it if someone came in your garden to dig for gold?

Hendrik Pai, representative of the Aucaner tribe
15 November 2012, PG meeting

Grievance and Conflict resolution: The REDD+ Steering Committee (RSC) can receive grievances and conflicts and determine their eligibility (based on criteria to be determined by the group). This may include research to gather the factual information. The RSC can process these issues in their monthly meeting and this should be included in the TOR of the RSC members. If the issues cannot be resolved by the RSC, they can be submitted to the Bureau for Contact with the People in the Cabinet of the President who has experience with handling conflicts between stakeholders with different levels of expertise or different disciplines and worldviews. If

negotiation attempts do not work, then stakeholders can submit the conflict to the Parliamentary Commission on Climate Change.
This allows a three-tier approach for addressing conflict in a legitimate and effective way. Solutions proposed by the Bureau for Contact with the People or the Parliamentary Commission on Climate Change will be returned to the RSC, who in turn will inform the affected group(s).
Indications for possible areas where such a grievance and redress mechanism might be required will be identified during the information sharing and early dialogue process. Based on these insights, the formulation and establishment of the mechanism will be done by NIMOS.

> *Where I live 139,000ha have been given in a gold mining concession. If one person receives so much land, then everything will be destroyed. All those years nothing was destroyed, now the government destroys everything.*
>
> Saskia Jacobi, representative of the Aluku tribe
> 15 November 2012, PG meeting

1a.7 Integration and coordination of environmental and social issues during readiness phase

Assessments of environmental and social risks and potential impacts of REDD+

NIMOS' department for Environmental and Social Assessments will be responsible for assessment of environmental risks and potential impacts associated with REDD+. These will be reviewed in accordance with FCPF guidelines as well as NIMOS Environmental and Social Assessment Guidelines (2009). Apart from the International Association for Impact Assessment (IAIA) Guidelines for Environmental and Social Impact Assessments (ESIA), the NIMOS guidelines have been based also on the AKWE KON guidelines Voluntary guidelines for the conduct of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities. As appropriate for the further REDD+ program the AKWE KON guidelines will be consulted and more fully implemented where required. Currently, NIMOS is formulating specific guidelines on biodiversity for those conducting ESIAs to include more detailed information on biodiversity, such as the functions of biodiversity and its value to the people (e.g. Indigenous and tribal communities that are using it). See Annexes for the Recommended Structures for ESIA and Strategic Environmental Assessments (SEA).

Mechanism for preparation of an ESMF (e.g., a SESA sub-committee)

NIMOS' department for Environmental and Social Assessments will be responsible for the preparation of an ESMF. The ESMF will be undertaken in accordance with FCPF guidelines as well as NIMOS Environmental and Social Assessment Guidelines (2009). See Annexes for the Recommended Structures for ESIA and Strategic Environmental Assessments (SEA), which currently is used for conducting Impact Assessments in Suriname. Noteworthy in this regard is that NIMOS has conducted two SESAs, namely the Forest Sector Environmental Assessment (2002) and the other one pertaining to goldmining, the Greenstone Belt Environmental Assessment (2003).

1a.8 Work plan for readiness management arrangements

Tables 1, 2 and 3 below present details regarding activities and costs associated with implementation of sub-component 1a.

The focus of the activities is on institutional strengthening of the implementing organizations and stakeholders and enable them to conduct the additional tasks related to implementation of the R-PP.

- *The Climate Development Unit* within the ROM/Cabinet of the President needs to establish a multidisciplinary team of persons who will be able to participate in climate change negotiations and analyze international climate finance mechanisms.
- *NIMOS* needs additional staff for project coordination and management, and implementation of the Consultation and Participation Plan. Specific skills needed are for coordination, facilitation, financial, communication and gender, social and legal aspects.
- *Members of the RSC* need to be trained in matters of REDD+.
- Awareness raising and capacity building amongst *Indigenous and Tribal People* is needed to enable them to actively participate in the planning and implementation of REDD+. Consultations held with local communities, made it clear that their knowledge of the abstract concepts of climate change and REDD+ needs to be raised, in order for them to participate in decision-making, free and prior informed consent and benefit sharing. Forest-dependent communities with increased knowledge will also be able to participate in implementing, monitoring and evaluation of the REDD+ Strategy.
- More *REDD+ Assistants* are needed to train the Indigenous and Tribal People, keeping in mind that the complex REDD+ language has to be translated in local languages.
- *Research institutes (AdeKUS and CELOS)* will have to increase their research and teaching capacities to encourage the inclusion of REDD+ issues in the curricula of academic institutions.

Table 1. Capacity building needs of NIMOS and CCDU

	Personnel needed					Total
NIMOS						
	2014	2015	2016	2017	2018	
Project management and reporting	2	2	2	2	2	**2**
Financial management	1	1	1	1	1	**1**
Planning	1	1	2	2	2	**2**
Awareness, consultations, stakeholder participation	1	2	2	2	2	**2**
Gender and social aspects	1	1	1	1	1	**1**
Subtotal FTE	6	7	8	8	8	**8**
CCDU						
Climate finance	2	2	2	2	2	2
Additional FTE	**8**	**10**	**10**	**10**	**10**	**10**

Table 2: REDD+ Steering Committee capacity building needs

Component 1a. National REDD+ Management Arrangements	Number					Total
REDD+ Steering Committee						
	2014	2015	2016	2017	2018	
Meetings of the RSC	15	15	15	15	15	75
Training sessions on REDD+ for RSC members	3	3	3	3	3	15
Communication and Logistic Officer	1	1	1	1	1	1

Table 3. REDD+ Assistant Collective: capacity building needs

Component 1a. National REDD+ Management Arrangements	Number					Total
REDD+ Assistant Collective						
	2014	2015	2016	2017	2018	
Training sessions on REDD+ for members of REDD+ Assistant Collective	3	3	3	3	3	15
Communication and Logistic Officer	1	1	1	1	1	1

Table 4. Sub-component 1a activities and budget

TABLE 1A. NATIONAL REDD+ MANAGEMENT ARRANGEMENTS ACTIVITIES AND BUDGET							
Main activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
1a.1 Setting up institutional arrangements	Institutional Arrangements consultations	20					**20**
	Meetings of RSC and Major Groups Collective	40	40	40	40	40	**200**
1a.2 Capacity building NIMOS, public sector, CCDU, RSC, Major Groups Collective and REDD+ assistants	Institutional strengthening of NIMOS through recruitment of human resources and training	180	210	240	240	240	**1110**
	Strengthening of planning expertise of public sector through training	50	50	50			**150**
	Strengthening of CCDU	200	200	200	200	200	**1000**
	Strengthening of RSC and Major Groups Collective through training	172	172	172	172	172	**860**
	Training of REDD+ assistants	100	100	100	80	80	**460**
	Communication and logistics	10	10	10	10	10	**50**
	Travel	80	80	80	40	40	**320**
Total		**872**	**882**	**912**	**802**	**802**	**4170**
Government		100	100	100	100	100	**500**
FCPF		**460**	**465**	**530**	**445**	**445**	**2345**
UN-REDD Programme (if applicable)		292	297	262	237	237	**1325**

1b. Information Sharing and Early Dialogue with Key Stakeholder Groups

The Government of Suriname initiated a stakeholder engagement process for the formulation of the R-PP. The process involves all direct and indirect forest users in a non-discriminatory and transparent way, ensuring broad participation and aiming to increase ownership of the R-PP. The stakeholder engagement processes adhere to the FCPF and UN-REDD+ joint 'Guidelines on Stakeholder Engagement for REDD+ Readiness with a Focus on the Participation of Indigenous Peoples and Other Forest-Dependent Communities'.

The Government sees REDD+ as a planning tool for forest lands and therefore intends to build general capacity for dialogues and consultations amongst all stakeholder groups for the longer term. The dialogues held to date therefore only represent the beginning of a long-term process of information exchange, consultation and participation.

The early information and dialogue process that have been undertaken during the R-PP formulation stage were aimed at sharing information about REDD+, conveying the plans of the Government and soliciting suggestions and concerns from stakeholders. As the process moves forward, groups are becoming increasingly engaged. It is hoped and expected that the nature of these exchanges will continue to advance and deepen—moving from simple information sharing in the early stage of the process, to an ever-stronger engagement of the concerned, up to active collaboration and joint decision-making during the REDD+ implementation phase.

This sub-component consists of four sub-sections. It begins with an overview of the stakeholder mapping process, in which key stakeholder groups are identified and the nature of their initial engagement is described. A second sub-section describes background and thinking underlying the design of the overall early dialogue and awareness process. A third sub-section summarizes individual dialogue and awareness events held to date, while providing links to more detailed reporting on these events. Finally, a summary is provided of the ways in which the results of the dialogues in particular have influenced the R-PP design, as well as describing short-term plans for follow up dialogues.

1b.1 Stakeholder Mapping

To guide the early information sharing and dialogue, stakeholders were grouped according to broad categories of forest users. This helped clarify their potential contributions to the objectives and goals of the stakeholder engagement process. Stakeholders were then mapped according to their relation to REDD+ and the potential impact of REDD+ on their livelihoods (see Table 5 below). The purpose of the mapping exercise is to increase knowledge about the stakeholders and other relevant actors in order to understand their intentions, agendas and interests and how they can influence the process. More importantly, the stakeholder mapping is enabling an inventory of the resources various stakeholders can bring to the REDD+ planning and decision-making process.

It is important in this R-PP process to go back to the forests and explain and make things clear to the people. The opportunity for this was not provided earlier because the government did not want to go to the communities. One hundred consultants could write a beautiful plan, but this doesn't mean it will be supported by the interior's communities. This must be prevented. No matter what you want to call it, a consultation, krutu or dialogue, if you involve the interior's communities the right way they will give the mandate to achieve a good result. If it is a bottom-up approach, and a sustainable plan is desired, this all must happen eventually.

Hugo Jabini, VSG and REDD+ project group member
24 October 2012, PG meeting

A strong focus of the stakeholder engagement process is on indigenous groups and Maroon communities. However, there are other important groups of stakeholders that also need to be involved in the process. Stakeholder groups are being engaged at different levels as per each group's capacity to absorb information and engage in the dialogue. The major stakeholder groups, and the manner in which each is being engaged, is explained below.

Indigenous and Maroon groups

Corresponding to Suriname's population distribution, many of the most directly concerned stakeholders are forest users residing in the coastal plain and savannah regions, which together comprise the northern 20% of the country's land area. See figure 3 for geographical distribution of tribes in Suriname. Indigenous Caraib and Arowak groups are among those living in this area. Indigenous and Maroon groups are also spread throughout the remainder of the country. The two largest indigenous groups in South Suriname are the Trio and Wayana, who live in the far south. In addition to indigenous peoples, the interior houses six different groups of Maroons: Ndyuka, Saramaka, Aluku, Paamaka, Matawai, and Kwinti dispersed along the rivers in the interior. Today, approximately 11,000 indigenous people and 54,000 Maroons live in Suriname; they remain among the most marginalized groups in the country.

Tribal groups are being approached through official Government channels. According to the State Decree on the Job Descriptions of Departments (Staatsbesluit Taakomschrijving Departementen, S.B 1991 no. 58 as amended S.B 2005 no. 94), the Ministry of Regional Development is legally responsible for maintaining the relationship between the central Government and dignitaries and inhabitants of the interior.

In Suriname, the *granman* (chief) has supreme authority over all members of the tribe within the tribal territory. His[3] office has both an administrative as well as a socio-economic function; it manages day-to-day issues within the territory, while also encompassing a representational role vis-à-vis the outside world. While not formally defined, the *granman's* role has developed over time through custom and practice. Specific responsibilities include the following:

- ensuring the well being of his community (natural resource use and management, rituals, rights, information flow, financial management and effective decision-making);
- enforcing law and custom within the territory and dispensing justice when appropriate (conflict resolution, enforcement of penalties, lawmaking);
- protecting his tribe from outside influences and representing their interests to outsiders (selection and involvement of outsiders, consultation process, payments for services);

[3] *As per the title, the Granman is invariably a male member of the tribe.*

- being the religious leader of the community, undertaking ceremonial roles that help to preserve societal cohesion, and;
- being the administrative leader of his community, ensuring that the tribal hierarchy functions, that services are provided, and that the community remains viable.

With this mandate, the tribal leaders are legally considered the formal representatives of their tribes; as such, they will be among those participating most directly in the REDD+ planning process.

> *When the message is brought the right way and is supported by one or two people, the krutu can yield support for the position.*
> *If the people are holding a krutu and the Granman himself makes a decision, they will not object out of respect for him.*
>
> Hugo Jabini, VSG and REDD+ project group member
> 24 October 2012, PG meeting

Previous processes of engagement of indigenous peoples and Maroons in Suriname—particularly those related to mining—have had a tendency to end in conflict. The following factors are important to consider in order to help avoid such problems: 1) tribal communities tend to have a different worldview, 2) time concepts are different, and 3) language barriers often create communication problems.

Because indigenous and Maroon groups were excluded from the earlier process of REDD+ development in 2009-2010, there may be feelings of discontent about the effort. Special attention is being given to this by being transparent about the role of the groups in each part of the process as well as ensuring that all local dialogues are conducted in a culturally appropriate manner, in the local language. Also, during R-PP implementation, adequate time will need to be taken to engage all the indigenous and Maroon groups through culturally-sensitive awareness and dialogue processes.

At the beginning of the present R-PP revision phase, the *granmans* received invitation letters from the Cabinet of the President. These letters informed the leaders that the Government was planning to initiate REDD+ readiness efforts and, in this context, was launching a process of early information sharing and dialogue. A short time later, another letter was sent, requesting the designation of a local facilitator (REDD+ assistant) for village level meetings (*krutus*), as well as participants for a National Dialogue meeting (see below). The facilitator needed to speak the local language, have at least five years experience working with the tribe and preferably live or have lived in the village.

Other groups

Other categories of stakeholder identified and engaged during the early dialogue and information process include the following:

- **Public sector,** including ministries and semi-Governmental entities
- **Civil society groups**, including groups representing women and youth
- **Private sector companies**, including representatives of the mining, forestry, tourism and other sectors,
- **Academia**, including the University of Suriname and other academic institutions

Each of the above groups have been invited and provided with information based on their respective capacities and cultural norms.

Suriname REDD+ Project Group

Members of each of the aforementioned groups received an invitation letter from the Cabinet of the President informing them about the Government's plans to initiate REDD+, and about the need for early information sharing and dialogue. The letter also invited the recipient to join the Suriname REDD+ Project Group (see details below) that was being established. Additionally, the letter requested stakeholders to attend National Dialogues on REDD+.

Subsequently, the Government of Suriname appointed 34 experts from within all of the above-mentioned groups—i.e. the private sector, civil society, the Government and indigenous and Maroon communities and academia—to provide timely feedback regarding the R-PP formulation process. The task of this 'Project Group' has been to advise the Government in the formulation of the R-PP. The Project Group was installed on October 3rd 2012 and was scheduled to meet for five times during R-PP formulation.

Table 5. Mapping of Stakeholders for the REDD+ Planning Process

Stakeholder	Current Positions/issues	Interests	Relation to the REDD + process	Reached through
Government: Cabinet of the President	Robust planning process with adequate stakeholder engagement	Peace and stability Development and growth	Project management Decision-making	National dialogue
Parliament Commission on Climate Change	Robust planning process with adequate stakeholder engagement	Peace and stability Development and growth	Decision-making	National dialogue
Government: Ministry RO	Involvement of all tribes living in the interior in the process	Involvement	Information dissemination in the interior Logistics in the interior	National dialogue
Government Sectoral Ministries: Ministry LVV, NIMOS, Ministry ROGB- SBB, GLIS Ministry OW	Environmental and forest management Decision-making based on scientific analysis	Protect the environment and forests	Technical expertise	National dialogue
NGOs: Tropenbos, ACT, CI, WWF	Conservation and protection of forests	Ideology, development work and scientific work	Technical expertise Inter-cultural communication with stakeholders	National dialogue
Tribes: Wayana, Trio, Arowak, Caraib, Matawai, Kwinti, Aluku, Ndyuka, Saramaka and Paamaka; including specific interest groups such as women, youth	Free and prior informed consent and benefit sharing REDD+ projects. Protection of rights, specifically land rights	Livelihood	Directly impacted by REDD+ Monitoring	Local dialogue
Umbrella organizations: VIDS, OIS (indigenous	Free and prior informed consent and benefit sharing REDD+ projects.	Advocacy Benefit sharing	Facilitator Inter-cultural communication	National dialogue

Stakeholder	Current Positions/issues	Interests	Relation to the REDD + process	Reached through
peoples), VSG (Saramaka), Talawa (Trio and Wayana)	Protection of rights, specifically land rights		with stakeholders	
Small-scale gold miners	Necessary deforestation for gold mining	Livelihood	Field presence (pot. Monitoring)	National /local dialogue
Companies that are engaged in large scale development projects in the interior- roads, dams etc.	Project that benefit the majority of citizens Sound environmental and social assessments	Development and growth	Information dissemination	National/local dialogue
Logging companies	Incorporating REDD+ in sustainable forest management	Livelihood	Field presence (pot. Monitoring)	National/local dialogue
Academia: University of Suriname and CELOS (Narena)	Decision-making based on scientific analysis	Academic credentials	Technical expertise	National dialogue
Tourism operators	Link REDD+ and tourism	Livelihood	Field presence (pot. Monitoring)	Awareness

1b.2 Information sharing and early dialogue

Principles of the information sharing process

Consultation and participation of the people of Suriname are seen as important elements of developing and implementing the R-PP and REDD+ strategy. Governmental structures, civil society structures, as well as traditional structures of the forest-dependent people are being used to achieve active engagement.

Suriname has held large, multiple stakeholder consultations in the past, e.g. during the preparation and formulation of the Multi-annual Development Plan (OP), the National Forest Policy, the National Biodiversity Strategy and the Climate Change Action Plan. Various national, regional, and local workshops, training and seminars have also been conducted. However, indigenous and Maroon organizations have expressed repeated concerns that these consultation processes have not sufficiently taken into account their traditional methods of meeting or their traditional structures for consultations.

In developing a plan for information sharing and early dialogue, careful account has been taken of the lessons learned from the above-mentioned experiences. Lessons learned have included the need to allow more time for the engagement process and to secure sufficient resources to ensure the thorough involvement of indigenous and Maroon communities in the process. Also drawing on lessons learned from previous consultations, the REDD+ readiness process is being designed to incorporate lessons learned on an ongoing basis, as well as recommendations from previous stakeholder meetings regarding the development of a consultation and participation plan. For example, most meetings in the past have been held only in the city and there has been little or no opportunity to get feedback from the chiefs or communities.

A plan for information sharing and early dialogue

The development and implementation of a plan for information sharing and early dialogue is being coordinated by the project management team (PMT). The Ministry of Regional Development is assisting with the design and implementation of consultation and participation meetings through governmental and traditional structures.

As a first step in the process, a draft plan was developed by a team of consultants consisting of a facilitation team, with guidance from an international engagement consultant, and an awareness team —all working under the oversight of the PMT.[4]

This plan received feedback during the first meeting of the Project Group (see below). The plan calls for dialogues to take place with the help of a group of facilitators. The facilitator is a third party that helps groups to accomplish the content of their work by providing process leadership and process expertise.

The plan calls for stakeholders' engagement to be executed in a culturally appropriate way, whereby cultural norms are followed. This was done, for example, by allowing the leaders of the tribes to invite the PMT formally. After which, the PMT would go to the villages where the dialogues were led by people from those villages or tribes, namely the REDD+ Assistants.

Furthermore, this engagement includes: 1) Adhering to the customs of the *locale*, 2) Communicating in the language of the *locale*, 3) Choosing a location that conveys respect to the leadership of the tribe, 4) Treating the tribal leaders with respect, 5) Identifying the local drivers for deforestation and degradation as input in the information sharing activity, 6) Being familiar with the local socio-economic aspect of the communities so the facilitator is able to correctly interpret answers, 7) Allowing sufficient time for the dialogue and 8) Timely dissemination of information.

Three types of dialogues are planned as follows:

- *National Dialogues*: Large-scale plenary sessions to meet with all stakeholders. The facilitation of these sessions has been designed to take a problem-solving approach, defining the problem and helping the participants to generate and evaluate alternative solutions and create action plans for the future. The projected outcome for the national dialogues is to discuss the R-PP document and to discuss the future of the REDD+ planning process.
- *Sectoral dialogues*: These consist of a series of meetings with the Project Group and the Resource Group (selected experts) and as necessary, other important stakeholders. The facilitation included information sharing, followed by a facilitated discussion to solicit the expectations and concerns of the various stakeholders. Box 2 lists the kinds of issues being discussed in the sectoral dialogues.

[4] *Stakeholder engagement processes are often facilitated by organizations that have specific knowledge about the diversity of the groups, their perception and frame of communication (language). More importantly is the trust that stakeholders have in these facilitators. This is especially relevant for getting timely input from traditional peoples into REDD+ projects that are designed based on western concepts.*

Box 2. Some issues being discussed during sectoral dialogues

- the national REDD+ readiness strategy
- the REDD+ implementation framework
- methodology for the development of a reference scenario
- monitoring, reporting and verification (MRV) activities
- methodology for the development of the national forest carbon accounting system;
- the development of a benefit-sharing mechanism
- economic effects and applicable mitigation
- environmental and social assessments and mitigation;

- *Local dialogues*: These are designed to encourage a two-way information exchange between the project and the indigenous and Maroon communities. In order to ensure cultural appropriateness and local fit in terms of event format, dialogue principles and so on, the facilitation is handled by two REDD+ assistants appointed by the tribal leadership whom have been trained in communication and facilitation by the project. The REDD+ assistants raise awareness and share information about the plans in terms of REDD+. The events aim to identify important issues (concerns, comments, suggestions) to be included in the national dialogue and the R-PP. Box 3 lists the kinds of issues being discussed in the local dialogues.

  The dialogues are carried out in selected villages according to three criteria: 1) equality, by including all the tribes in Suriname and not discriminating on their accessibility, 2) cultural appropriateness, by choosing the residency of the *Granman* for the dialogues, and 3) keeping the transport of people to a minimum. (see also figure 4 for the geographical locations of the ten tribes).

  Initially, ten locations have been selected for the first round of dialogues with the six Afro-Surinamese tribes and four indigenous tribes living in Suriname, namely: Apura (Arowak), Galibi (Caraib), RediDoti (Arowak/Caraib), Kwamalasamutu (Trio/Wayana), Langatabiki, (Paamaka), Drietabiki(Ndjuka), Witagron (Kwinti), Asidonhopo (Saramaka), Pusugrunu (Matawai), Cottica aan de Lawa (Aluku). In addition, a pilot engagement activity has been included in the first phase of the engagement plan, covering four locations. This pilot activity aims to build capacity among the PMT to engage with local communities and to solicit suggestions and concerns from communities that can be incorporated into the R-PP document and the further design of the dialogue and consultation process.

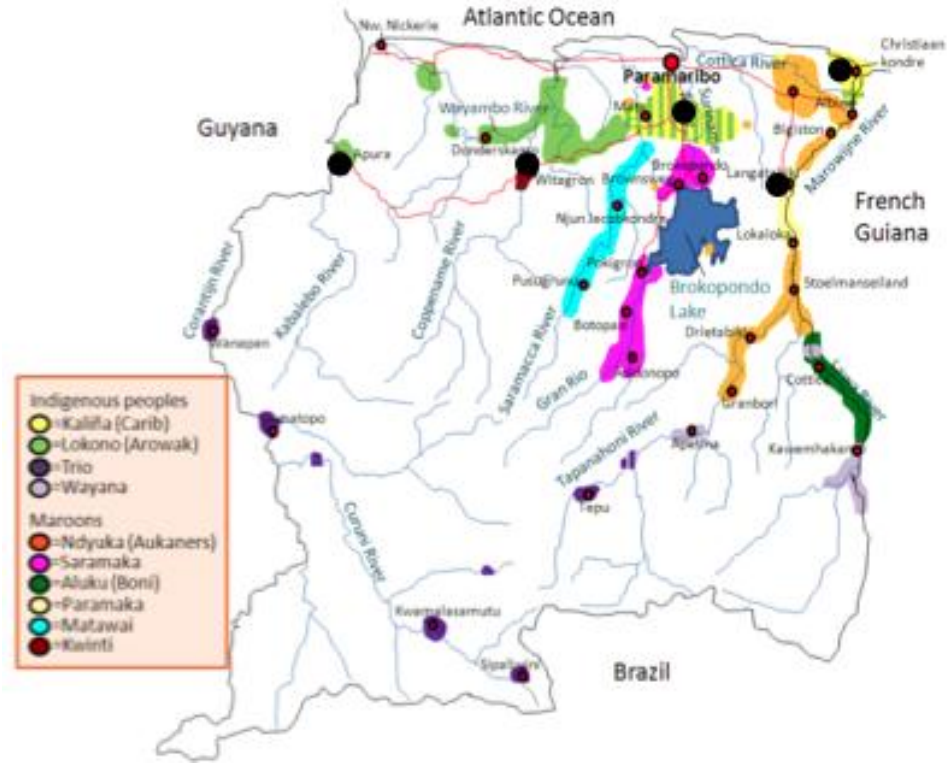


Figure 4. Geographic Locations for the local dialogues and information sharing

Box 3. Some issues being discussed during the local dialogues

- What is climate change and how does it affect us?
- Development including basic human needs (electricity, water, food security)
- What can be identified as drivers of deforestation and why?
- How can the community participate in actions against deforestation?
- The role of the stakeholders
- Gender: identify key gender concerns: including potential gender-based risks and unequal benefits that can hamper the welfare of different social groups, especially women, youth, and children
- Attention to key environmental and social issues in the REDD+ readiness process
- Why are forests so important?
- Concept of REDD+ and process to be followed
- Drivers of deforestation in their surroundings
- Participation of communities in REDD+ process: who, when, where, how
- Public disclosure and dissemination of information
- Communication and consultative mechanisms with relevant stakeholders for continuing information sharing and dialogue
- Livelihood issues
- Land rights issues

In order to guarantee the quality of the dialogues and the engagement of stakeholders, the following is monitored:

- the level of engagement of stakeholders,
- the "back room" talk that may have a significant impact on the process,
- the emergence of new stakeholders in the process,
- the communication among stakeholders in the process and
- the questionnaires provided to participants.

During the information sharing and early dialogue phase, various issues have been raised. The types of issues changed during the course of the project, as issues transformed from general to specific. Also, there were new issues that came to the forefront, as well as values that are important to consider for the stakeholder engagement in the future.
An overview of the issues raised during the different activities is given in section 1b.3.

Grievance

During the dialogue it was explained by the PMT that if stakeholders feel that they have been negatively impacted by REDD+ activities and want to register this grievance or conflict, they will have ample opportunity to do so within the process (see section 1a.6 for further details).

Incorporation of gender aspects

Key gender concerns have been considered in the local dialogues and in other early dialogue events.

Communication and outreach strategy

The aim of communication and outreach is to disseminate information about the activities of the R-PP and the implementation of REDD+ issues to the Suriname community in such a way that the information is easily accessible and understood by everyone, so as to provide better understanding of the process. Only then will people be able to contribute to the readiness strategy design. Existing means of communication, such as national, district and community TV, radio and newspapers, will be used to disseminate information in national, local and traditional languages. Where villages have none of these communication media available, awareness meetings will be held.
To ensure transparency, the following materials have been disseminated during the R-PP formulation process:

- Minutes of the Project Group meetings
- Audio-visual recording of all meetings
- Visual aids
- Background papers
- Reports of all local dialogues, published on website
- Reports of all national dialogues, published on website
- Overall monthly reporting on the facilitation (management report, no publication)
- Items for local radio and TV produced and broadcasted
- R-PP drafts, including a Dutch translation, and TAP comments

I was glad to see the people of Apoera accept me to guide the krutu, although I am young and especially since I am not of that western region, but from Galibi in the east.

Sirito – Yana Aloema, REDD+ assistant of the Carib tribe
23 November 2012, Apoera

1b.3 Summary of information sharing and early dialogue activities to date

Given the experiences of the information sharing and early dialogue process that took place during the 2009-2010 effort to develop the R-PP, it was considered of great importance to undertake a thorough process this time around. In this light, an intensive series of such events have taken place from October – December 2012. These events are described below, a summary is provided in table 6 and links are also provided to more detailed reporting related to each event. Finally, additional dialogues took place in January and February 2013 prior to the February R-PP submission deadline.

Table 6. Summary of dialogue meetings conducted during October-December 2012

	Number of stakeholders		Percentage of stakeholders		
Event	**Invited**	**Total**	**Women**	**Youth**	**Tribal/marginalized**
Inception workshop 8 October 2012	50	33	39%	50%	30%
2nd Meeting of the Project Group 24 October 2012	40	18	44%	0%	50%
Facilitation training for the REDD+ assistants 14 November 2012 Project Group members	20	16 11	37.5%	75%	100 %
3rd Meeting of the Project Group 15 November 2012	40	35	40%	45%	66%
Local dialogue with the Aluku tribe In Cottica 22 November 2012	100	16	50%	40%	100 %
Local dialogue with Arowak/Trio tribe In Apura 23, 24 November 2012	100	Day 1- 23 Day 2 -16	50% 40%	- -	100 %
National dialogue 3 December 2012 Persons participated in workgroup session	225	87 55	42% 47%	- -	29% 23%
Local dialogue with the Matawai tribe in Pusugrunu 18+19 January 2013					

Local dialogue with the Trio tribe in Kwamalasamutu 1+2 February 2013	Results are still being processed
Refreshment workshop for REDD+ assistants 22 January 2013	
4th Project Group Meeting 23 January 2013	
2nd National Dialogue 15 February 2013	

Installation of Project Group

On October 3rd 2012, the PMT, on behalf of the National Security Bureau, organized the first meeting of potential project group members. The purpose of this 'Installation Workshop' was to formally install the members of the 'Suriname REDD+ Project Group.' The meeting was designed to be the first in a series of Project Group meetings to be held during a scheduled six-month R-PP revision process. The Project Group, which was installed on this date includes members of different groups in society, including several representatives of indigenous and Maroon tribes, representatives from the private sector, NGOs and government institutions. The Cabinet of the President and the PMT invited the representatives present. Based on attendance it can be concluded that 90% of invitees were present.

At this first meeting, the basic concepts of climate change and REDD+ were introduced and explained, together with the logistics of the R-PP finalization project. To date, thirty-four members have been formally installed in the Project Group. As stated by all representatives in the meeting, it can be concluded that the methodology used by the Cabinet of the President and the PMT in inviting and organizing the meeting, in line with FPIC, which resulted in spontaneous entering of the membership of the Project Group by a large amount of invitees.

Inception Workshop

Following the installation of the Project Group, an Inception Workshop was held to share information on the role and partnership of the project funding and technical support entities such as the FCPF and UNDP. A team of national and international consultants presented an overview of the requirements for an effective process, including the engagement of stakeholders. During the process of information sharing to the Project Group, a number of important issues were raised and discussed. The meeting synopsis (in the appendix) provides details of these presentations and associated discussions.

Additional Project Group meetings

Three additional meetings of the Project Group took place in respectively October, November and January. A second Project Group meeting, held on 24 October, focused on defining the Project Group's role in relation to the local dialogue process, as well as discussing that process itself. The third Project Group meeting, which was held on 15 November, was designed to facilitate PG inputs into the formulation of the R-PP. This was done through a series of discussions mediated by members of a Resource Group that had been established to support the R-PP drafting process. A fourth Project Group meeting, held on 23 January, discussed the

progress of the project so far, the process for the coming months and the R-PP draft that was submitted on 19 December 2012.

Local Dialogues

Invitations were received and local dialogues were held for four villages in the period from December 2012 to February 2013: (i) in Apura (Arowak) 23 November, (ii) Cottica on the Lawa River (Aluku) on 22 November, (iii) Pusugrunu (Matawai) on 18 and 19 January, and (iv) Kwamalasamutu (Trio) on 1 and 2 February. Reports on the local dialogues have been included in the annex.

> *As my nickname is Captain Positive, I must in all honesty say that the krutu in Pusugrunu was indeed positive! If not, the people would not have participated this intensely.*
>
> Captain Wilson Willems and Gracia Emanuel, REDD+ assistants of the Matawai tribe
> 19 January 2013, Pusugrunu

National (Plenary) Dialogue

The purpose of the meeting was to present the R-PP project to all the identified stakeholder groups: civil society, private sector, academia, tribal communities and government. The PMT explained the process that had been followed up until the day of the meeting and discussed how to move forward.

Most of the meeting was focused on information sharing. The response of some stakeholders was to give suggestions to use their infrastructure (consumers' organization, women's organization) for information dissemination. Other stakeholders addressed the marginalized position of the peoples from the interior, while others addressed that gold mining is threatening the safety of the forest peoples.

Participants were placed in groups and asked to complete a SWOT analysis related to REDD+ as a whole or specific aspects of REDD+. The specific issues that were raised during the SWOT could be divided into two tracks. Track one came from tribal communities living in the forest. They identified threats related to basic human needs, such as safety from illegal activities of others, the lack of economic development such as water and electricity, and the potential threat of not having sufficient agricultural plots in the future. They also identified opportunities to build capacity, get new jobs and to be in a dialogue with the Government about the forest.
The second track came from the more western-oriented thinkers. They saw the threats as arising from inadequate institutions, laws (related, *inter alia*, to land rights) and physical planning. This group saw awareness raising and collaborative planning as among the key opportunities arising from the R-PP process.

In addition to the above meeting, comments and inputs to the draft R-PP were provided during a series of open-door meetings, together with comments received by email and telephone, on 12, 13 and 14 December 2012.
For full insight into participation and comments received, please refer to the annex.

> *I am glad to see that the emphasis is not laid on how much money can be earned from REDD+, but how to sustainably manage our forests.*
>
> Astrid Belliot-Buitenman, ministry of Foreign Affairs
> 3 December 2012, National dialogue

General to specific issues raised during dialogues

In the beginning of the process the issue was raised that the focus of the current process was to be on sharing information with the stakeholders. The stakeholders responded by addressing concerns that are frequently seen as an obstacle in the implementation of projects in Suriname. Issues such as information sharing, awareness-raising, and stakeholder identification were raised. In addition, as with other projects in Suriname, the lack of rights to land was raised as it is seen as a prerequisite to talk about forest protection and use.

After the project structures were established, the issues became more specific. The project group started to trust each other, the PMT and the consultants, and felt safe to address more deeply rooted needs. Needs are broader than issues and "are motivated by the desire to achieve or maintain the various conditions upon which our basic satisfactions rest"[5].

Specific issues were for example: the dual strategy of the government to grant concession at the same time as considering REDD+ as a planning tool to sustain the forest. Other issues were: having a voice in the process and communities having some kind of income generation from the forest. In addition, a stakeholder representing indigenous communities (VIDS) sent a letter asking why they had not been included in the process yet on November 23rd 2012. The VIDS had been listed to be invited for the national stakeholder dialogue on December 3rd, 2012, an invitation accepted by them. They also stressed the need for FPIC in this phase of the process. However, this is not mandatory in the information sharing and early dialogue phase.

> *Although we are young and have never conducted a krutu before, we were able to share the information with the visual aids the PMT and others within the project provided us.*
>
> Saskia and Percival Jacobi, REDD+ assistants of the Aluku tribe
> 22 November 2012. Cottica

New issues posted

During the process several new issues were posted that had to do with respect of the tribal communities. The historical course of action of the Government has caused such issues to be raised. Communities felt that they are the keepers of the forest, have a lower status position in society because of their life in the forest, and need some form of compensation.

There is a lack of trust between the communities and the Government, which became evident when they had to work together in the training for the local dialogues. Some communities wanted to know what is happening with the information gathered in the process, and were skeptical about the process. Others were more optimistic and saw the current transparent process as a good intention from the Government.

During the dialogues, the communities emphasized the additional value of the forest as a safe haven for them. The Maroon communities fled to the forest during times of slavery. This role of the forest became evident when some of the communities explained that having the non-Maroon communities, such as Brazilians and other types of Surinamers, coming into the territory for gold mining makes them feel unsafe.

[5] Abraham Maslow, Human Motivation Theory

1b.4 Work plan for information sharing and early dialogue

The intention is to visit the remaining 200 villages in Suriname during 2013-2015, either in groups or individually (see Figure 3). This is taken into account in the Work plan for the REDD+ Assistant Collective (Table 3). Table 7 shows the activities and budget for sub-component 1b.

Table 7. Sub-component 1b activities and budget

TABLE 1B. INFORMATION SHARING AND EARLY DIALOGUE ACTIVITIES AND BUDGET							
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
1b.1 Formulation of stakeholder engagement strategy and awareness plan	Recruitment of communication consultants	30					**30**
	Strategy consultations	20					**20**
1b.2 Information Dissemination and Early dialogue	Information sessions, workshops, dissemination of materials	200	200				**400**
	Logistics and travel	100	100				**200**
Total		**350**	**300**	**0**	**0**	**0**	**650**
Government							**0**
FCPF		**236**	**236**	**0**	**0**	**0**	**472**
UN-REDD Programme (if applicable)		114	64	0	0	0	**178**

1c. Consultation and Participation Process[6]

1c.1 Upcoming consultation and participation process

At local level, especially forest dependent people, lack conceptual understanding of REDD+, as can be concluded from the reports of the Project Group meetings and stakeholder consultations. REDD+ can contribute to community level development, but only if capacities of forest dependent communities are enhanced, to allow them to understand its benefits and implications. Even at higher levels, within governmental institutions and NGO's, personnel in general do not know the basics of REDD+, its political, institutional and methodological aspects. During the R-PP preparation and continuing during the R-PP implementation, groups are becoming increasingly engaged from simple information sharing in the current early stage of the process, to an ever stronger engagement of the concerned up to an active collaboration and joint decision making in the REDD+ implementation phase (see Figure 5).

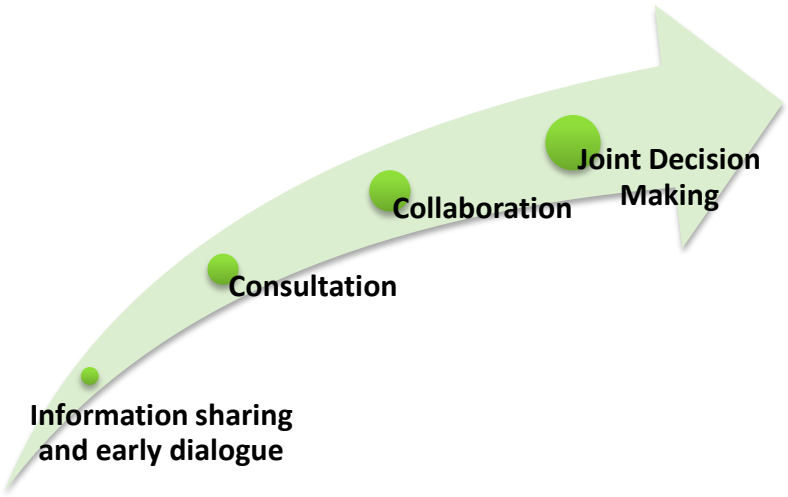


Figure 5. Stages of stakeholder engagement with increasing involvement of those concerned

For the first phase of the engagement plan the Government has executed a pilot engagement activity. This has build capacity among the project team and REDD+ assistants to engage with local communities and to solicit suggestions and concerns from the communities that can be addressed during the R-PP.

The participation plan will take into account both the structure of the Government and the traditional authority structures of the indigenous and Maroon communities of the interior.
With regard to the structure of the Government, the Ministry of Regional Development and its institutional structures, i.e. the district commissioners (DC), the sub-regional coordinators and the administrative officers will play an important role in the process, in liaising with the forest-dependent communities, indigenous and Maroon communities, and civil society groups, as well as in disseminating information. For this purpose, existing governmental and traditional structures for communication will be utilized.

[6] This sub-component is being developed in an iterative manner in line with the results of the ongoing early information sharing and dialogue exercise.

According to the law, district commissioners must be informed about activities that will take place in the respective districts. The district commissioner governs the district and is assisted by the sub-regional coordinators and administration officers. The district commissioners have the responsibility to oversee that activities are properly implemented and that all relevant stakeholders, indigenous and Maroon communities are involved and informed. District commissioners, together with the sub-regional coordinators and administrative officers of the districts, will therefore provide assistance in setting up, implementing and facilitating the consultations and participation meetings.

The existing consultations will be broadened during the R-PP implementation phase and lead to an active collaboration, of stakeholders, which in turn will be basis for building a culture of joint decision making on REDD related issues. Planning for an effective REDD+ consultation process in Suriname needs to take into account a number of key elements, which are outlined below.

Defining the desired outcomes of consultations

The objective of the Consultation and Participation Plan is to engage the people of Suriname in the planning, implementation, monitoring and evaluation of the future REDD+ readiness strategy and to ensure continuous feedback. All relevant stakeholders will be part of the design and implementation of the REDD+ readiness strategy. This is a key element to ensure the successful design and future implementation of the REDD+ readiness strategy. Key elements of the REDD+ programme (such as a grievance mechanism and benefit sharing) will require FPIC, as per the guidelines of the Common Approach.

Stakeholder analysis

The key stakeholders that have a stake/interest in the forest and those that will be affected by REDD+ activities have been identified (see section 1b.1 above for demographic information on stakeholder composition).

Special attention will be given to the indigenous and Maroon people to ensure the inclusion and non-discrimination compared to the stakeholders that live in rural and urban areas. To reach all stakeholders, the indigenous and Maroon peoples will be approached by having selected meetings in culturally appropriate locations throughout the country.

Stakeholder engagement processes are often facilitated by organizations that have specific knowledge about the diversity of the groups, their perception and frame of communication (language). More importantly is the trust that stakeholders have in these facilitators. This is especially relevant for getting timely input from traditional peoples into REDD+ projects that are designed from western concepts. In table 8 are identified facilitators and potential multipliers to vertically disseminate information from the project to the relevant stakeholders. The networks and platforms that understand the perceptions of the stakeholders and that can provide input in the planning process are also identified in table 9.

As far as the forested area of the country is concerned, besides the government, many non-governmental organizations in Suriname, such as CI Suriname, WWF, ACT Suriname, SCF and the 'Binnenland Overleg' (a network of local non-governmental organizations that work in the interior), work with forest dependent people, indigenous and Maroon communities, as well as relevant women and youth organizations. The experience of these organizations' and lessons learned from their meetings will also be taken into account. Therefore, relevant organizations

will be engaged to advise NIMOS and the RSC for the development and implementation of the consultation and participation plan.

In a training workshop on REDD+, organized by CI Suriname for key Indigenous and Maroon community representatives (12th–14th August 2009), participants discussed what they thought was an ideal consultation and participation plan for Indigenous and Maroon peoples of the interior. The results of which will be used for further input into the consultation and participation plan. It is self-evident that the consultation process is extremely costly and time consuming, but it does provide continuous information and participation.

Table 8: Important facilitators/multipliers and their networks to secure the long term engagement of stakeholders

Facilitators and multipliers	Type of support
University of Suriname, Mining Department	Multiplier
Local schools, involved in a number of environmental and social activities	Multiplier
Umbrella organizations (VIDS, OIS, VSG, TALAWA)	Facilitator for indigenous peoples and Maroons
Nature-related NGOs working in the interior (Red Cross, NVB, PAS, ACT, CI)	Facilitator for specific target groups Multiplier
Local Governments (District Commissioner, district and resort members)	Facilitator for all groups Multiplier
Local youth, women and religious organizations	Multiplier
Project Group R-PP	Facilitator for all groups Multiplier
REDD+ assistants	Facilitator for indigenous peoples and maroons Multiplier

Table 9: Important networks and platforms that will support the engagement of stakeholders

Networks and platforms	Type of support
Goldmining sector platform (Government and miners)	Engaging small-scale gold miners
Timber platform (Forestry companies)	Engaging forestry sector
Private sector organizations (VSB, MKB)	Experience and results of stakeholder engagement
Small-scale gold mining entrepreneurs (Vereniging van Binnenland Entrepreneurs)	Engaging small-scale gold miners
Universities and research institutes	Experience and results of stakeholder engagement in infrastructure project
Tourism platform (e.g. TOURS and Stichting Toerisme Suriname)	Engaging stakeholders
Project Group R-PP	Engaging stakeholders from broad selection of organizations and groups

Respecting traditional and governmental structures

With regard to the structures of the traditional authority, the chiefs or captains of the indigenous and Maroon villages play a crucial role. The chiefs or captains must be informed in detail about everything before they can take the responsibility to pass on information to their communities, and before they can decide to be part of any participatory process to formulate the R-PP and REDD+ readiness strategy.

Incorporation of feedback from stakeholders

Together with the relevant stakeholders, a mechanism will be developed and set up to incorporate the stakeholders' feedback into the REDD+ readiness process. This will include feedback on key environmental and social risks perceived by stakeholders.

This is also in response to insights gained during the early dialogues, which took place during R-PP development, where stakeholders expressed a keen interest to learn more about the REDD+ concept and government's policy to implement it.

1c.2 Feedback and grievance redress mechanisms

Feedback and grievance redress mechanisms

The grievance redress mechanism exists of three chambers as described in chapter 1a.4. The first chamber is the RSC. If grievance / or disagreement is not addressed in a sustainable way, the 'Bureau Contact with the People' in the President's Secretary will be the second chamber to elevate disagreements to a neutral authority. The 'Bureau Contact with the People' is responsible for listening to the complaints of people on Suriname's territory, and help bringing adequate and sustainable solutions for problems. The Bureau is pre-eminently suitable to function as an authority to redress grievance and disagreements. The third chamber is the permanent Parliamentary Commission on Climate Change.

Establishment of the mechanism

Indications for possible areas where such a grievance and redress mechanism might be required have been identified during the information sharing and early dialogue process. Based on these insights the formulation and establishment of the mechanism will be done by the 'Bureau for Contact with the People' in the Cabinet of the President.

Key elements of the mechanism

Stakeholders who feel that they have been negatively impacted by the promotion of REDD+ and future REDD+ projects have to be given the opportunity to restore their identity within the process. Grievances shall be submitted to the project group, tested on eligibility and decision can be made by a non-partial organization. Conflicts can be addressed by the Cabinet of the President, who has experience with handling conflicts between stakeholders and if this negotiation attempts does not work, then stakeholders can submit the conflict to the permanent Parliamentary Commission on Climate Change.

1c.3 Work plan for the consultation and participation process

Table 10. Sub-component 1c activities and budget

TABLE 1C. CONSULTATION AND PARTICIPATION PROCESS ACTIVITIES AND BUDGET							
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
1c.1 Formulation of Consultation and Participation Plan	Recruitment of communication and social consultants	30					**30**
	Participatory meetings for the design of the roadmap for consultation and participation	50					**50**
1c.2 Consultations	Expert consultations		10	10	10	10	**40**
	Sector consultations		20	20	20	20	**80**
	Consultations with forest dependent communities		50	75	75	75	**275**
	Logistics and travel	50	70	90	120	120	**450**
	Communication material	10	20	30	30	30	**120**
1c.3 Strengthening existing grievance and redress mechanism	Institutional strengthening	20	20	20	20	20	**100**
Total		**160**	**190**	**245**	**275**	**275**	**1145**
Government							**0**
FCPF		**112**	**133**	**172**	**192**	**192**	**801**
UN-REDD Programme (if applicable)		48	57	73	83	83	**344**

Component 2: Prepare the REDD+ Strategy

2a. Assessment of Land use, Land Use Change Drivers, Forest Law, Policy and Governance

2a.1 Forest inventory, including past changes due to deforestation, degradation and enhancement

With a total forest cover area of 14.8 million ha, Suriname has a per capita forest area of 29.6 ha/person. Suriname has a relatively low deforestation rate. Until recently, timber production had stagnated at 150,000 – 200,000m^3/year during the last decades, or about 20% of the potential sustainable timber production. However, timber production has recently increased dramatically, to an estimated 247,377 m3 in 2010 and 366,000 m3 in 2011.[7] There is a need for in-depth assessments to clarify the rate of deforestation and forest degradation and the main drivers. Mining, logging, infrastructure development, agriculture, energy production and housing development are identified as drivers of deforestation and forest degradation. Alongside the aforementioned anthropogenic sources of deforestation, it has been ascertained from anecdotal sources that higher frequencies of forest fires have developed over the past years. The main driver of deforestation and forest degradation in Suriname has been mining, including small, medium and large-scale mining for bauxite, gold, kaolin and hard core. With the implementation of the national forest inventory, of which the pilot phase is currently ongoing, and with the eventual implementation of the RPP more detailed information of the forest resources will become available.

2a.2 Context

Suriname is a carbon negative country (carbon sink due to the immense forest area), and aims to sustainably manage its forest resources and conserve as much as possible. Suriname can be classified as a High-Forest, Low-Deforestation (HFLD) country. It is in an early stage of the forest transition curve, implying that deforestation and emissions could be expected to rise over time.
Standing forests represents a carbon pool of 11.1 Gton CO2eq (source SBB Bosbouw sector analyse 2010). The First National Communication (FNC) states a removal of 0.001 Gton CO2eq from Land use, land use change and Forestry, based on available data in 2003. The Mitigation Assessment of the Second National Communication (SNC) states a sequestration of 0.008 Gton CO2eq based on available data in 2008.
Suriname has entered an era of increased economic and industrial development, and therefore needs to ensure that adequate forest protection and sustainable resource management systems are in place. The Multi-Annual Development Plan 2012-2016 does mention REDD+ as a potential means to economic benefits for the country.

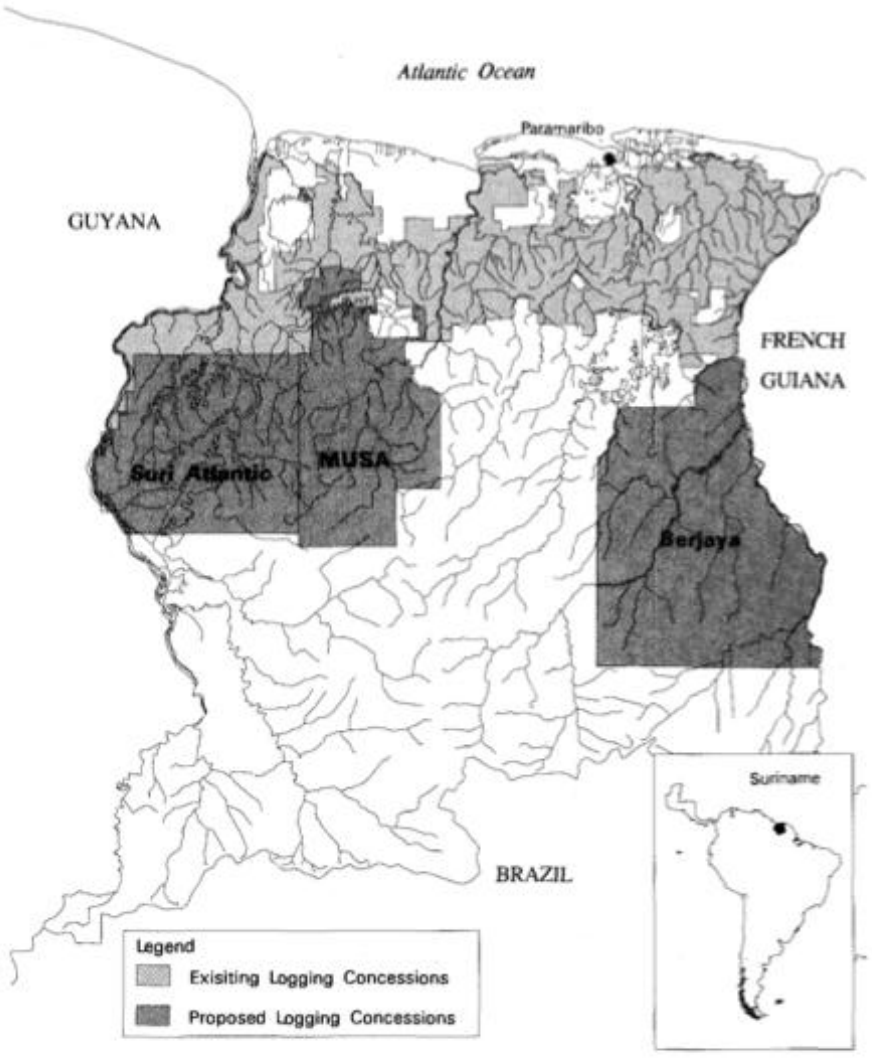
[7] *SBB, Bosbouwstatistieken 2011*

Policy failures:
In the early nineties, Suriname was suffering from an economic crisis and was focused on stimulating foreign direct investment.

Due to lacking institutional oversight, combined with weak forest management authorities, large-scale and potentially destructive concessions were granted.

In early 1993, large-scale logging concessions were granted to Asian logger barons, totaling somewhere between 3-5 million ha, equivalent to 25-40% of the country's land area (see figure 6).

In 1995 the WRI published the report 'Backs to the Wall in Suriname: Forest Policy in a country in crisis'. The report clarified the potential environmental and social risks that Suriname was exposed to by having granted the afore-mentioned concessions. Confronted with this information, combined with increasing local and international pressure, the Government of Suriname established the Central Suriname Nature Reserve in 1998 and by doing so brought the potential deforestation and degradation to a halt.



Source: World Resources Institute and Conservation International

Figure 6. Proposed logging concessions in Suriname in 1993

Policy successes:
In 2000 the current forest management structures began to take shape. Both NIMOS and SBB were established two years earlier, as a response to increased pressure on the forests.
The estimated 0.02% annual deforestation rate and 94.7% forest cover are clear indications that past Government interventions have prevented market or policy failures in Suriname.

Policy successes that have prevented large-scale deforestation are:
- The establishment of the foundation for sustainable forest management (SBB)
- The establishment of the Jan Starke education center for sustainable forest management
- The creation of the Central Suriname Nature Reserve 1.6 million hectare
- SBB successfully conducted large scale, intensive enforcement interventions in the Suriname forests to eradicate illegal logging.
- Introduction of a zero pass-through-policy for unregistered logs in 1998, making it impossible to export illegally harvested logs.
- The 1998 formulation and enactment of the necessary bylaws to implement the forest management act of 1992.
- The 2003 formulation, approval by the council of ministers and publication of a comprehensive national forest policy.

Sustainable management is now a very strong basis for our forest sector (See box 4). REDD+ as planning tool for sustainable development can provide an important piece of the puzzle to ensure that Suriname remains carbon negative.

Box 4. Sustainable Forest Management rules from SBB

- Logging activities can take place only in areas where a timber cutting license (concession, Community forest, incidental cutting license) is issued and on private owned and long lease land.
- All cutting activities in a timber license can only take place after written permission from SBB, based on a Harvesting plan, which has been approved by SBB. The Harvesting plan includes the cutting area where the logging will take place and the results of an inventory map indicating the location, species and dimension of all inventoried trees, the trees selected for harvesting and the location of the planned skid trail and landings.
- The logging activity has to take place according to the Reduced Impact Logging (RIL) system.
- All felled trees must be tagged with a label and a unique label number that are provided by SBB. All felled trees must be registered in a cutting register including the label number. After approval of the Cutting register by SBB and the payment of the retribution, the felled logged can be transported and processed. The unique number is entered in the Log Tracking System (LogPro) and processed. The LogTrack system has been developed "in house" with the assistance of a FAO consultant in 1998 and is still evolving. During the control of the cutting register a forest guard goes into the forest to check the origin of the logs. The location of all felled trees, landings and, roads, compartment, concession boarder and most of the skid trails are gathered by GPS.
- All the information gathered by the GPS is processed in the GIS. So a data base is developed with a map showing the timber cutting licenses, exploited areas and so on.
- Every transported log must be accompanied by waybill which has to be shown at every forest guard post which is located at all access roads, at all the mills and export ports.
- Everyday a team of forest guard goes to the way mills to control if the logs delivered to them are registered and not illegal (by processing the unique label number in the data base).
- The unique label number indicates where the log was cut, when it was transported and if the retribution is paid.
- Before any log can be exported it must be graded, the origin checked, and the retribution and other tax paid.

2a.3 Assessment of drivers

In 2009, Suriname carried out a quick assessment of key drivers of deforestation and forest degradation, the conditions that might trigger or accelerate the deforestation and forest degradation process, existing regulations, gaps and constraints. This assessment was done during a training organized in collaboration with Conservation International.
The assessment was reviewed, expanded and updated by the PMT and Resource group, taking into account Government policies and development plans for the period 2012-2016. The following direct drivers of deforestation and degradation have been identified and are discussed below:

- Mining
- Logging
- Infrastructure development
- Agriculture, including traditional and modern
- Energy production
- Housing development

For each of the above drivers, the following aspects are considered:

- Overview of the extent / nature of the threat / change
- National programmes, strategies and regulatory oversight and other baseline activities aimed at managing the sector and/or reducing the threat
- Underlying causes and barriers to improved management / oversight

Mining

Overview:

Two types of mining are significant in Suriname. These are: (a) bauxite mining, and (b) gold mining. (See also figure 7 for the mining concessions and activities in Suriname)
(a) *Bauxite mining*: SURALCO, a subsidiary of the Aluminum Company of America (ALCOA), has been active in Suriname since 1916. The company has a long-standing working relationship with the Australian-owned BHP Billiton. In 2008, the government and BHP Billiton took the decision to discontinue the joint development of the Bakhuys Mountain Reserves in West Suriname.

(b) *Gold mining*: Suriname's gold-bearing areas are part of the Guiana shield, an extensive Precambrian greenstone belt that encompasses 415,000 km² and extends from Venezuela through Guyana, Suriname, and Le Guyane into Brazil's Amazon basin. Gold mining activities in Suriname have been increasing in recent years, driven in large part by rapid global increases in the price of gold. Most gold mining currently takes place in East Suriname, mainly around the Brokopondo Lake.
The gold mining sector can be divided into the two sub-sectors:

1. Small- to medium-scale gold mining activities, which takes place in the forests of the interior. These activities are generally unregulated and untaxed. According to Heemskerk (2005), small to medium-scale gold mining is crucial for the livelihoods of Maroon families in the Suriname interior. Survey data from 2002 suggests that in some villages, 70% to 80% of households obtain regular income from mining members of the

household or the extended family[8]. There are currently about 20.000 registered small-scale gold miners in Suriname[9].

In addition to the area directly deforested or degraded by land clearance and mining activities, additional surrounding areas are subject to forest degradation due to environmental pollution, in particular through the use of mercury.

2. Large-scale gold mining also takes place. Currently, Rosebel Gold Mine (RGM), a wholly-owned subsidiary of the Canadian firm IAMGOLD, is the only large scale operator with an active plant. Recently IAMGOLD reached an agreement with the Government of Suriname for expansion of their operations[10].

A joint venture between SURALCO and Newmont Mining Corporation was established, which resulted in the establishment of SURGOLD, a second operator in Suriname. Its project area covers 743 square kilometers of concession rights in the Brokopondo area of eastern Suriname. Initial exploratory research indicated possible reserves of up to 3 million troy ounces on the Nassau Plateau in East Suriname.
SURGOLD commenced negotiations with the Government for a production license in 2008, and has recently reached an agreement with Surinamese Government.

Current management structures:
The following institutions, programs and policies, guide the management of the mining sector:

- Suriname's Development Plan (OP) 2012 - 2016: represents Government development visions for the period;
- Commission of the Structuring of the Gold sector (OGS): established in December 2010 to reduce illegal gold mining and provide further structuring for the small scale gold mining sector;
- The Brokopondo Agreement: Supplied majority of electricity demand for bauxite and alumina production;
- Mining Decree: regulates the entire mining sector, small-scale and large scale;
- Ministry of Natural Resources, providing oversight and approval procedure for granting mining concessions;
- Permanent Parliamentary Oversight Commission on Natural Resources;
- Environmental and Social Guidelines as prescribed by NIMOS.

Underlying factors:
Key factors underlying the evolution of the mining sector and Suriname's challenges to limit its potentially destructive impacts include the following:

- Increasing gold prices;
- Low taxes on gold, stimulating migration from neighboring countries;
- Increased immigration, especially from Brazil;
- Availability and potential mining of other minerals;
- Limited options for livelihoods for forest dependent communities;
- Increasing accessibility of the interior, e.g. due to road building (see discussion of infrastructure below);
- Development and accessibility to specialized mining methods;

[8] *Heemskerk, 2005*
[9] Commissie Ordening Goudsector: http://www.starnieuws.com/index.php/welcome/index/nieuwsitem/15400
[10] *http://www.iamgold.com/English/News/News-Releases/News-Release-Details/2012/IAMGOLD-and-Government-of-Suriname-reach-definitive-agreement1132088/default.aspx*

- Weak monitoring and enforcement of mining and other related regulations.

See below map for an overview of the current mining concessions in Suriname.

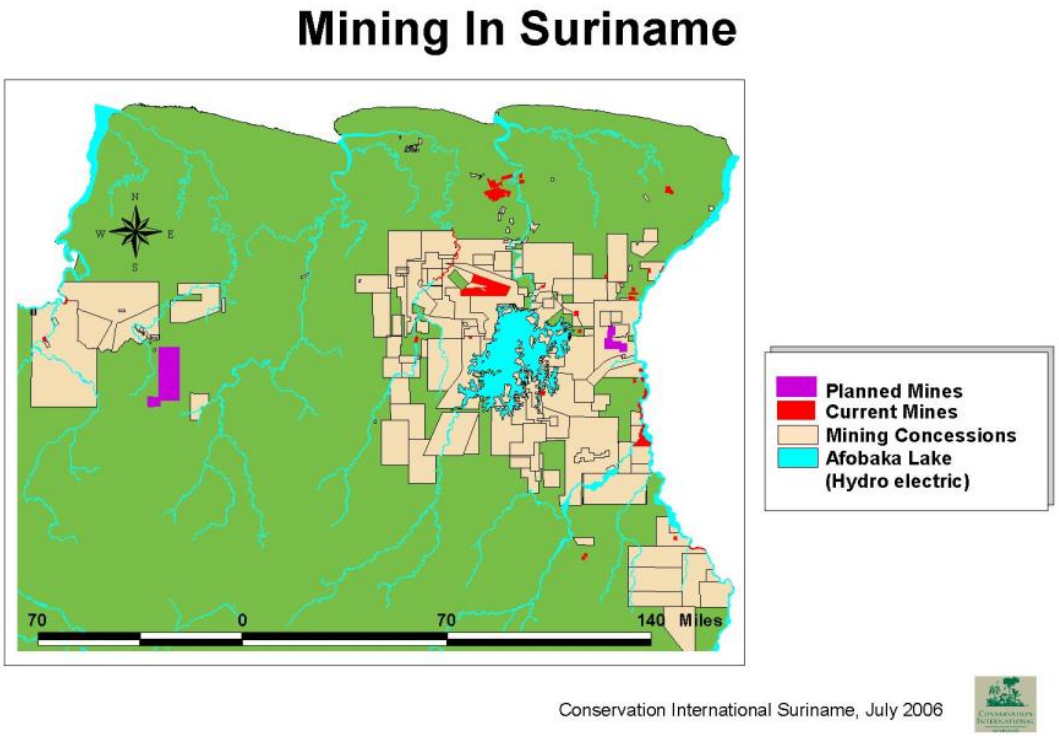


Figure 7. Mining activities and concessions in Suriname

Logging

Overview:

Suriname has 14.8 million hectares of forest covering about 94.7% of the country's surface area. Of this 14.8 an estimated 7,51 million hectares is classified as Permanent Forest Estate (PFE). Of the PFE, 5.32 million hectares is designated natural production forest and 2.19 million hectares is protected forest. The remaining 7.29 million hectares does not have a logging designation.

Since 2000, illegal logging has been eradicated by a very strong cooperation between SBB, NIMOS and the police, including the district commissioners. This has been strengthened by several policy initiatives (e.g. the zero-tolerance policy for un-tagged logs: no un-tagged logs can leave the country via official ports).

- Timber production has increased dramatically over the past three years, reaching an all time high of 366,000 m3 in 2011 (SBB 2011);
- As of late 2010, 68 logging concessions have been allocated over a total area of 1.3 million hectares;
- An estimated 247,000 hectares of the Permanent Forest Estate production forest is under Sustainable Forest Management, including 89,000 hectares that are FSC certified;
- About 550,000 hectares of forest has been allocated to Amerindian and Maroon peoples as community forests. Foundation for Forest Management and Forest Control (SBB) considers these to be under 'extensive' management, although some have been over-exploited due to weak communal business management capacity, which allows the forest to be logged by entrepreneurs from outside the communities on the basis of very poor agreements. (ITTO 2011).

Figure 8 below shows the recent development of the logging industry during 2000-2011.

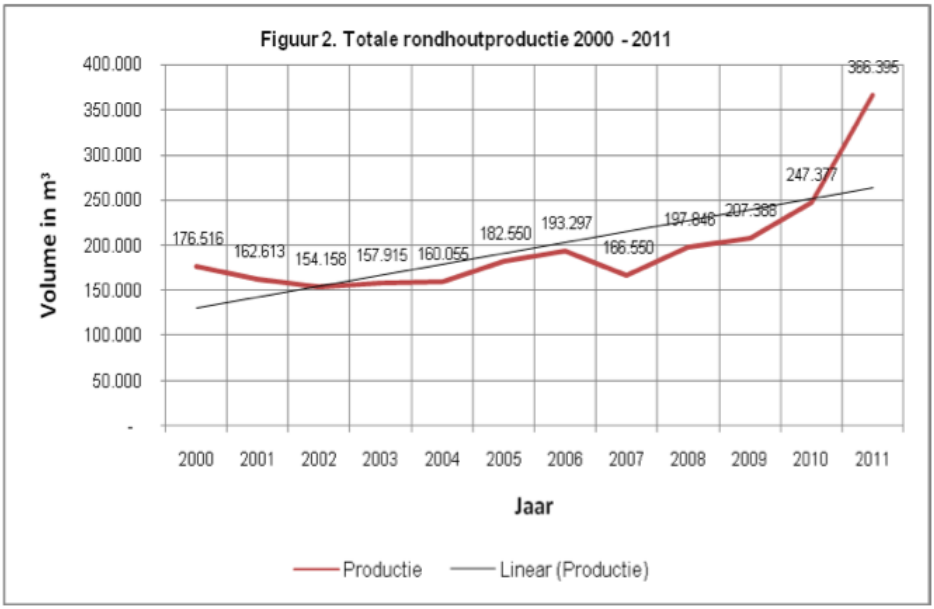


Figure 8. Development of the logging industry

Current management structures:

The following institutions, programs and policies, guide management of the timber sector:

- Suriname's Development Plan (OP) 2012 - 2016: represents Government development visions for the period;
- Ministry of Physical Planning, Land and Forestry Management (ROGB), is responsible for legislation;
- SBB is responsible for the enforcement of the Forest Management Act (1992) and, consequently, for the management of production forests;
- Nature Conservation Division (NatuurBeheer, NB) is responsible for the enforcement of the Nature Conservation Act (1954) and the Game Act (1954) and, consequently, for the management of nature reserves and other protected areas.
- The Forest Management Act (1992) covers the sustainable and rational use of forest resources, taking into account the interests of forest-dwellers and the conservation of nature and biological diversity. It provides rules governing timber production (and, to some extent, timber processing) and export. It covers the various licenses for forest harvesting, including different types of timber concession and the use of community forests.
- A national forest policy was adopted in 2003 after an extensive process of consultation with stakeholders. This policy provides broad guidelines for the use of forests for production, protection and conservation. According to the policy, the main goal of forest management is "enhancing the contribution of the forests to the national economy and the welfare of the current and future generations, taking into account the preservation of the biodiversity". It contains economic, sociocultural and environmental goals of equal weight.
- The Interim Strategic Action Plan for the Forest Sector was published in 2008. (ITTO 2011)

Underlying factors:

Key factors underlying the evolution of the timber sector and Suriname's challenges to limit its potentially destructive impacts include the following:

- Increasing demand for tropical timber due to population growth and urbanization worldwide;
- Low concession fees stimulate local businesses to enter the timber industry;
- Low taxes on exports attract foreign investment in the timber industry;
- Development of the REDD+ mechanism is driving up prices worldwide and making harvesting in remote areas more lucrative;
- Lack of wall to wall MRV capabilities
- Weak law enforcement.

Agriculture

Overview:

Suriname has about 1.5 million hectares coastal area that can be used for agricultural purposes, of which about 10% has been brought into culture. The agricultural potential of the interior is estimated at about 400,000 ha. Prospective agricultural developments are for oil palm, for which already 100,000 ha has been cleared at several locations in the northern part of the interior of Suriname. Other upcoming agricultural potential at a smaller scale are expansion of the banana plantation, horticulture (ornamental plants), expansion of rice cultivation and aquaculture (conversion of marsh forest to establish fishponds). According to the forest transition theory, the demand for agricultural land (both crops and pastures) is the main driver for forest clearing in developing countries. It is stated in the OP 2012 -2016, that Suriname aims to become one of the major producers of agricultural products in the Caribbean, thereby also potentially increasing pressures on forests.

In the hinterland, shifting cultivation or slash and burn agriculture is the most common way of agricultural production and it is often the most important source for the Indigenous and Maroon communities to provide in their food needs. The total area of continuous shifting agriculture is estimated at 246,700 ha of forest land, of which annually some 16,400 ha is re-cleared via slash and burn activities (Suriname's RPIN 2009).

Current management structures:

The following institutions, programs and policies, guide management of the timber sector:

- Suriname's Development Plan (OP) 2012 - 2016: represents Government development visions for the period;
- The ministry of Agriculture, animal husbandry and fisheries provides the initial advice for granting agricultural concessions;
- Ministry of Physical Planning, Land and Forestry Management grants the concession;
- The national entity for development of the rice sector;
- The national entity for development of the cassava sector.

Underlying factors:

Key factors underlying the evolution of the agricultural sector and Suriname's challenges to limit its potentially destructive impacts include the following:

- Increasing prices for agricultural products;
- Global population growth;
- Easily accessible and abundantly available arable land;

- Sectoral focus of Government to increase commercial agricultural products;
- Limited options for livelihoods for forest dependent communities;
- Regional integration into CARICOM;
- Weak monitoring and enforcement of chemical use;
- Lack of spatial planning;
- Worldwide restrictions on gluten, leading to increased demand for alternatives such as cassava.

Energy production

Overview:

Suriname is coping with electricity shortages. Anno 2012 energy supply is 193 MW and demand is 213 MW. By 2015 demand will increase with an additional 237 MW, leading to a total forecasted shortage of 257 MW. There is increasing chance for blackouts. A large part (180 MW installed) of Suriname's electricity supply is produced by the Afobaka hydro plant, which is located at a lake of some 1,550 square kilometers. The lake, artificially established in the early sixties, was originally forest land. Energy is also supplied through a thermal power plant operated by State oil (28 MW) and a heavy fuel oil power plant (65 MW) of N.V. EBS, the state-owned electricity supply company based in Paramaribo. Although short-term shortages will be met by expansion of thermal energy plants, Suriname is considering further development of hydro power, which will have impact on forests (deforestation and forest conversion).

Two large hydropower projects mentioned in the government's development plans are: Tapajai and Grankriki. The first phase of the Tapajai-project will establish 60 MW, by connecting the waterstream of the Tapanahoni River with Brokopondo Lake. To complete the project, roughly 24,700 hectares of forested land will be converted, with a substantial amount of secondary deforestation and forest degradation to follow due to infrastructure development.

Grankriki is situated in the southern area of the Nassau mountain. This project will establish 16 MW. It will supply electricity for the gold mining sector in that area and electricity for the Maroon communities in Eastern Suriname. The deforestation and forest degradation impact of the Grankriki project has not been calculated as of yet.

Suriname has begun to experiment with ethanol; a successful pilot done by State Oil has resulted in plans for expansion of the sugarcane fields and a processing plant for processing sugar cane into ethanol. Although the extent of forest lands that will be converted for this industry have not yet been identified, the growing world market demand, as well as the future local market demand can lead to large tracts of land being converted.

Current management structures:

The following institutions, programs and policies, guide management of the energy sector:

- Suriname's Development Plan (OP) 2012 - 2016: represents Government development visions for the period;
- Ministry of Natural Resources, responsible for energy provision
- Energie Bedrijven Suriname N.V. (National energy company), responsible for production and distribution of electricity;
- Staatsolie N.V. (National Oil Company), local producer of oil, as well as producer of electricity;
- Suralco N.V., large local energy producer, owner and operator of the Brokopondo hydro electricity dam.

Underlying factors:

Key factors underlying the evolution of the energy sector and Suriname's challenges to limit its potentially destructive impacts include the following:

- Building of gold refinery (construction started in 2012, finished in 2014);
- Expansion of IAMGOLD mining operations;
- Building and operationalizing of NEWMONT mining operations;
- Government housing development of 18,000 homes;
- Expansion of State Oil refinery;
- Historical organic growth of 6%;
- Additional spare capacity for maintenance.

Infrastructural developments

Overview:

Suriname currently has very few roads to the interior. Most major roads and transport routes have been built along the coast and reach no further than 75km inland. Approximately 12% of Suriname's population lives in the interior, scattered across roughly 200 villages, ranging from east to west and north to south. Given the industrial and civil development plans, the Government of Suriname is committed to expanding the existing infrastructure in order to reach its development goals.

The Government of Suriname, endorsing the creation of the Free Trade Area of the Americas (FTAA) has further committed itself to participate in the so-called Initiative for the Integration of Regional Infrastructure in South America (IIRSA). The integration, which is physically capitalized by means of the transnational and regional linkage of the (multimodal transportation) infrastructure of the Americas, forms the basis for the establishment and implementation of the foreseen trade infrastructure for the FTAA.

On the national level, the Government of Suriname has reinforced its intention to participate in said regionalism of the infrastructure, which can be extracted from its participation in various meetings of the Executive Technical Groups (ETG) and the Executive Steering Committee (ESC) within the IIRSA project, and its inclusion of the foreseen physical infrastructure within the national planning of Suriname's infrastructure. Taking into account the basic concepts of integration and development and the related sectoral processes aimed at economic and social development of the participating countries, and harmonization of the regional integration infrastructure, Suriname has selected the national routes for incorporation within the Venezuela-Brazil-Guyana-Suriname Axis of Integration. Suriname is also committed to realizing a North-South connection by extending the current North-South road starting in Paramaribo (See also figure 9).

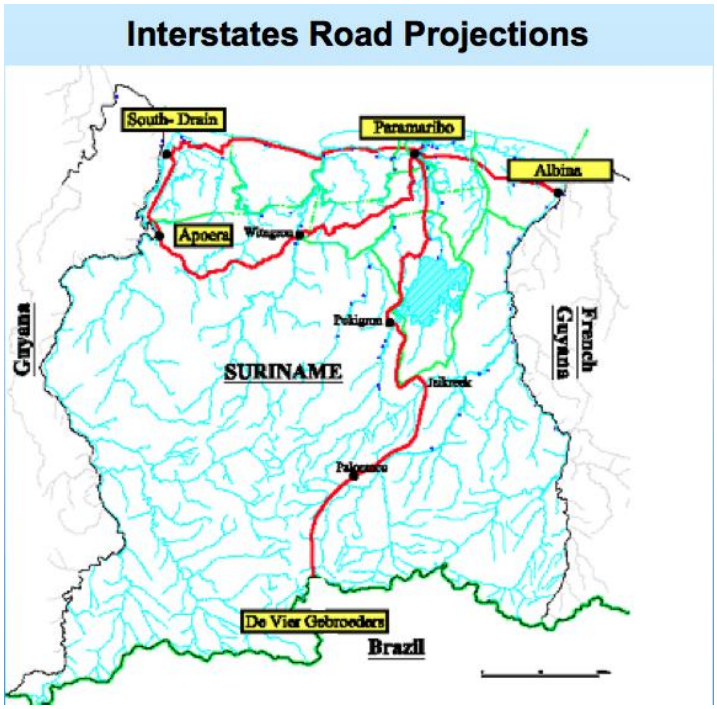


Figure 9. Projection of infrastructural (road) development in Suriname

Current management structures:

The following institutions, programs and policies, guide management of infrastructure development:

- Suriname's Development Plan (OP) 2012 - 2016: represents Government development visions for the period;
- Ministry of Public Works for legislation, project development and execution;
- Ministry of Regional Development for the identification and development of projects in the interior of Suriname.

Underlying factors:

Key factors underlying the evolution of infrastructure development and Suriname's challenges to limit its potentially destructive impacts include the following:

- Increased demand for roads to support industrial development and civil transportation in the interior;
- Creation of supporting infrastructure for power generation projects;
- Increased supporting infrastructure in new and expanding cities and villages in the interior;
- Lack of spatial planning policy;
- Increased regional integration and trade development.

Housing development

Overview:

Suriname currently suffers a housing shortage of 17,670. The Government is committed to resolving the housing shortage within twenty years. "The housing shortage has to be virtually or entirely resolved, the quality of our housing needs to be improved and the annual housing production needs to be at the level at which housing needs are met" (Housing program 2012-2017).

Housing construction in Suriname is currently conducted using significant amounts of timber, both for permanent construction, as well as assistance elements during construction. In addition to the timber used for construction, the land conversion required to fulfill the housing demand based on current law and practice implies increased conversion of land from coastal vegetation areas and forest to urban landscape.

Current management structures:

The following institutions, programs and policies, guide management of the housing sector:

- The housing authority;
- Ministry of Social affairs and Housing;
- Housing program 2012-2017 (Huisvestingsplan 2012-2017);
- Suriname's Development Plan (OP) 2012 - 2016: represents Government development visions for the period;
- Suriname Building Code;
- Department of Planning of the Ministry of Finance.

Underlying factors:

Key factors underlying the evolution of the housing sector and Suriname's challenges to limit its potentially destructive impacts include the following:

- Population growth;
- Current lack of housing;
- Lack of spatial planning and zoning policies;
- Immigration from neighboring countries;
- Migration from rural areas to urban centers.

Table 11 gives an overview of the underlying causes of deforestation and forest degradation considering direct drivers and factors. The major land use trends are also identified. There is still a need for spatial data and quantitative information of the potential drivers, including past trends and forecast scenarios. In addition, further assessment of relevant gaps and constraints is necessary.

Policy, drivers and REDD+

In light of the development plans for 2012-2016 and their potential impacts on the drivers of deforestation and degradation, it has become ever more apparent that Suriname needs to balance economic and social development, and sustainable forest use.

The REDD+ strategy will be informed by and based upon both current and future circumstances. It will therefore focus on limiting emission growth. Further details can be found in subcomponent 2b.

Table 11. Overview of the quick land use assessment in relation to drivers of deforestation and forest degradation

Potential driver	Relevant national program or strategy	Conditions that might trigger or accelerate the deforestation and degradation process	Existing regulations	Gaps and constraints
Mining	• Suriname's Development Plan 2012 – 2016 • Commission of the Structuring of the Gold sector (OGS) • The Brokopondo Agreement • Mining Decree • Ministry of National Resources • Permanent Parliamentary Oversight Commission on Natural Resources • Environmental and Social Guidelines prescribed by NIMOS	• Increasing gold prices • Low taxes on gold, stimulating migration from Guyana • Weak monitoring and enforcement of mining and other related regulations • Limited options for livelihoods for forest dependent communities • Potential mining of other resources • Increased accessibility of the interior e.g. due to road building • Development and accessibility to specialized mining methods	• The Mining Decree • The Brokopondo Agreement	• Lack of integrated concession policy • Lack of/ insufficient control (illegal mining, illegal immigration, health and safety issues etc.) • Lack of research on alternative, sustainable livelihoods for forest dependent communities • Lack of legislation for enforcing Environmental and social impact assessment (ESIA) • Lack of Environmental Act • Capacity for implementation of sustainable small-scale mining methods • Costs for monitoring and research • Legal asymmetry among neighboring countries
Logging	• Suriname's Development Plan 2012 – 2016 • Ministry of Physical Planning, Land and Forestry Management • Foundation for Forest Management and Forest Control • Nature Conservation Division • Forest Management Act • National Forest Policy • Interim Strategic Action Plan for the Forest Sector • National Forest Policy • Environmental and Social Guidelines prescribed by NIMOS • The National Biodiversity Strategy	• Increasing demand for tropical timber due to population growth and urbanization world wide • Low concession fees • Low taxes on timber export • Weak law enforcement • Weak SFM protocols and criteria • Development and accessibility to specialized logging methods • Increased accessibility of the interior due to road building • Higher prices due to development of the REDD+ mechanism, leading to more lucrative harvesting in remote areas	• Forest Management Act • National Forest Policy • Nature Conservation Act • Game Act • National Biodiversity Strategy	• Institutional capacity strengthening (monitoring, training, outreach) • Lack of /insufficient control (illegal logging, illegal immigration, health and safety issues etc.) • Lack of research capacity and funding • Lack of legislation for enforcing Environmental and social impact assessment (ESIA) • Lack of Environmental Act • No baseline studies • Incoherent land use map • Costs for monitoring and research • Improvement of Current Lumber Laws is needed • Commercially oriented concession promoted

Potential driver	Relevant national program or strategy	Conditions that might trigger or accelerate the deforestation and degradation process	Existing regulations	Gaps and constraints
				• Lack of information on the application of existing SFM protocols and criteria
Agriculture	• Suriname's Development Plan 2012 – 2016 • Ministry of Agriculture, Animal Husbandry and Fishery • Ministry of Physical Planning, Land and Forest Management • The National entity for development of the rice sector • The National entity for development of the cassava sector • Environmental and Social Guidelines prescribed by NIMOS	• Government approval for starting-up palm oil plantations and others. • Increasing prices for agricultural products • Global population growth • Easily accessible and abundantly available arable land • Sectoral focus of Government to increase commercial agricultural products • Limited options for livelihood for forest dependent communities • Regional integration into CARICOM • Weak monitoring and enforcement of chemical use • Lack of spatial planning • Worldwide restrictions on gluten, leading to increased demand for alternatives (e.g. cassava)	• Export Act regarding Agriculture and Forest products • Nature Conservation Act • Agricultural Act	• Costs for monitoring and research • Lack of legislation for enforcing Environmental and social impact assessment (ESIA) • Lack of Environmental Act
Energy production	• Suriname's Development Plan 2012 – 2016 • The Ministry of Natural Resources • National energy company (Energie Bedrijven Suriname N.V.) • National oil company (Staatsolie N.V.) • Local large energy producer (Suralco N.V.) • The Brokopondo Agreement	• Construction of gold refinery • Expansion of IAMGOLD mining operations • Construction and operationalizing of NEWMONT mining operations • Government housing development • Expansion of State Oil refinery • Historical organic growth • Potential for bio-fuels and increased hydro energy		• Costs for monitoring and research • Lack of legislation for enforcing Environmental and social impact assessment (ESIA) • Lack of Environmental Act

Potential driver	Relevant national program or strategy	Conditions that might trigger or accelerate the deforestation and degradation process	Existing regulations	Gaps and constraints
Infrastruc-ture activities (main roads, dams, dikes)	• Suriname's Development Plan 2012 – 2016 • Ministry of Public Works • Ministry of Regional Development • Regional and National Infrastructural Program	• Increased demand for roads • Creation of supporting infrastructure for power generation projects • Increased supporting infrastructure in the interior • Lack of spatial planning policy • Increased regional integration and trade development • Increased housing construction projects (public grand private sector)	• Regional Development Act • Urban Development Act • Architecture Act • Road Authority Act • Planning Act	• ESIA is not mandatory • Monitoring costs • Research costs • Lack of research capacity and funding • Draft Environmental Act
Housing Development	• Suriname's Development Plan 2012 – 2016 • The housing authority • Ministry of Social Affairs and Housing • Housing Program 2012-2017 (Huisvestingsplan 2012-20127) • Suriname building code • Department of Planning of the Ministry of Finance	• Population growth • Current lack of housing • Immigration from neighboring countries • Migration from rural areas to urban centers • Poor land use planning		• Lack of spatial planning and zoning policies

2a.4 Barriers, gaps and capacity constraints

See table 11 above for barriers, gaps and capacity constraints.
Existing relevant policies and laws will be revised based on the REDD+ strategy and its options. For example, legislation and policies on mining and logging concessions are not coherent. Also, the Forest Management Act refers mainly to production forest, while there is a need for revision of the national definition of forests in order to establish a Forest Reference Level. Existing policies and legislation, such as the Mining Decree and the Forest Management Act will be assessed based on selected REDD+ strategy options to identify gaps where adjustment might be necessary.

2a.5 Baseline activities

Past efforts to protect Suriname's forests and prevent large-scale deforestation and wide-spread forest degradation have been made through the following:

1. Forest related laws, policies and regulations:
    - The Constitution of the Republic of Suriname stipulates that the social goal of the State is to create and stimulate circumstances that are necessary for the protection of nature and maintenance of ecological balance. It also states that all forests, except private owned land, belong to the State. Forests on private land do not cover more than a total area of 50,000 ha. According to the Forest management Act of Suriname the following forms of tenure are granted:
        i. Timber concessions, which are granted to companies and individuals
        ii. Communal Wood Cutting Licenses, granted on the basis of the Timber Act of 1947 to forest based communities (Maroon and Indigenous), and since 1992, community forests, which are granted on the basis of the Forest Management Act.
        iii. Incidental cutting licenses, which are granted to individuals and companies for salvaged logging.
    - The Forest Management Act of 1992, which replaced the old Timber Act, contains a number of requirements intended to promote sustainable forest management practices for the production of timber and non-timber products;
    - The Forest Service (LBB) of the Ministry of ROGB is responsible for the management of all forests in the widest sense of the word, thus including nature conservation and law enforcement;
    - The Nature Conservation Division (NB) of the Forest Service is the CITES authority and is responsible for issuing permits for export of CITES species and therefore also for the enforcement of laws on hunting and wildlife (the Game Law 1954).
    - The National Forest Policy was formulated in 2006. The overall objective of the policy is "to enhance the contribution of the forests to the national economy and the well-being of current and future generations with due regard for the conservation of the biodiversity". A Strategic Action Plan for the forest sector has been produced and needs to be implemented.
    - Interim strategic action plan for the forest sector as published in 2008.

- In view of the responsibilities with respect to general law enforcement, the Police Force and the Public Prosecutor's Office are authorized to apprehend and prosecute people who are not in compliance with the forestry laws

2. The establishment of SBB in 1998, mandated by the Forest Service (LBB) to manage forest production and therefore responsible for the supervision and control of all logging. The Forest Management Act of 1992 enables forest guards to confiscate illegally logged timber and to enforce the Forest Management Act. SBB also carries out forest monitoring and forest production statistics. However, a full and complete forest inventory and monitoring program has not been established due to a lack of capacity and funding.
3. The establishment of the National Environmental Council and the National Institute for Environment and Development in Suriname (NIMOS) in 1998 to implement and monitor the national environmental policy. Guidelines for environmental and social impact assessments (ESIA) were established for logging, mining, agriculture and energy production as well as for other activities that have a significant impact on the environment. These guidelines are important for the implementation of the REDD+ readiness strategy. A further description is given in component 2d. Although the development of an ESIA is not mandatory as yet because the environmental legislative framework is still in the constitutional process, it has become good practice and is now considered commonplace.
4. The 2010 installation of the Commission for the structuring of the gold sector has led to significant reduction in illegal gold mining and is working towards fundamental restructuring of the small and medium scale gold mining, which will include the introduction of reduced impact small scale gold mining.
5. The development of the National Biodiversity Strategy (NBS) in March 2006, which provides the national vision, goals and strategic direction to be pursued, in order to conserve and sustainably use the nation's rich biodiversity and biological resources; foster sustainable management of its natural resources and support the equitable sharing of biodiversity related services and benefits, provided by ecosystems. The strategic forest related directions of the NBS are:
    - To promote and strengthen research and monitoring programs;
    - To improve agriculture and land use planning, as well as, review current agricultural policies and activities;
    - Sustainable use and management of forest resources through updated inventories, strengthen enforcement, promotion of research, improvement and expanding programs, review and revise existing laws, implement a strong forest management authority and implement the national forest policy;
    - Review and strengthen laws/rules and enforcement regarding mining as well as promote ecologically responsible mining and mineral development practices;
    - Strengthen the capacity of ecologically sustainable tourism and expand the sustainable development of tourism infrastructure and
    - Conduct public awareness, education and community empowerment.

There are some monitoring activities with regard to biodiversity. In the 1980s and earlier, specific permanent vegetation sampling plots were established by CELOS. A monitoring program was set up in 2005 in the northern part of the Central Suriname Nature Reserve (CSNR) with the help of Conservation International, which is part of a larger, worldwide Tropical Ecology, Assessment and Monitoring (TEAM) program and is based on standard

protocols for vegetation, climate and a limited number of species such as primates, birds, large mammals and butterflies.
The above baseline activities have so far resulted in maintaining a deforestation rate well below the regional and global average.

2a.6 Work plan for the assessment of land use, drivers, policy and governance

The work plan is focused on assessments, research and identification of measures in order to maintain Suriname's excellent track record in spite of increasing economic, industrial and demographic pressure.
A series of assessments on land use, land use change drivers, forest law, policy and governance will be conducted during the first 30 months of the REDD+ Readiness program. These assessments will result in an increased understanding of the effects of the aforementioned drivers on Suriname's forest resources. In addition to clarifying the relationship between the drivers and the forest, the assessments will also clarify any knowledge gaps, specific legislative shortcomings and governance enhancements required to protect Suriname's forest.
Table 12 provides a schedule and budget for activities of sub-component 2a.

Table 12. Sub-component 2a activities and budget

TABLE 2A. ACTIVITIES AND BUDGET FOR ASSESSMENT OF LAND USE AND LAND USE CHANGE DRIVERS							
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
2a.1 Sectoral and development assessments and their linkages to deforestation and degradation	Sectoral analysis in relation to the impact on deforestation and degradation	50	50				**100**
	Analysis of development plans in relation to the impact on deforestation and degradation	50	50				**100**
2a.2 Refining analysis of impacts of drivers and underlying causes of deforestation and forest degradation	Analysis of individual drivers and their degree of impact	40	40	40			**120**
	Study of opportunity costs			80			**80**
2a.3 Assessment of current enabling environment with regards to REDD+	Analysis of policy, legal and institutional gaps for successful REDD+ implementation of regulatory framework		50	50			**100**
	Analysis of status of land tenure rights	25	25				**50**

	Formulation of strategies to address these gaps			25	50		**75**
	Total	**165**	**215**	**195**	**50**		**625**
Government							**0**
FCPF		**124**	**162**	**146**	**38**		**470**
UN-REDD Programme (if applicable)		41	53	49	12		**155**

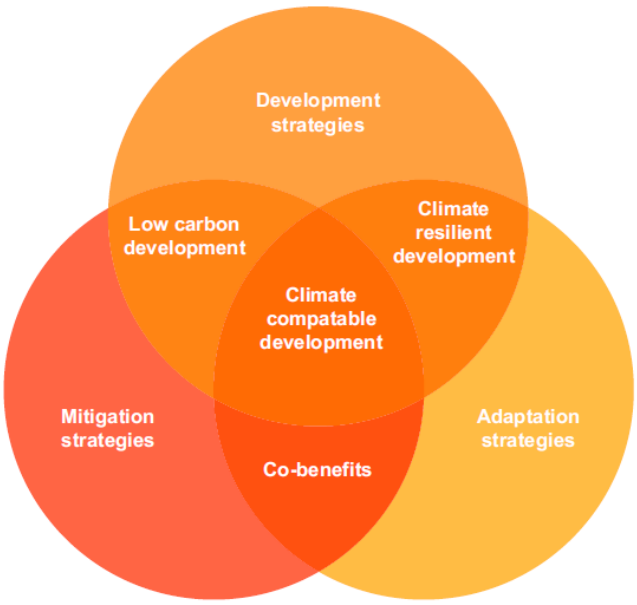
2b. REDD+ Strategy Options

2b.1 Summary of preliminary REDD+ strategy options

Overview

As Suriname is still in the early stage of the forest transition curve, priority will be given to avoiding or redesigning infrastructure developments, resettlements, and other large-scale projects that can accelerate deforestation. In other words, Suriname will focus less on reducing current emissions from deforestation and degradation, and focus more on limiting the growth-curve and associated emissions.

Suriname is in the process of defining how the country can fit REDD+ into its development planning and how it will be implemented. REDD+ is seen as a way of sustainable planning, as part of climate compatible development strategy that Suriname is committed to follow in the years to come. The climate compatible development strategy aims to minimize the impacts of climate change while maximizing opportunities for human development towards a more resilient future (see figure 10). REDD+ can be seen as a pillar of the climate compatible development strategy and will seek out a development path that balances social, economic and environmental issues. It is a tool to find a sustainable way of treating the forests without limiting economic and social development.



Source: adapted from Zadek, 2009, and informal communication with staff from the UK Department for International Development

Figure 10. Climate compatible development

The country has an ambitious integration vision that will lead to opening up of the interior and create socio-economic benefits for the ten tribes living in the forest. It is in this context that REDD+ will be used as a planning tool for sustainable development where applicable.

Process for developing policy options during R-PP development

The process of developing REDD+ policy options is building on efforts made during the previous R-PP development effort. In addition to this, it is adding a series of local dialogues, national dialogues, project group discussions and sectoral and thematic consultations. This includes representatives of relevant Ministries, private sector, tribes, forest dependent, research institutes and NGOs. The process is both locally led and benefitting from international expertise. Figure 11 presents the relationship among various parties contributing to the development of the R-PP in general and the policy options in particular. A concerted effort has been made to incorporate stakeholder's suggestions into the proposed REDD+ strategy options list. (please refer to comment log provided in annex).

After the Project Group was installed, consisting of multi-disciplinary experts from society, it has regularly provided constructive feedback on the content and process of the finalization of the R-PP. The two-day training of REDD+ assistants, of which the second day was combined with the third Project Group meeting, resulted in constructive feedback and comments from different representatives of forest-dependent communities as well as Project Group members. In addition, comments were also received during the local dialogues with forest dependent communities and a plenary dialogue with stakeholders from various sectors. The validation sessions represented a final opportunity before the submission of the draft R-PP for all involved groups to give their comments and input. Each event has been documented both audio-visually and in written form.

Any policies that would be considered for deployment within forest areas belonging to tribal communities that are subject to FPIC according to the UN-REDD/WB guidelines will be treated as such. In other words, any activity for which FPIC is required under the program will only be introduced and enforced if the local communities that would be impacted provide their FPIC. Additionally, during the design phase of the policies, the indigenous and tribal communities will be heavily involved, in order to share their knowledge and insights, as well as to determine feasibility.

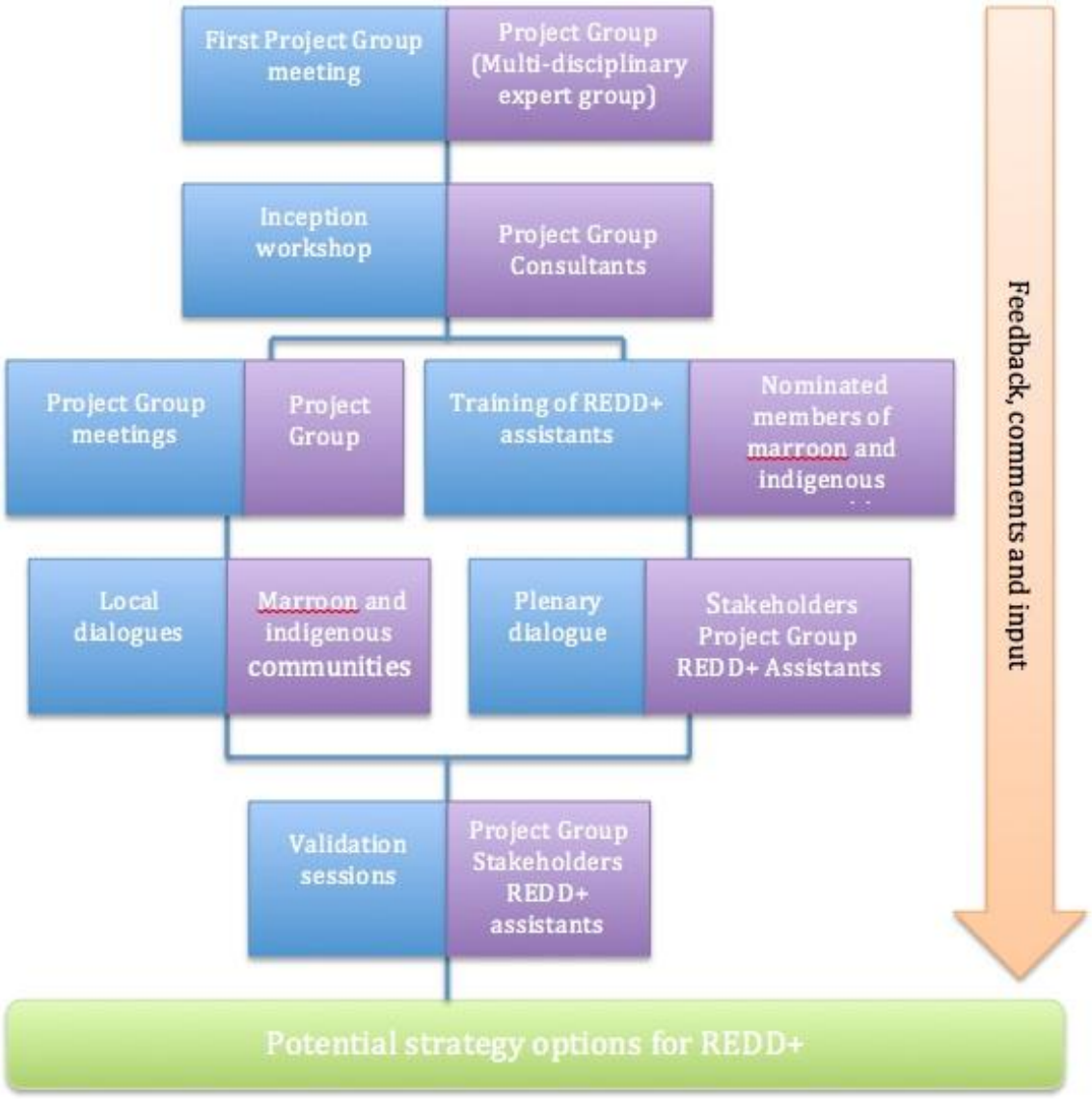


Figure 11. Process through which potential strategy options have been developed

Identification of specific strategy options

The following strategic options have been identified:

- revision of rules for permits and concessions for gold mining and logging;
- streamlining of concession policies of ministries for gold mining and logging;
- development of spatial/ land-use planning policies and legislation
- development of zoning regulations around infrastructural projects;
- more efficient wood logging procedures with emphasis on wood waste to be used as renewable as biomass;
- introduction of regulations to limit land degradation and deforestation caused by small- and medium-scale gold mining;
- promotion of ecotourism;
- promotion of agroforestry;
- promotion of NTFP;

- promotion of medicinal plants;
- protection of surface water resources,
- reforestation and protection of mangroves and;
- protection of genetic resources.

Policy drivers from outside the forest sector

Several drivers and their underlying causes from outside the forest sector have been mentioned in component 2a. Policy-related drivers are:

- Mining (low tax on gold, outdated legislation which does not take logging concessions/activities into account);
- Infrastructure development (lack of land zoning and land use planning);
- Energy (lack of policy on energy production)
- Housing development (lack of land zoning and spatial planning).

These drivers are indirectly affecting the forests. Mitigation of theses effects could occur by implementing mentioned strategy options.

Table 13 provides the link between the drivers of deforestation and forest degradation and the strategy options. Table 13 also suggests opportunities where incremental REDD+ carbon and co-benefits, such as the creation of alternative livelihoods, may be generated. For example, it is estimated that MRV programs alone are estimated to generate 1200 jobs or more, with many more livelihoods expected to be generated by eco-tourism, NTFP and agro-forestry.

These opportunities will be analyzed in detail during the R-PP implementation and combined as appropriate to create strategies that are cost effective and synergistic. The strategic options will be elaborated further in future studies.

Table 13. Listing of potential drivers, strategy options and benefits

Drivers	Strategy options	Link to the underlying causes of deforestation and forest degradation	Potential benefits
Mining	Revision of rules for permits and concessions for gold mining	• Improved mining regulation • Stricter issuing of permits and concessions • Establishment of rules for use of specialized mining methods to reduce impact on the environment • Improved enabling setting for enforcement of mining and logging activities in a concession	Less emissions and degradation from mining activities
	Development of spatial/ land use planning policies and legislation	• More structured land-use • Enabling setting for enforcement	Less emissions and degradation from mining activities
	Streamlining of concession policies of ministries for gold mining and logging	• Better coordinated issuance of concessions • More efficient use of natural resources as a consequence of tuning the mineral and logging production chain/cycle • More efficient monitoring and improved enforcement of mining and logging activities	Less emissions from wasted wood through rotting and burning
	Introduction of regulations to limit land degradation and deforestation caused by small- and medium-scale gold mining	• Increased accessibility to and mandatory use of specialized mining methods • Improved enforcement of small-scale gold mining.	Less emissions from damaged soil and forest areas
	Promotion of ecotourism	Less pressures from deforestation and forest degradation from (small-scale) gold mining	Alternative livelihoods for forest dependent communities
	Promotion of NTFP	Less pressures from deforestation and forest degradation due to (small-scale) gold mining.	Provide alternative livelihoods for forest dependent communities
	Protection of surface water resources	When combined with land use/spatial planning (e.g. establishment of conservation areas) and strong enforcement.	Less mining activities in sensitive areas, leading to less emissions from deforestation and degradation
Logging	Revision of rules for permits and concessions for logging;	• Improved logging regulation • Stricter issuing of permits and concessions • Establishment of rules for use of specialized logging methods to reduce impact on the environment • Improved enabling setting for enforcement of	Less emissions and degradation from logging activities

Drivers	Strategy options	Link to the underlying causes of deforestation and forest degradation	Potential benefits
		logging activities in a concession	
	Development of spatial/ land use planning policies and legislation	• More structured land-use • Enabling setting for enforcement	Less emissions and degradation from logging activities
	More efficient wood logging procedures with emphasis on wood waste to be used as renewable as biomass	Only when combined with strong enforcement	Less emissions from waste burning and rotting trees
	Promotion of ecotourism;	Less pressures from deforestation and forest degradation due to logging.	Provide alternative livelihoods for forest dependent communities
	Promotion of NTFP	Less pressures from deforestation and forest degradation due to logging.	Provide alternative livelihoods for forest dependent communities
	Protection of medical plant species	Less pressures from deforestation and forest degradation due to logging.	Provide alternative livelihoods for forest dependent communities
Agriculture	Development of spatial/ land use planning policies and legislation	• More structured land-use • Enabling setting for enforcement	Less emissions and degradation from agricultural activities
	Promotion of ecotourism;	Less pressures from deforestation and forest degradation due to agriculture.	Provide alternative livelihoods for forest dependent communities
	Promotion of agroforestry;	Less pressures from deforestation and forest degradation due to agriculture.	Provide alternative livelihoods for forest dependent communities
	Promotion of NTFP	Less pressures from deforestation and forest degradation due to agriculture.	Provide alternative livelihoods for forest dependent communities
	Promotion of medicinal plants	Less pressures from deforestation and forest degradation due to agriculture.	To provide alternative livelihoods for forest dependent communities
Energy production	Protection of surface water resources	When combined with land use/spatial planning (e.g. establishment of conservation areas) and strong enforcement.	Less disturbance of hydrological cycle, protecting the health of forests
	More efficient wood logging procedures with emphasis on wood waste to be used as renewable energy as biomass	Only in an enabling setting for the use of renewable energy	Less rotting and open burning of wood waste
Infrastructure development	Development of zoning regulations around infrastructural projects;	Improved land zoning and minimal road construction	Less degradation of forest areas
Housing development	Development of spatial/ land use planning policies and legislation	• More structured land-use • Avoiding uncontrolled construction of housing and buildings	Less emissions and degradation from housing development
	Development of zoning regulations	Improved land zoning and minimal road	Less degradation of forest areas

Drivers	Strategy options	Link to the underlying causes of deforestation and forest degradation	Potential benefits
	around infrastructural projects;	construction	
	Reforestation and protection of mangroves	Improved land zoning and more structured land-use	• Provide alternative livelihoods • Protection of the health of marine ecosystems • Coastal protection against sea level rise

2b.2 Work plan

Assessment of strategy options

Table 14 provides an assessment of the strategy options according to the following criteria:

- Synergies and/or conflicts between the options and other national development priorities, including assessment of trade-offs across development goals or sectors.
- Sustainability and integration with other sector policies and strategies.
- Governance aspects: linkages between the identified options and the key governance issues identified in Section 2a.

Table 14. Assessment of proposed strategy options

Strategy options	Synergies and/or conflicts	Sustainability and integration	Governance aspects
Revision of rules for permits and concessions for gold mining and logging	Synergies will be achieved when related natural resource legislation is changed accordingly. Conflicts will arise if due attention is not given to local level implementation.	High degree of sustainability when combined with appropriate controlling and enforcement mechanisms.	Controlling and enforcement capabilities need to be strengthened
Streamlining of concession policies of ministries for gold mining and logging;	Due to the involvement of two different ministries it is vital to determine and address the impact for each of the ministries well before implementation.	Close monitoring and adherence to the principles of sustainable development will allow for lasting and effective changes.	Close collaboration and cooperation will be vital to ensure success of these measures.
Development of spatial/ land-use planning policies and legislation	There is great potential for synergies as this option is linked to nearly all drivers. Additionally, it can also enable establishment of protected natural areas.	In combination with the (revised) nature conservation act and a Framework Environmental law, such policies can provide a strong legal basis for sustainability	It will require extensive cooperation and coordination between different sectors.

Strategy options	Synergies and/or conflicts	Sustainability and integration	Governance aspects
Development of zoning regulations around infrastructural projects;	Synergies can be achieved together with Sustainable Land Use planning processes. Conflicts can arise if due attention is not given to local community living areas.	Ensuring adequate consultations and conflict resolution measures with forest dependent communities and other stakeholders will ensure higher sustainability.	Monitoring and reporting will be key to attaining success
More efficient wood logging procedures with emphasis on wood waste to be used as renewable energy as biomass;	Synergies can be achieved with the emerging renewable energy policies. Conflicts can manifest in relation to ownership of biomass.	Awareness building and participation in the REDD+ mechanism will ensure higher sustainability.	Adequate conflict resolution mechanisms and government provision of appropriate facilitation will be key. Legislation should be developed/changed to support the use of renewable energy sources.
Introduction of regulations to limit land degradation and deforestation caused by small- and medium-scale gold mining;	Synergies can be achieved by cooperating with the commission to structure the gold sector. Conflicts can arise among gold miners and government due to lack of structure in the past.	Regulations need to adhere to the designated model for gold mining concessions.	Government control of new regulations will need to be embedded in law enforcement.
Promotion of ecotourism;	Synergies can be attained by aligning activities with the general eco-tourism development policy of Suriname.	Training of local communities and alignment with government stimulus programs will ensure sustainability.	Regulations and certification of eco-tourism operators will be vital to ensure success.
Promotion of agroforestry;	Synergies can be attained by aligning agroforestry development activities and awareness building with the strategic focus on agriculture from the government.	The strategic focus of the government on agricultural development allows for a high degree of	In terms of governance, seeing as how this involves voluntary adoption of methods in

Strategy options	Synergies and/or conflicts	Sustainability and integration	Governance aspects
		integration with the national policy. Sustainability can be achieved by mainstreaming REDD+ agroforestry activities into training and education programs at the University as well as with the ministry of Agriculture	private enterprise there is no governance role beyond providing education and stimulus policies.
Promotion of NTFP;	Incorporating REDD+ NTFP stimulus activities into work programs focused on empowering women and rural communities to improve their livelihoods can capture synergies. Additional synergies can be achieved by combining NTFP promotion into eco-tourism projects.	Creating market demand and ensuring support in marketing and small business development will be key to attaining sustainability in the creation of livelihoods based on the usage of of NTFP.	In terms of governance, seeing as how this involves voluntary adoption of methods in private enterprise there is no governance role beyond providing education and stimulus policies.
Promotion of medicinal plants;	Incorporating REDD+ medicinal plant enterprise activities into work programs focused on empowering women and rural communities to improve their livelihoods can capture synergies. Additional synergies can be achieved by combining medicinal plant products promotion into eco-tourism projects.	Creating market demand and ensuring support in marketing and small business development will be key to attaining sustainability in the creation of livelihoods based on the usage of of medicinal plant based products.	In terms of governance, seeing as how this involves voluntary adoption of methods in private enterprise there is no governance role beyond protection of intellectual property rights and providing education and stimulus policies.
Reforestation and protection of mangroves	Synergies with climate adaptation policies. Protection of coastal zone to be used for housing development.	Enhancement of ecosystems and climate resilience, possible livelihood opportunities	Government control of new regulations will need to be embedded in law

Strategy options	Synergies and/or conflicts	Sustainability and integration	Governance aspects
Protection of surface water resources	Synergies can be achieved by cooperating with the commission to structure the gold sector. Conflicts can arise among gold miners and government due to potential displacement.	Regulations need to adhere to the designated model for gold mining concessions.	Government control of new regulations will need to be embedded in law enforcement.

Analytical approaches

The following analytical approaches will be employed to determine the best strategic options for Suriname's REDD+ strategy during the implementation of the R-PP:

- Cost benefit analysis of REDD+ strategy options, including opportunity costs, investment costs, transaction costs, and abatement costs. (In light of Suriname's proposed REDD+ strategy, the benefits will not necessarily be expressed in emission reduction per option, but an overall contribution to reducing deforestation and degradation).
- Interest group analysis: ways of mitigating conflicts or modifying the options to compensate affected institutions and various stakeholder groups.
- A simple risk analysis framework that summarizes major types of risks, and how significant they are (e.g., low, medium, high) for the major REDD-REDD+ strategy activities.
- Feasibility assessment (socioeconomic, political and institutional): Assess the feasibility of the options through analysis of risks, as described in guideline 3 above, and opportunities for the proposed options.
- Assessment of environmental and social risks and of potential impacts (both positive and negative) associated with the REDD+ strategy options, as part of the SESA process.

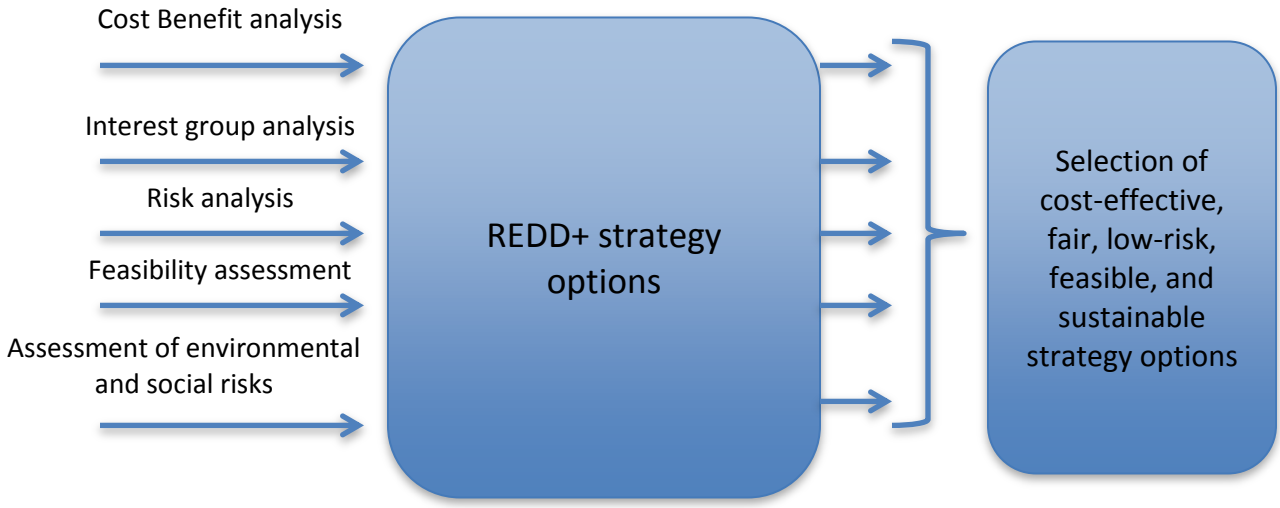


Figure 12. Analytical approaches for the REDD+ strategy options

2c. REDD+ Implementation Framework

2c.1 Institutional, economic, legal and governance arrangements for implementing provisional REDD+ strategy options

Institutional mandate

Institutional arrangements for implementing REDD+ strategy options are described under Sub-component 1a. These arrangements will ensure that whatever strategy options are ultimately selected, they can be implemented smoothly and that wherever disputes and/or grievances arise, these can be handled fairly and without delay.

The list below provides insight into the legal mandate of the institutions that will be involved in REDD+ readiness implementation:

- The Cabinet of the President/Bureau National Security/CCDU is mandated as political focal point for REDD+ and as focal point for UNFCCC.
- NIMOS is mandated with initiating the development of a national legal framework for environmental policy and environmental management in the interests of sustainable development.
- The Ministry of ROGB is mandated with the enforcement of forest laws, issuance of timber concessions, related governance issues and the development of land use planning.
- The Ministry of Public Works is mandated with the implementation of large infrastructural projects, city and town planning.
- The Ministry of Natural Resources is mandated with the enforcement of mining regulations, issuance of mining concessions, related governance issues and the development of long term planning for energy supply for the country.
- The Ministry of Agriculture, Animal Husbandry and Fisheries is mandated with agricultural policy development.
- SBB has the mandate to authorize and oversee logging operations.

Allocations of tasks of the ministries are in process of revision. This is an ongoing process for a country that aims for sustainable development. Revision of ministerial tasks will enhance the coordination and implementation process of REDD+.

The role of civil society

Civil society (Women Business Group, Marroon Women's Network, other NGOs representing youth, women, Indigenous and Tribal People) will be involved to ensure that gender concerns/or unequal benefits that can hamper welfare of social groups, especially forest dependent communities, women, youth and children) are addressed. The Government of Suriname recognizes the importance of the major groups and as such will ensure their adequate involvement.

Capacity needs in relation to mandate fulfillment

The capacity needs assessment identified a shortage of human capacity within NIMOS and the Ministry of ROGB.

NIMOS needs additional staff for planning and implementation of R-PP activities. Specific skills needed are for project management, finance, coordination, and for environmental, gender, social and legal aspects.

The Ministry of ROGB needs additional personnel to enforce forest laws and develop land use planning. Specific skills needed are for land use planning and forest issues. Additional high-level personnel is needed to prepare the REDD+ Strategy as presented in table 15. It was also identified that civil society needs to raise their REDD+ knowledge on how livelihoods could be affected and on aspects of benefit sharing.

Table 15. Capacity needs assessment for mandate fulfillment

Component 2 Prepare the REDD+ Strategy	**Personnel needed**					**Total**
NIMOS						
	2014	2015	2016	2017	2018	
Prepare and encourage economic, legal and governance arrangements	1	1	1	1	1	1
Planning, implementing and monitoring R-PP	2	2	2	2	2	2
Assess and address environmental and social risks of REDD+ strategy options Prepare ESMF	1	1	1	1	1	1
Manage Climate Fund	1	1	1	1	1	1
Subtotal FTE	5	5	5	5	5	5
Ministry of ROGB						
Land use planning	1	2	2	2	2	2
TOTAL staffing	6	7	7	7	7	7

Legal aspects

Currently, legislation and policies on mining and logging concessions are not coherent. The strategy to streamline mining and logging concession policies would require a revision and potential adjustment of current concession legislation and policies. The Multi-Annual Development Plan 2012-2016 does mention REDD+ as a potential means to economic benefits for the country. Enforcement of existing social and environmental guidelines would be made possible through ratification of the Environmental Framework Act, which is expected within 2 years time.

According to the 1987 Constitution, all forests, except those on privately owned land, belong to the State. Accordingly, almost all of Suriname's forest estate is publicly owned. Article 41 of the Constitution states that natural riches and resources are property of the nation and shall be used to promote economic, social and cultural development. The nation shall have the inalienable right to take complete possession of the natural resources in order to apply them to the needs of the economic, social and cultural development of Suriname.

Governance aspects

The Suriname forest is governed by the following legislative tools and institutions:

- The Constitution of the Republic of Suriname stipulates that the social goal of the State is to create and stimulate circumstances that are necessary for the protection of nature and maintenance of ecological balance. It also states that all forests, except private owned land, belong to the State. Forests on private land do not cover more than a total area of 50,000 ha. According to the Forest management Act of Suriname the following forms of tenure are granted:
    i. Timber concessions, which are granted to companies and individuals
    ii. Communal Wood Cutting Licenses, granted on the basis of the Timber Act of 1947 to forest based communities (Maroon and Indigenous), and since 1992, community forests, which are granted on the basis of the Forest Management Act.
    iii. Incidental cutting licenses, which are granted to individuals and companies for salvaged logging.
- The Forest Management Act of 1992, which replaced the old Timber Act, contains a number of requirements intended to promote sustainable forest management practices for the production of timber and non-timber products;
- The Forest Service (LBB) of the Ministry of ROGB is responsible for the management of all forests in the widest sense of the word, thus including nature conservation and law enforcement;
- The Nature Conservation Division (NB) of the Forest Service is the CITES authority and is responsible for issuing permits for export of CITES species and therefore also for the enforcement of laws on hunting and wildlife (the Game Law 1954).
- The National Forest Policy was formulated in 2006. The overall objective of the policy is "to enhance the contribution of the forests to the national economy and the well-being of current and future generations with due regard for the conservation of the biodiversity". Currently, a Strategic Action Plan for the forest sector has been produced and needs to be implemented.
- Interim strategic action plan for the forest sector as published in 2008.
- In view of the responsibilities with respect to general law enforcement, the Police Force and the Public Prosecutor's Office are authorized to apprehend and prosecute people who are not in compliance with the forestry laws
- The establishment of SBB in 1998, mandated by the Forest Service (LBB) to manage forest production and therefore responsible for the supervision and control of all logging. The Forest Management Act of 1992 enables forest guards to confiscate illegally logged timber and to enforce the Forest Management Act. SBB also carries out forest monitoring and forest production statistics. However, a full and complete forest inventory and monitoring program has not been established due to a lack of capacity and funding.

- The establishment of the National Environmental Council and the National Institute for Environment and Development in Suriname (NIMOS) in 1998 to implement and monitor the national environmental policy. Guidelines for environmental and social impact assessments (ESIA) were established for logging, mining, agriculture and energy production as well as for other activities that have a significant impact on the environment. These guidelines are important for the implementation ofthe REDD+ readiness strategy. A further description is given in component 2d. Although the development of an ESIA is not mandatory as yet because the environmental legislative framework is still in the constitutional process, it has become good practice and is now considered commonplace.
- The 2010 installation of the commission for the structuring of the gold sector has led to significant reduction in illegal gold mining and is working towards fundamental restructuring of the small and medium scale gold mining, which will include the introduction of reduced impact small scale gold mining.
- The development of the National Biodiversity Strategy (NBS) in March 2006, which provides the national vision, goals and strategic direction to be pursued, in order to conserve and sustainably use the nation's rich biodiversity and biological resources; foster sustainable management of its natural resources and support the equitable sharing of biodiversity related services and benefits, provided by ecosystems. The strategic forest related directions of the NBS are:
    - To promote and strengthen research and monitoring programs;
    - To improve agriculture and land use planning, as well as, review current agricultural policies and activities;
    - Sustainable use and management of forest resources through updated inventories, strengthen enforcement, promotion of research, improvement and expanding programs, review and revise existing laws, implement a strong forest management authority and implement the national forest policy;
    - Review and strengthen laws/rules and enforcement regarding mining as well as promote ecologically responsible mining and mineral development practices;
    - Strengthen the capacity of ecologically sustainable tourism and expand the sustainable development of tourism infrastructure and
    - Conduct public awareness, education and community empowerment.

Land rights aspects, FPIC and the Saramaka Judgement

Suriname has about 540,000 inhabitants, made up of the following ethnic groups: Hindustani (36%), Creole (31%), Javanese (15%), Maroon (10%), Indigenous (2%) and other ethnicities (6%) including Chinese, Lebanese and Caucasian. About 60% of the population lives in the urban areas, 30% in rural areas and the remaining 10% lives in the interior.

Table 16. Forest dependent communities of Suriname

Maroon Tribes of Suriname	Indigenous Tribes of Suriname
Ndyuka	Arowak
Saramaka	Caraib
Aluku	Trio
Paamaka	Wayana
Matawai	
Kwinti	

The physical and geographic make up of Surinamese society brings with it an array of complex issues related to land rights. For decades, especially after gaining independence, efforts have been made by various Governments to solve land right issues.

In the beginning of 2000, a four-day conference took place with the Government of the Republic of Suriname and the traditional authorities of the Indigenous and Tribal peoples from the interior of Suriname. The objective of this conference was to work towards a solution for the land-right issues in the country, where the central issues were the national stake in general and in particular the stake of the forest-dependent communities.

The conference concluded with consensus on the following issues, which have been included in Presidential Decree PB 28/2000, also known as the "Buskondreman dey protocol":

- The Government of Suriname recognizes the collective rights of the Indigenous and Tribal peoples;
- The Indigenous and Tribal peoples have free user access to an area, to be determined promptly, based on the principle of natural boundaries;
- The Government of Suriname will make an informed decision based on consensus with the traditional authority of the Indigenous and Tribal peoples when national economic importance requires that a part of an area must be determined for purposes of national economic development;
- A fund will be established from which a percentage (to be determined) of revenues from economic activities in the interior will flow back to the village communities;
- Compensation will be provided after determination to what extent this is necessary in case a certain area is destined for economic development based on national importance.
- It must be prevented that forest-dependent communities are limited or hindered in their daily activities in any way.

For implementation of the Presidential Decree, the Government of Suriname has initiated several activities, often with support of organizations working directly with indigenous peoples and maroons:

- In 2000, the same year as the Presidential Degree, the first map was created with the Trio indigenous peoples about the land use in Southwest Suriname. In 2009-2010, spearheaded by the Ministry of Regional Development, similar participatory mapping processes for indigenous peoples and maroons were completed for more than 90% of the living areas, covering more than 40% of Suriname's land area[11]. Today only small patches of indigenous/maroon land remain to be mapped in the coastal region.
- The Government has completed several studies on developing a legal framework for indigenous and maroon land rights. Topics include the technical/legal aspects of demarcation, the actual collective rights framework, and the role of traditional authorities in a collective rights framework.
- In 2006, the Government appointed nine persons (predominantly lawyers) in a land rights commission (Presidential Resolution of February 1, 2006 no. PB.02/2006, amended by

[11] Ministry of Regional Development/Inter American Development Bank/Amazon Conservation Team. (2010). Land rights, tenure and use of indigenous peoples and maroons in Suriname support for the sustainable development of the interior-collective rights

Presidential Resolution of June 2, 2006 no. PB.14/2006) to investigate and identify, in close cooperation with the target groups, problems with regard to land rights, as well as advise the government on the handling of this issue towards certain target groups, in particular the tribal communities. The advice of the one-year commission was to amend several national laws, such as the constitution, forestry, mining and nature conservation laws, and prepare a draft framework law on the rights of Indigenous and Maroons. Before this can take effect the state has to identify and demarcate indigenous and maroons (current process). Further actions are to issue and register titles on land[12].

- The Government has frequently consulted indigenous peoples and maroons in land rights activities. During 2010-2011, this consultation with indigenous peoples and maroon umbrella organizations (VIDS and VSG) was on a weekly basis, as they represented the indigenous peoples and maroons, which was decided in the period 2009/2010. In the REDD+ process, the majority of indigenous peoples and maroons have indicated wanting to represent themselves, through the traditional authorities.
- The Government has initiated a national round of negotiations in 2011. With a conference, attended by more than 700 tribal members from all 4 indigenous and 6 Maroons tribes in Suriname, land rights issues were discussed and positions were conveyed. However, the negotiations halted due to a strong position of indigenous people's wanting to obtain full autonomy and above- and below-ground land rights. The Government restarted the process in 2012 with capacity building activities in negotiations for indigenous and maroons, the high level policymakers and mid-level officials from the different ministries dealing with land. In 2013, the Government further prioritized the issue and the President appointed a special advisor to land rights.

The Presidential Decree upholds the very same principles that are taken up as safeguards in the Saramaka Judgement, namely:

- Consultation and consensus building,
- The right to compensation and benefit sharing, and
- That any activities in those areas would only take place after a clear process has been followed after consensus has been reached.

The third safeguard is also taken up in the draft environmental framework law in the form of social and environmental assessments. This law is expected to be ratified within two years.

As there are a lot of controversial discussions on land rights within the REDD+ regime, Suriname does not take this issue lightly. In the current early dialogue and information-sharing phase, Suriname has constantly approached forest-dependent communities emphasizing that participation is voluntary and that activities potentially affecting them will not be undertaken without their early involvement and FPIC.

Suriname understands FPIC as it is incorporated in the FCPF and UN-REDD+ joint 'Guidelines on Stakeholder Engagement for REDD+ Readiness with a Focus on the Participation of Indigenous Peoples and Other Forest-Dependent Communities'.

[12] Land Rights Commission (2008). Final Report of the Land Rights Commission

A first step in applying FPIC is to carefully consider whether a proposed activity/policy will significantly impact on the lands, territories and/or resources of indigenous peoples and/or other relevant rights-holders. If it will, FPIC will likely be required.

During the finalization of the R-PP, information sharing and dialogue have not required FPIC but have been based on the same principles governed by the Common Approach and World Bank Operational Policy 4.10. During the R-PP implementation phase careful consideration will be taken to determine which activities and policies require FPIC. A preliminary assessment of the REDD+ strategy options requiring FPIC is provided below in table 17.

Table 17. REDD+ strategy options FPIC requirements

Strategy option	Requiring FPIC or not
Revision of rules for permits and concessions for gold mining and logging	Revision itself does not require FPIC. However, FPIC (-like) principles could be incorporated
Streamlining of concession policies of ministries for gold mining and logging	Streamlining itself does not require FPIC.
Development of spatial/ land-use planning policies and legislation	Will likely require early involvement and FPIC in relevant areas
Development of zoning regulations around infrastructural projects	Will likely require early involvement and FPIC in relevant areas
More efficient wood logging procedures with emphasis on wood waste to be used as renewable as biomass	Does not require FPIC
Introduction of regulations to limit land degradation and deforestation caused by small- and medium-scale gold mining	Does not require FPIC
Promotion of ecotourism	Will likely require early involvement and FPIC
Promotion of agroforestry	Will likely require early involvement and FPIC
Promotion of NTFP	Will likely require early involvement and FPIC
Promotion of medicinal plants	Will likely require early involvement and FPIC
Protection of medical plant species	Will likely require early involvement and FPIC
Protection of surface water resources	Will likely require early involvement and FPIC
Reforestation and protection of mangroves	Might require FPIC depending on area
Protection of genetic resources	Will likely require early involvement and FPIC

In future consultation efforts in REDD+, it is necessary to have an indicative process for respecting the rights of communities to Free and Prior Informed Consent (FPIC). FPIC is necessary for REDD+ decision making with indigenous peoples or other local communities having customary rights to the area. The process should be developed with the tribes and include the following elements[13]:

1. Identify the indigenous peoples representatives through the recognized tribal leadership. In case the tribal leadership does not want to represent themselves, they shall appoint a organization for representation.

[13] Guidelines obtained from Anderson (2011). Free, Prior and Informed Consent in REDD+: Principles and approaches for Policy and Project Development. The Center for People and Forests (RECOFTC).

2. Identify the land use information and socio-economic information on potential positive and negative impact on the livelihood of the indigenous peoples (preferably through participatory processes). This information should be disseminated in the communities in the appropriate language.
3. Based on the information, communities may wish to enter in a negotiation process in which they discuss the benefit sharing, compensation, financial and legal arrangement, dispute resolution, monitoring process and redress mechanism. A draft agreement is the outcome of the negotiations, which need sufficient time to be discussed with the community.
4. Based on the outcomes of the negotiations, tribal structures will give consent or not for the REDD+ project with a final agreement.

2c.2 Scope of REDD+ implementation

Description of forest areas to be included

All forest areas and all forest types will be considered for inclusion in REDD+. Priority will be given to areas that are or could be threatened by drivers of deforestation and forest degradation.

REDD+ Project guidelines

In the context of REDD+, an international legally binding regulatory framework is still lacking. Several voluntary standards have been established and propose different options for REDD+ projects.

In order for Suriname to receive payments under a voluntary REDD+ program, projects must adhere to certain standard requirements or criteria in order to be eligible for forest carbon credits. Thus a first step would be for Suriname to select a standard, such as the Voluntary Carbon Standard, which will lay down the pathway along which projects can be developed. The case of Suriname is unique in the sense that it is one of the greenest nations and will use REDD+ as a planning tool for sustainable forest use, thus not necessarily reducing emissions (as this is close to zero) but limiting future increases of emissions accompanying economic development. Therefore, selection of a standard will have to be strategic in such a way that the requirements are compatible with the country's national circumstances.

Depending on the standard selected, REDD+ projects will have to meet certain requirements or criteria in order to be validated. After selection of the standard, Suriname will work towards meeting requirements and criteria. Guidelines for developing projects to be validated under a certain standard may include:

1. Identification of eligible activities within a proposed project
2. Setting temporal (start, crediting period, historical reference etc) and spatial boundaries of the project
3. Understanding of relevant drivers and their underlying causes through participatory analysis
4. Listing of project interventions, depending on the problem to be addressed
5. Defining project monitoring activities
6. Determining the baseline for the project

Strategic selection of a standard will take place during the R-PP implementation phase.

During the same period, practical guidelines for the implementation of REDD+ project development will be developed in a participatory manner by NIMOS. These guidelines will be based on lessons that can be learned from existing payment-based incentive programs in other countries such as payments for environmental services (PES).

2c.3 Financing and revenue sharing

REDD+ financing mechanisms and sources: management and sharing of revenue

A Climate Fund will be set up and managed by NIMOS. The Board will consist of representatives from a broad cross section of relevant stakeholders and institutions. The exact composition and working procedures will be determined during design of the Fund. The design of the Fund will be determined by nation-wide consultations including with forest dependent communities. In so far as required, the principles of FPIC will also be adhered to for the specific components that deal with forest dependent communities and access to benefit sharing.

One of the main issues of development in the villages is that there are very few job opportunities. Using REDD+ for creating new jobs would also create new communication structures in the villages. The Climate Fund can provide for the salaries of participants in community forest monitoring activities. A percentage of the Fund will be earmarked for forest-dependent communities, which can be spent on their own identified priorities and programs. The presidential decree on land rights mentioned earlier also includes the creation of separate funds for the villages and tribes.

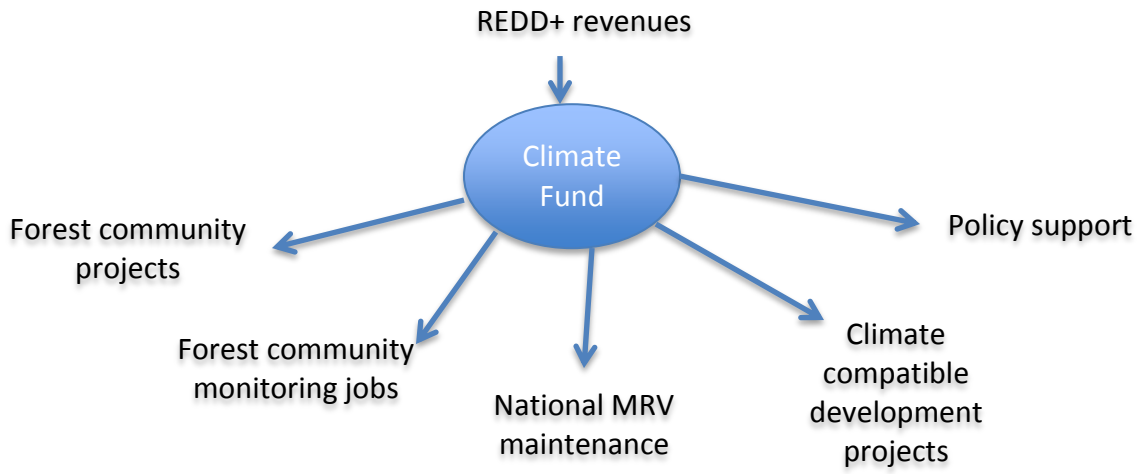


Figure 13. Preliminary overview of revenue sharing

2c.4 MRV

National tracking system or registry

Institutional arrangements related to MRV are described under Sub-component 4.

A national REDD+ registry can serve as a database-driven information center that would contribute to transparency and efficiency in the different phases of REDD+ implementation.
Suriname is still in the very first phase of REDD+ readiness, which means that an early REDD+ registry, to be established during the implementation of the R-PP, would mainly contain information on projects relating to the five REDD+ activities that will be monitored, tracking their activity and performance.

Potential steps in establishing a REDD+ registry include:

1. Designing a protocol for requirements and authority over the registry
2. Making institutional arrangements for operation of the registry (including financial infrastructure)
3. Designing rules for operational processes and different types of access
4. Acquiring technology for setting up the database

The establishment of an early REDD+ registry will take place during R-PP implementation. NIMOS would be the authorizing institutions, while the MRV unit would be the administrator.
After the first phase, the early REDD+ registry can evolve into a more sophisticated registry as a national Forest Reference Level and a comprehensive MRV system are established.
In addition, Suriname is an HFLD country and centers its strategy around limiting the forest transition curve; i.e. not focusing on reducing emissions but on avoiding emissions.
This implies that, once a full REDD+ program is implemented, the issuance of credits for Suriname will be based (similar to Guyana) on emission reduction from avoided deforestation.

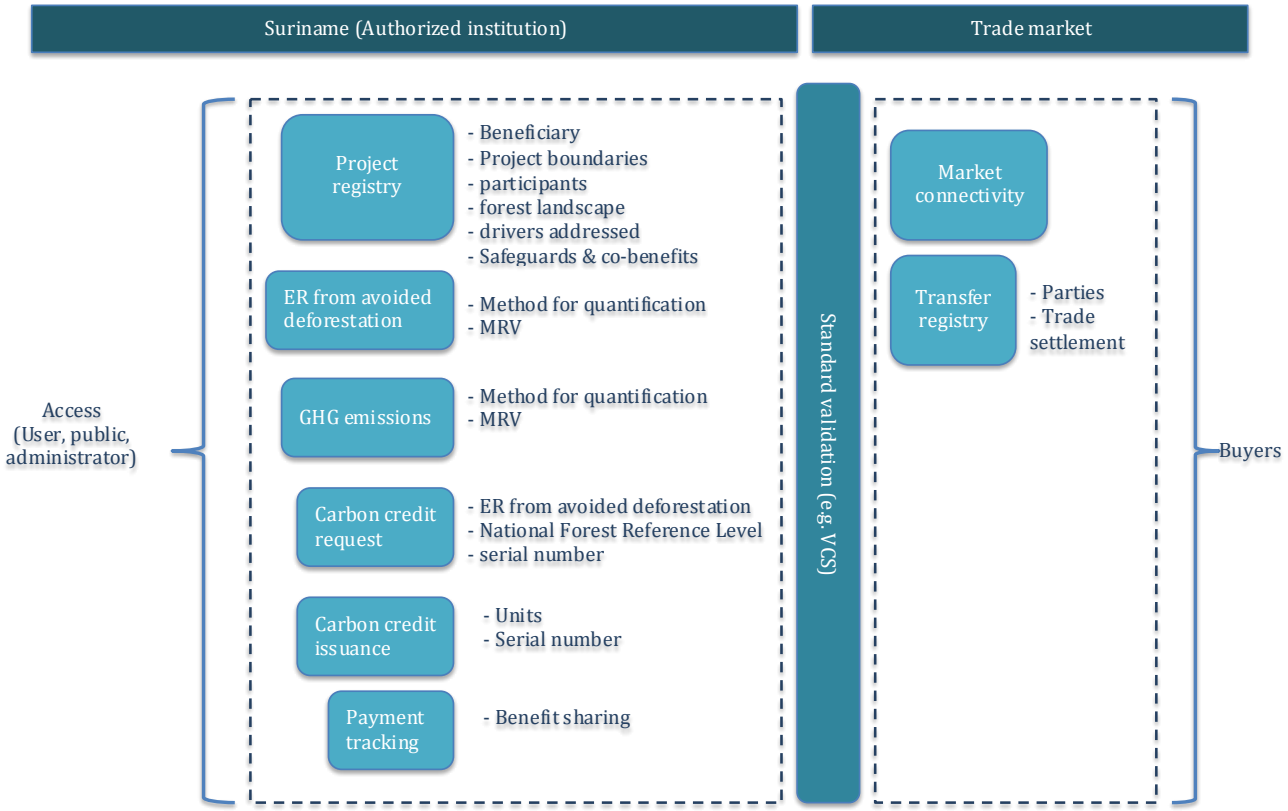


Figure 14. Possible design of a national REDD+ registry for Suriname

Monitoring and reporting of the implementation framework

Monitoring and reporting related to the performance of the REDD+ implementation framework will be an important element ensuring transparency and management effectiveness of the overall process. Management and financial audits will be conducted regularly. A 'State of REDD+' report formulated by NIMOS will be validated by an independent entity. Specific arrangements are detailed under Component 4.

Sub-national implementation and MRV

There are no current plans for sub-national implementation.

Reporting and UNFCCC compliance

It is expected that, once capacities for this purpose have been suitably developed, the arrangements will enable Suriname to comply with relevant obligations under UNFCCC. This includes eventual requirements related to reporting. At this stage, it should be noted, such requirements have not yet been finalized at international level.

2c.5 Stakeholder engagement

Sub-nationally, local government will be involved through District Commissioners, who have local management structures and can be used as an independent authority. They are in the field and have easy access to activities that require monitoring.

With the continued approval by the forest dependent communities, the local dialogues and consultations will continue to be facilitated by the REDD+ Assistants. The REDD+ Assistants will be responsible for increased knowledge of stakeholders and effective participation of these key players. Effective participation of Indigenous and Tribal people will be necessary for impact analysis, design of benefit sharing system, grievance and conflict resolution, monitoring and evaluation of the REDD+ strategy.

Grievance and conflict resolution

With respect to the issue of conflict resolution there is a three-tier approach that is also explained in component 1a. The first is the REDD+ Steering Committee, the second is in the Bureau of Contact with the People in the Cabinet of the President and the third is the Parliamentary Commission on Climate Change. The latter is selected based on existing structures and administration. Setting up a completely new, politically neutral body would significantly increase the budget for capacity building and institutional arrangements.
Furthermore, NIMOS will likely set up an office for conflict resolution, which will focus on developing guidelines for conflict resolution.

The grievance and conflict resolution mechanism mentioned in the previous paragraph and in component 1a is temporary until a full-fledged mechanism has been designed and put in place.

The design of the grievance and conflict mechanism will be determined by nation-wide consultations including with forest dependent communities. In so far as required, the principles of FPIC will also be adhered to for the specific components that deal with forest dependent communities with regard to grievance and conflict resolution.

2c.6 Work program

Table 17 below provides an illustration of the consolidated work program as well as indicative budgets. Most of the budgets will be spent in a combination of first creation of new institutional arrangements, followed up by capacity building and conducting research activities.

Table 18. Subcomponent 2b and 2c activities and budget

TABLE 2B+C. REDD+ STRATEGY OPTIONS AND IMPLEMENTATION ACTIVITIES AND BUDGET							
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
2b.1 Assessment of REDD+ strategy options	Analysis of cost effectiveness of different strategy options	50					**50**
	Interest group analysis of strategy options	50					**50**
	Feasibility assessment, including risk analysis of strategy options		50				**50**
	Assessment of environmental and social risks of strategy options		50				**50**
	Legal and governance review of strategy options		50				**50**
	Identification of options and policy interventions to deploy REDD+ strategy options and to identify mainstreaming opportunities		50	50			**100**
2c.1 Implement proposed institutional framework and capacity building	Institute REDD+ coordinating bodies within NIMOS	150	150	150	150	150	**750**
	Create, staff and train supporting bodies and departments within implementing institutions	30	60	60	60	60	**270**
2c.2 Establish system for REDD+ projects	Establishment of a REDD+ registry			**10**	**20**	**20**	**50**
	Developing guidelines for REDD+ projects			**25**	**10**		**35**
2c.3 Establish supplemental provisions for developing REDD+ delivery mechanisms	Design and implement a Climate Fund				90		**90**
	Design and implement a Benefit Sharing Mechanism				50	50	**100**

Total	**280**	**410**	**295**	**380**	**280**	**1645**
Government	100	100	100	100	100	**500**
FCPF	**135**	**233**	**120**	**188**	**120**	**796**
UN-REDD Programme (if applicable)	45	77	75	92	60	**349**

2d. Social and Environmental Impacts during Readiness Preparation and REDD+ Implementation

The overall objective of the environmental and social assessment of readiness activities is to gain in-depth information on the quality of the environment and the socio-economic status when implementing REDD+ activities. The SESA's focus will be on a cumulative assessment of the impact of REDD+. Effective and efficient mitigation measures and the enhancement of economic development will also be taken into account**.** The SESA protocols that are compliant with the World Bank safeguard policies will be defined in the first stage of the R-PP process, coordinated by the RSC and executed by NIMOS as well as monitored by third parties.
The national environmental policy of Suriname aims to protect the environment while achieving sustainable development. Although the Environmental Legislative Framework is still in the constitutional process, ESIA guidelines [14]have been prepared by NIMOS, the National Institute for Environment and Development in Suriname. ESIA are widely used in the logging, mining, energy and agricultural sectors. This proves that these guidelines are accepted by national and international organizations, industrials and multinationals.

2d.1 Standard ESIA procedure

The design of the SESA shall be built on the standard ESIA procedure supervised by NIMOS. Apart from the International Association for Impact Assessment (IAIA) Guidelines for Environmental and Social Impact Assessments (ESIA), the NIMOS guidelines have been based also on the AKWE KON guidelines Voluntary guidelines for the conduct of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities. The NIMOS guidelines also consider the non-carbon and non-economic values of forests.

As appropriate for the further REDD+ program the AKWE KON guidelines will be consulted and more fully implemented where required. Currently, NIMOS is formulating specific guidelines on biodiversity for those conducting ESIAs to include more detailed information on biodiversity, such as the functions of biodiversity and its value to the people (e.g. Indigenous and tribal communities that are using it). See Annexes for the Recommended Structures for ESIA and Strategic Environmental Assessments (SEA).

All major infrastructure projects in Suriname are subjected to the administrative system of the government, e.g. mining activities need mining concessions, which can be obtained at the Ministry of Natural Resources with input from the GMD.
Before any permit will be issued, NIMOS will receive the application for the permit, and will prepare its assessment, which will be attached to the permit with or without specific requirements.

[14] *See NIMOS: Environmental Assessment Guidelines Volume I : Generic, second edition 2009*

In the case an Environmental Assessment (ESIA) is needed, NIMOS will discuss the procedures for conducting an ESIA with the applicant. Only after the ESIA has been approved, NIMOS will react positively on issuance of the permit by the permitting agency and will submit an advice for the permit with the appropriate requirements based on the ESIA. It should be clear that application of this process does not exempt the applicant from complying with other regulations or standard industry practices. Also, it is foreseen that with regard to the monitoring and enforcement of measures stipulated in the Environmental & Social Management Plan, as the outcome of the ESIAs, the IMAC will also play an eminent role.

2d.2 Prevailing standards of public consultation and participation for ESIAs

NIMOS understands and recognizes the importance of public consultation/participation throughout the ESIA process. Moreover, NIMOS has adopted procedures that ensure full public consultation/ participation at the early stage in the ESIA process, and particularly at the scoping and reviewing phase.
In order to ensure timely and meaningful public consultation/participation NIMOS uses different communication and public participation mechanisms, such as:

- A summary of the ESIA study, in non-technical language, will be required; this summary report will be accessible at various easy-to-access locations, in the region where the project is proposed to be developed;
- During the review process, information regarding the major positive and negative impacts of the project, and the proposed mitigation measures will be disclosed in the media, via radio, newspapers and television by the proponent; full (complete) ESIA available at NIMOS;
- NIMOS will receive public comments and concerns regarding the project and forward them to be addressed by the applicant or by the ESIA team;
- Optional: Prior to formal Public Hearings, smaller community-based meetings will be held at which local residents and other interested parties will be given the opportunity to discuss their concerns in the presence of NIMOS and representatives of the applicant (including the study team). Also in attendance will be spokespersons for government agencies and research establishments who also make representations to the ESIA if needed;
- The Public Hearing will be publicized in the media with a minimum of 15 business days in advance;
- To ensure that the affected people are able to participate in the hearing, the Public Hearing will take place in the most accessible location in the region where the project is going to be implemented;
- The Applicant will record and include minutes of the Public Hearing in the project files;
- NIMOS will develop, with the assistance of international consultants, detailed regulations regarding the administrative procedures of the ESIA process, including public participation mechanisms and procedures.

2d.3 SESA

Based on the existing ESIA tool a Strategic Environmental and Social Assessment (SESA) will be conducted. The SESA will provide a comprehensive stakeholder analysis, a description of the initial social and environmental situation of the forest sector in Suriname, an analysis of the possible impacts of different REDD+ strategy option scenarios, an analysis of impacts of different REDD+ alternatives and the verification of compliance with World Bank policies.
SESA preparation will be the basis for the formulation of an Environmental and Social Management Framework that will help minimize and mitigate any potential negative impacts of REDD+ implementation on the social and environmental integrity of the country.
The specific purpose of the SESA is to identify opportunities that:

- Enable an understanding of the operating environment for REDD+ activities, including stakeholder analysis and the socio-environmental dimensions of the forest sector in Suriname;
- Screen and assess possible social impacts and issues related to REDD+ activities in Suriname;
- Develop a multi-stakeholder engagement approach to address these impacts;
- Propose methods and measures to mitigate environmental and socioeconomic risks during REDD+ strategy implementation; and
- Provide leads to improve development activities and the state of the environment through REDD+ as well as any associated measures adopted to counter climate change.

The SESA will ensure compliance with relevant safeguards during both preparation and implementation of the R-PP. The ESMF will be an output of the SESA. It examines the risks and potential impacts associated with one or more projects, activities, or policies/regulations that may occur in the future as part of the implementation of the REDD+ strategy options designed during the readiness preparation phase.
The SESA will have to comply not only with the World Bank's safeguard policies. It will also have to consider existing national legislation, international agreements ratified by the government and the principles of international practices and protocols protecting the rights of citizens, especially with regard to impacts on the environment, traditional rights and access to natural resources.

More specifically**,** the execution of the SESA will consider the following activities in two phases:
Phase 1:

1. The identification of key environmental and social issues related to the forest sector and REDD+. Through this research, vulnerability issues will be considered to develop mitigation measures.
2. Assessment of the capacities of existing institutions to manage key environmental, social and vulnerability issues. This assessment will gain also information on what kind of capacity building will be needed for example in-depth training, infrastructure improvements and personnel.
3. A SWOT analysis will be conducted on the activities of the REDD+ program considering environmental, social, political and economic issues.
4. Benefit/costs analyses will be conducted on the SESA outputs.

The outcome of abovementioned assessments will lead towards the development of mitigation, risk management and capacity building measures, which will be needed for the execution of phase 2.

Phase 2:

The outcomes of phase 1 will lead to the implementation of the results of SESA. The following activities are considered:

1. Capacity and institutional strengthening of existing institutions and systems.
2. Adjustment and strengthening of regulatory frameworks.
3. Formulation of environmental and social management frameworks consistent with World Bank safeguard policies.

Abovementioned activities will be conducted through intensive consultation and participation of all relevant organizations and institutions. All assessments will consider the World Bank safeguard policies. National consultants will conduct the assessments, where necessary with the support of international consultants, in collaboration with relevant governmental and non-governmental institutions.

2d.4 Work plan for SESA activities

Table 19. Sub-component 2d activities and budget

TABLE 2D. SOCIAL AND ENVIRONMENTAL IMPACT ACTIVITIES AND BUDGET							
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
2d.1 Technical design for impact assessment (SESA) and Monitoring and Management Impacts Framework (ESMF)	Workshops with technical and social groups on strategy options		100	100			**200**
	Specific sectoral dialogues on strategy options		50	50			**100**
	District level consultations on options in regards to SESA and ESMF			50			**50**
2d.2 Publication and dissemination of SESA results	Documentation			10			**10**
	Publication and dissemination			10	10		**20**
2d.3 SESA design for pilot projects, including TOR	Impact monitoring of REDD+ strategies and/or pilot projects				25	50	**75**
	Impact control, conflict resolution and social control measures				25	50	**75**
Total			**150**	**220**	**60**	**100**	**530**
Government							**0**
FCPF			**105**	**140**	**35**	**70**	**350**
UN-REDD Programme (if applicable)			45	80	25	30	**180**

Component 3: Develop a National Forest Reference Emission Level and/or a Forest Reference Level

3.1 Introduction

Background

According to the decisions of COP 17 in Durban, Forest Reference Emission Levels and Forest Reference Levels (REL/RLs) represent benchmarks for assessing a country's performance in reducing total GHG emissions and increasing removals through eligible REDD+ activities. Forest Reference Emission Level (REL) refers to the amount of gross emissions from deforestation and degradation, and forest management within a defined geographical area and an agreed period under an approved business-as-usual (BAU) scenario. The BAU scenario is based on the development path of the country if it were not subjected to any external program or policy intervention, i.e. it represents the scenario under which historical and current practices continue. While the REL includes gross emissions only, the Forest Reference Level (RL) also includes removals associated with sustainable management of forest and enhancement of forest carbon stocks.

UNFCCC Decision 12/CP.17 provides 'modalities' for forest RELs/RLs and is supported by an Annex on 'Guidelines for submissions of information on forest reference levels' (UNFCCC 2011). This Annex will be considered in the development of a national reference level in Suriname.
As a High Forest cover Low Deforestation (HFLD) country, Suriname's land surface has 94.7% forest coverage. For centuries, the country has been acting as a carbon sink for the world.

For REL/RL development, Suriname will focus on forest cover, taking into account the 16 different forest types that have been identified. Given its high level of forest coverage, Suriname will focus primarily on sustainable forest management, to maintain/conserve as much as possible. Given that Suriname's forest is part of the Amazon forest and that the neighboring country, Guyana, is also an HFLD country and uses RL, Suriname considers that it is appropriate to use the RL methodology when composing reference Levels. Moreover, based on the experience, lessons learned and results to date of the Norway-Guyana agreement, Suriname's RL will have the following characteristics: (i) it will be national in scope; (ii) it will be based on deforestation and forest degradation; (iii) it will include above- and below-ground tree biomass, dead wood, and soil, and; (iv) it will distinguish among emission factors on the basis of drivers.

Suriname's RL will build on inputs from the following inter-related R-PP components:

- Component 2a: The assessment of land use, land-use change drivers, forest law, policy and governance has to provide quantitative inputs to assess the weight of different drivers in developing the BAU and alternative scenarios.
- Component 2b: The methodological RL framework can be used to assess the performance of selected REDD+ strategy options.

- Component 4a: The forest monitoring system has to provide the spatial deforestation and forest degradation patterns (activity data) as well as the required emissions factors to estimate historical and projected emissions and emission reductions. Moreover, it should also monitor parameters identified as the "national circumstances" which will be used to adjust the BAU scenario in the future RL.

Overview of methodology

The development of Suriname's RL will require support and backstopping from different governmental agencies as well as local stakeholders. RL development will follow a phased approach, in accordance with the Inter-governmental Panel on Climate Change's Good Practice Guidelines (IPCC GPGs). An initial step will be to agree on a revised definition for national forest. Subsequently, a thorough assessment of the current existing national data and estimation of the historical spatial deforestation and forest degradation patterns since 2000 will be conducted. This will include generation of activity data and emissions factors and their relation to explanatory parameters representing the dynamics of drivers, causes, and agents.

3.2 Assessment of historical data

National forest definition

As noted above, in order to establish a reference scenario, an updated definition of the term 'forest' is essential. Suriname's Forest Management Act (1992) defines 'forest' as follows:

'All land covered with trees, shrubs and other vegetation, including beaches, herbaceous wetland and savannas, which is suitable for harvesting wood and/or for the collection of non forest timber products, including wildlife and/or used for soil protection, sustenance of the stability of the environment, or for purposes of recreation, including all land which has been reforested or which, in the opinion of the Minister of Natural Resources, may in future be unitized for such purposes excluding:

- An open field within an area of woodland, which open field is larger than a surface to be determined by state decree;
- Land which is actually used for agriculture, mining, construction, permanent settlements or other purposes not provided for by law, provided that such use is not contrary to any locally applicable national or regional development program as referred to in the Planning Act;
- The regions designated by virtue of the 1954 Nature Conservation Act.'

While the above definition reflects the specific biophysical and social conditions of the country and is anchored in Suriname's history, law and forestry practice, this forest definition does not comply with the requirements of the UNFCCC[15] and IPCC. In order to maintain consistency

[15] "Forest" is a minimum area of land of 0.05-1.0 hectares with tree crown cover (or equivalent stocking level) of more than 10-30 per cent with trees with the potential to reach a minimum height of 2-5 metres at maturity in situ. A forest may consist either of closed forest formations where trees of various storeys and undergrowth cover a high proportion of the ground or open forest. Young natural stands and all plantations which have yet to reach a crown density of 10-30 per cent or tree height of 2-5 meters are included under forest, as are areas normally forming part of the forest area which are temporarily unstocked as a result of human intervention such as harvesting or natural causes but which are expected to revert to forest; [FCCC/CP/2001/13/Add.1]

among REDD+ countries, each country should select its forest definition based on three quantitative parameters: minimum area, minimum crown cover and minimum tree height.
The current Forest Management Act (FMA) is clearly focused on production forest. Areas that have been designated by virtue of the Nature Conservation Act (1954), the majority of which are covered by forest, are excluded from the above definition of 'forest'. Furthermore, essential elements such as minimum area, minimum tree height and minimum level of crown cover are not mentioned in the Act. For these reasons, the existing definition is not suitable for carbon assessments and is in the process of being revised as part of a broader revision of the Forest Management Act according to which the Act will, *inter alia*, be streamlined with the Nature Conservation Act. This revision will aim to provide the most appropriate definition of forest for Suriname, particularly with regards to cost-effectiveness of MRV.[16]
Pending the above revision of the FMA, SBB is using the following definition of forests, based on FAO and IPCC guidance:

- forest have a minimum of 1 hectare,
- crown density has a minimum of 30%
- tree height: minimal 5 meters.

According to SBB's definition, Suriname has a forested area of 94.7% of total land surface.

Inventory of existing data related to forest cover

National forest inventories covering approximately 320,000 ha were conducted during the years 1971–1974 by the FAO for sustainable logging purposes. In the mid-1990s, 30 plots were established by the Department of Natural Resources and Environmental Assessment of the Centre for Agricultural Research (CELOS-NARENA), representing different forest types. Field measurements are periodically taken from limited areas, such as logging concession areas. This monitoring system is a modest start to a national MRV, but the database of the system will require substantial expansion and improvement.
Currently, there is no continuous and systematic national forest inventory system in place to directly monitor forest biomass. Landsat imagery from 1998, with limited ground-verification and confirmation with aerial photographs, were used to develop the preliminary classification of forested lands in Suriname and to develop indicative forest classification maps for the Ministry of Natural Resources. This was the result of a collaborative effort by the Natural Resources and Environmental Assessment (NARENA), the Centre for Agriculture Research in Suriname (CELOS), the Foundation for Forest Management and Production Control (SBB) and the FAO. These maps will serve as a starting point for the development of the RL and the stratification of the forests for the further carbon stock assessments. Emissions from deforestation and forest degradation activities will be assessed based on a historical reference

[16] Minimum forest stand dimensions are usually included within forestry definitions to keep the task of monitoring forested areas feasible. The cost of monitoring rises sharply with increasing resolution. E.g. If the limit of the forest definition in terms of minimum size is set too low e.g. 0.1 ha it creates practical difficulties in monitoring extensive areas for changes as it would require a very high resolution, thus increasing the costs sharply. If the upper limit of resolution is set too high, however, significant areas of treed land may be excluded from monitoring or reporting as forest. Similarly, areas of non-treed land might be reported as forest. Thus, smaller scale activities would be neither detected nor reported. Therefore, the selection of theforest definition and the respective resolution of remote sensing data should be compatible with the scale of human activities (e.g., clearing, planting, infrastructure etc.), and at the same time consider cost-efficiency of monitoring forest area changes.

period starting from the year 2000, using time intervals of approximately 5 years. This will be done because of a lack of suitable data available.

Data on carbon and biomass stocks are published in FAO's Forest Research Assessment 2010 (FRA 2010). (See tables 20 and 21 below)

Table 20. Biomass per component according to 2010 FRA by the FAO

FRA 2010 category	Biomass (million metric tonnes oven-dry weight)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Above-ground biomass	5 438	5 438	5 438	5 430	n.a.	n.a.	n.a.	n.a.
Below-ground biomass	1 303	1 303	1 303	1 303	n.a.	n.a.	n.a.	n.a.
Dead wood	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
TOTAL	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**

Table 21. Carbon stock per biomass component according to FRA 2010 by the FAO

FRA 2010 Category	Carbon (Million metric tonnes)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Carbon in above-ground biomass	2 555.9	2 555.9	2 555.9	2 552.9	NA	NA	NA	NA
Carbon in below-ground biomass	612.4	612.4	612.4	612.4	NA	NA	NA	NA
Sub-total: Living biomass	3 168.3	3 168.3	3 168.3	3 164.5	NA	NA	NA	NA
Carbon in dead wood	n.a.	n.a.	n.a.	n.a.	NA	NA	NA	NA
Carbon in litter	31.0	31.0	31.0	30.9	NA	NA	NA	NA
Sub-total: Dead wood and litter	n.a.	n.a.	n.a.	n.a.	NA	NA	NA	NA
Soil carbon	694.4	694.4	694.4	693.6	NA	NA	NA	NA
TOTAL	n.a.	n.a.	n.a.	n.a.	NA	NA	NA	NA

Soil depth (cm) used for soil carbon estimates	30

In the second half of 2010, SarVision was hired by the Guyana Forestry Commission (GFC) and CI to develop a forest cover map for the region using radar and landsat images. Funding for this assessment was provided by Germany's KfW Development Bank. A land cover mapping and stratification of biomass strata of the entire Guianas was done in support of Suriname's national REDD+ policy development and as a preliminary input to the national REDD+ Measurement, Reporting and Verification (MRV) system. The new forest cover map for Suriname was finalized in October 2011 and submitted to the Ministry of ROGB. The necessary ground-truthing has been completed since then (see figure 9 below). SBB was involved (mainly by participating in training workshops), but the technical work was done by various professionals from CI, Wageningen University and SARVISION. SBB uses the data for their activities such as mapping and spatial planning. The overall goal of the involvement of CI, was not to design a monitoring instrument for deforestation but for capacity building on land use and spatial planning in order to build overall REDD+ capacity.

Also in the second half of 2010, the Ministry of ROGB approached CELOS, SBB and the national Herbarium to participate in a training on forest carbon stock measurement. The Forest Carbon Assessment and Monitoring (FCAM) project was funded by SBB, WWF, Tropenbos International Suriname and the Capacity fund for Forest and Nature. During November 2010 and throughout 2011, participants were trained in tree spotting, taking samples and data analysis. The training was based on the IPCC Guidelines for Greenhouse Gas Inventory (2003 and 2006). Measurements were carried out in 12 transects and resulted in an inventory of trees and an assessment of the carbon stock in these transects. The average value for carbon stock in the transects was 189.2 t/ha +/-14.2,with a corresponding 694 t of CO_2 equivalents. The average biomass and total carbon stock values resulting from the project are shown below in table 22. The FCAM project has strengthened the capacities of the participating institutions, has provided one of the first carbon stock assessments in Suriname and can provide a basis for future monitoring methodologies and national forest inventories.

Table 22. Results on biomass from FCAM project

FCAM project 2010-2011	Average	Minimum	Maximum
Above-ground biomass (t/ha)	239.8	106.0	479.9
Below-ground biomass (t/ha)	43.8	21.3	81.2
Carbon stock (t/ha)	133.3	60.0	263.7

The Central Bureau of Aerial Survey (CBL) has aerial photographs of the entire country. These data have been used to produce vegetation maps, which can assist validation for satellite forest assessments. In addition, various geographic information systems (GIS) data layers are available at the Ministry of ROGB, the Forest Service (LBB), SBB, CELOS and the Land registration and Land information system (GLIS). Further work will be required to assess the accuracy levels of these maps in accordance with the required accuracy standards to be developed. The compilation and coordination of all relevant remote sensing data sources available at different institutions relevant for the REL/RL will be conducted by the coordinating body of the Monitoring system (see section 4a).

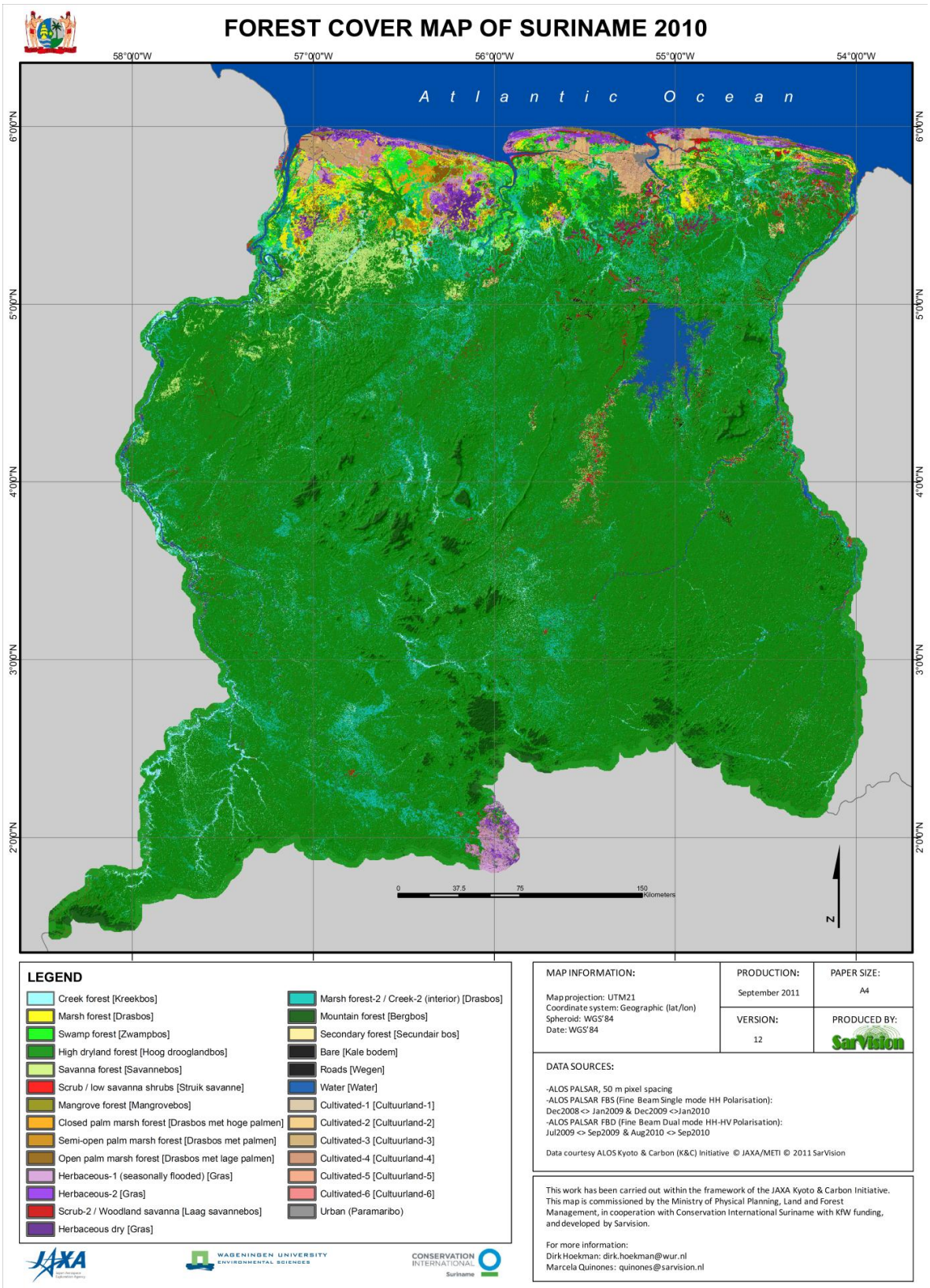


Figure 15. Forest Cover Map of Suriname 2010

Annual data on timber production were previously generated by LBB and since 1998 have been generated by SBB. Forest degradation due to logging is also estimated by SBB. This data will provide baseline information for modeling future deforestation and forest degradation rates, based on socioeconomic drivers and future development strategies in the main economic sectors (mining, timber production, etc.)

The following is a list of spatial data to which Suriname has access:

1. Landsat imagery (1998-2002);
2. Preliminary classification of forested land of Suriname map (1998);
3. Indicative Forest Classification Map (1998), and
4. Digital elevation model.
5. Preliminary Forest Cover Map 2000 and 2009
6. Forest Cover Map 2010

Key data included in existing GIS systems cover:

1. Transportation networks;
2. Mining concessions;
3. Forestry concessions and location of logging activities;
4. Protected areas; and
   Population centers.

Table 23. Existing data sources for RL development

Project title	Information relevant for RL development
Forest Cover Map	Link to Carbon-biomass inventory
Forest Carbon Assessment and Monitoring	Assessment of forest carbon stock
Spatial planning workshop	Identifying potential carbon reserves and climate change intervention areas
Historical deforestation map	Information on historical deforestation
Towards a Carbon Balance	First step in a methodology for gathering emission factor data
Netherlands Climate Change Studies and Assistance Program	Information on climate vulnerability of Suriname
First National Communication	Data on national GHG inventory
Second National Communication	Data on national GHG inventory
Multi-Annual Development Plan 2012-2016	Information on national development vision and national circumstances
SBB statistics	Statistics on the forest sector
ABS statistics	General statistics
WWF Living Guianas Report	National circumstances and information on threats to forests
NIMOS Greenstone belt study	Environmental and social impacts of small-scale mining
NIMOS Forest Sector Environmental Assessment	Environmental and social impacts of the forest sector
IIRSA country report for Suriname	Information on planned infrastructure developments
National Forest Policy	Information on development of the forest sector.

3.3 Data gathering, analysis and modeling during R-PP implementation

Activity 3.1: Streamlining of "forest" definition in the national legislation

As noted above, the national forest definition needs to be updated in order to comply with the requirements of the UNFCCC and IPCC. To inform this process, it is suggested to have a series of expert interviews, through which the views of legal experts, environmentalists and indigenous rights advocacy groups can be documented and incorporated in the national legislation.

Activity 3.2: Assessment of historical forest cover data

A thorough analysis of historical data will have to be conducted as part of the process of developing the RL. A gap analysis against accuracy and precision targets will also need to be conducted.

The assessment of historical land use change trends and design of emissions factors will build on the assessment of existing historical information and be complemented by new data collection in order to reach a national business-as-usual (BAU) scenario. Emissions from deforestation and forest degradation activities can be determined from forest cover loss and change in carbon stocks. These emissions will be assessed based on a historical reference period starting from the year 2000, using three time intervals of approximately 5 years each. Suriname will follow the IPCC guidelines in the design of the RL.

Activity 3.3. Activity data: current and ongoing data gathering

Existing land use change data is available only for the period before 2000. Therefore, it is of limited use in estimating deforestation trends since 2000. Activity data will need to be generated with new datasets. The design of QA/QC and accuracy and precision targets will follow the guidance of the IPCC 2006 for national GHG Inventories.

Since 2009 Suriname has been taking part in the project 'Avoided Deforestation through consolidation and creation of Protected Areas and Carbon Financing Mechanisms in the Guiana Region', which is funded by Germany's KfW Development Bank. The following activities are part of the project:

- Using JAXA data, SarVision has generated a 2010 Forest Cover Map (see figure 15). SarVision in the Netherlands generates RADAR-based estimates of forest cover change for the Guiana Shield for the Japanese Space Agency (JAXA)-Kyoto Carbon Project.
- Currently, a number of scenarios for future RL development are being developed for Suriname. Results for Suriname regarding business-as-usual and other scenarios based on specific drivers of deforestation will be available in April 2013. Preliminary results of the overall project, which were presented during a side event of the EU/ACP meeting in Paramaribo, November 2012, include a preliminary BAU scenario using a deforestation rate of 0.43% and a high pressure scenario using a rate of 3.15%. The process of scenario development will include close coordination among national stakeholders and capacity building of relevant national institutions. The final results of the project will be considered when developing Suriname's reference level.
- A capacity building spatial planning training has been provided for key stakeholders that will be involved in future RL development.

In 2012 Suriname joined the Amazon Cooperation Treaty Organization (ACTO) project 'Monitoring deforestation, logging and land use change in the Pan Amazonian forest' (ACTO project), which aims to provide up-to-date information regarding the magnitude and status of forest cover in ACTO countries. The ACTO project, which will run from 2012 to 2014, aims to provide real-time information on forest cover change. The project's technical focal point is the Ministry of ROGB, with SBB in charge of implementation. Project results are also expected to include the development and implementation of a joint monitoring system and the strengthening of existing regional forest management platforms. The results can contribute to policies on deforestation, land tenure, land use change and sustainable forest management. The following activities are part of the project:

- In 2013, SBB as part of the ACTO project, has completed a forest cover map for 2000 and 2009. Using these maps, historical deforestation over the period 2000-2009 will be calculated.
- An observation room within SBB will be optimized, for data analysis and will serve as a databank.

In 2012 Suriname engaged with ANRICA (Austrian Aid Agency) on a climate change program, including sustainable forest management and remote sensing components. The following activities are part of this program:

- A National Forest Inventory started in July 2012 with the pilot phase. The NFI process was launched with a workshop aimed at involving all relevant stakeholders including local forest dependent people inventory activities. Validation of the forest cover map via ground-truthing will be part of it. The current protocol for forest carbon stock assessment will be fine tuned and used, with assistance of Anrica (Austria)[17]. In January 2013, training of field teams has started, with calculation of 30 samples units within 6 months, as a pilot. With the results of 30 sample units, estimation of carbon stock can be made and forest types can be identified. The satellite images that have been collected so far will be validated based on these field survey results. Based on the pilot results, the total costs for the NFI will be estimated.

The above-gathered data will be supplemented through newly gathered data sets.

Activity 3.4 Emission factor data: data gathering, analysis and modeling

Given the data gaps mentioned in section 3.2 above, additional field data based on inventories will need to be conducted in key deforestation and forest degradation areas. This work will be closely linked with component 2.a, which will be useful in helping to identify forest types and areas to be measured. This work will also be in line with the development of the component MRV systems described in chapter 4a below.

The definition of emission factor data will greatly benefit from a methodology developed in a study done by Alterra/University of Wageningen in 2011. The report, entitled "Towards a carbon balance for forests in Suriname", focuses on the quantification of aboveground biomass (AGB) and carbon stocks based on existing field sampling and existing local information on

[17] SBB seminar 06-12-2012: Projects on monitoring of forests.

biomass expansion factors. The report reviews and analyses existing field data and assesses above-ground carbon stocks in living biomass for a number of different forest types in Suriname.

AGB and carbon stock estimates are significantly higher when local biomass expansion factors are used than when estimated using global allometric equations for tropical forests. The estimated average above-ground biomass of mixed high forest on white sand at one of the sites (CELOS Kabo) was 460 tons per ha using a local biomass equation but only 391 tons per ha if a global equation were applied to the same plot data.
Results from the permanent plots at the same site that were selectively logged and had undergone different levels of refinement treatments indicate that 21 years after logging and application of silvicultural treatments, AGB is still considerably lower in managed forest compared to the primary forest. Of the different management intensities, the lowest (small losses) and highest (high loss, quicker re-growth) harvest intensities without silviculture showed the best performance in terms of recovery of AGB.
The results for the plots with available data in Suriname are consistent with results from other studies across the Amazon basin and Guiana Shield. Results on AGB based on a large-scale forest inventory in Suriname, however, were found to be higher than for a similar large scale forest inventory in Guyana. A comparison of stand tables in these two inventories from the 1970's show that the forest in Suriname on average harbors bigger trees than the forest in Guyana. Therefore, it is plausible that forests in Suriname show higher AGB. Applying biomass and carbon data from neighboring countries, therefore, should only be done cautiously if no other data are available.

The Alterra / University of Wageningen report also provides an overview of different methods for quantifying and monitoring forest carbon stocks at national scales. These methods range from monitoring permanent sample plots in which biomass is assessed to methods measuring actual carbon fluxes like eddy correlation measurements, flux measurements from aircraft and large scale boundary layer budgets and atmospheric inversion modeling. For any national scale assessment, it will be necessary to get accurate biomass stocks for different forest areas. To reduce uncertainty of these carbon stock estimates, the report proposes a stratification of the total forest area into nine areas with similar characteristics, which will help to reduce the costs of field data collection.

Activity 3.5: Development of national RL and possible alternative future scnarios

COP decision 1/CP.16 (III C Paragraph 73; UNFCCC 2010) indicates that REDD+ will be implemented in phases to allow countries to participate in the mechanism in a way that considers their national circumstances. The assessment of national circumstances could include information (UNFCCC 2003) on geographical characteristics (e.g. climate, forest area, land use, other environmental characteristics), population (e.g. growth rates and distribution), economy (e.g. energy, transport, industry, mining), education (e.g. including scientific and technical research institutions) and any other information considered relevant by the country. As there are currently no clear guidelines, each country has the freedom to assess these variables using autonomous methods.

As previously noted, Suriname is classified as a high forest cover, high carbon stock country with a low deforestation rate at an early stage of the forest transition. In this context, Suriname is planning to organize a symposium with Guyana and other HFLD countries to investigate what methods are available, what other countries are doing to accomplish same tasks and what Suriname could use for its national circumstances.

The design of Suriname's REDD+ national institutions has to be in line with its particular economic and legal systems, domestic policy priorities, existing institutions, and the availability of resources. Namely, the country's circumstances and capabilities and how it decides to elaborate the REDD+ strategy and the development of supporting implementation frameworks are matters of national choice and sovereignty.

In order to gain information on the national circumstances with focus on the socio-economic and climatic conditions, the following data will have to be collected from relevant national institutions: growth of the population and growth of the GDP, increasing pressure of infrastructure projects including housing on forests, growing electricity demand and imminent projects to meet them, higher temperatures and sea level rise, increasing prices for gold (gold rush), dispersed settlements in the interior requiring electricity supplies over long distances, infrastructure development declared necessary for the national development and other activities that may increase the pressure national forest resources. The respective data will be obtained from the SNC to the UNFCCC, which will be published in March 2013.

Given that emissions from deforestation and forest degradation are therefore expected to rise significantly over the next decades under a BAU scenario, future development trends will represent an important element in the modeling work. In developing the national RL, Suriname will model the following scenarios in a stepwise approach:

- **Scenario 1** – Projection of the BAU scenario based on historic trends without REDD+.
- **Scenario 2** – Projection based on implementation of a development plan designed to realize macroeconomic targets including mining, logging, infrastructure, agricultural expansion and other forest degrading/deforesting developments.
- **Scenario 3** – Projection based on undertaking a development plan implemented with a national REDD+ mechanism and sustainable usage/deployment of Suriname's forests.

Scenario 3 will be used as the REDD+ model in awareness campaigns. For the future modeling of deforestation and forest degradation, different approaches exist to project national circumstances. Within a direct approach, the results of a BAU based on appropriate data, approved policy scenarios, and sound modeling approaches can be directly combined with strata-specific emission factors to determine the RL. Using an indirect approach, a derived BAU can be adjusted to factor in future development needs, resources policies, or other factors considered relevant (e.g. scenario 2). While parties have not yet agreed on specific modalities to be used in determining the RL, Suriname will develop and test different modeling options within both approaches in a stepwise manner. All relevant parameters, assumptions, methods, and procedures and uncertainties will be comprehensively documented. Common scientific standards (sensitivity analysis, verification and validation of models) and good practices will be followed in developing the models.

The above-mentioned scenarios will be finalized as part of the readiness process. The modeling will be conducted based on inputs from national relevant stakeholders to ensure transparency and reliability of the approach. These steps will be aligned with the components 2a, and 2b.

The following data sources will be reviewed when developing the RL:

- Annual reports and plans: Every year, (governmental) institutions and the private sector, e.g. mining companies, produce annual reports regarding their financial status and developments.
- Information from the General Bureau of Statistics on population growth, population distribution, GDP, economic growth, infrastructural developments, inflation, etc.The last census dates from 2005. For specialized statistics, relevant institutions will be contacted; for example, NIMOS will provide environmental statistics.
- Agricultural expansion: The Ministry of Agriculture conducted an agricultural census in 2009. Other agricultural institutions, such as the 'Anne van Dijk Rijstonderzoek Centrum Nickerie (ADRON)' and non-governmental organizations that focus on agricultural development, represent additional potential data sources for data needed, especially related to agricultural developments in the hinterland.
- Forest industry growth or other forecasts. Key sources include: the Ministry of ROGB, including published forestry statistics from SBB, Ministry of Trade and Industry (HI), the Chamber of Commerce and Industry (KKF) and other (governmental), institutions such as the Anton de Kom University and its institutions. Additional sources include non-governmental organizations, such as national and international NGOs and private sector organizations (i.e. Platform Timber Sector (PHS), General Suriname Timber Union (ASHU)).
- National or sectoral development plans and specific investment programs: Nearly all Ministries and (governmental) institutions and non-governmental organizations are potential sources of data. The National Development Plan is one of the most important documents to consider. Consultations with focal groups and different stakeholders will be conducted to assess the national circumstances and sector specific development pathways (e.g. for mining,, forestry, and agriculture);
- Regional trade flow and migratory behavior, along with global market mineral commodities projections and forecasts, will be analyzed.

It will be important at a later stage in the process to create linkages between the RL and the national forest monitoring system. As far as the latter is concerned, SBB is currently conducting forest monitoring activities and is responsible for providing data on the state of the forest to the Government of Suriname and to international organizations such as the FAO. Each year, FAO publishes a Forest Resource Assessment (FRA) which describes the status of Suriname's forest.

Institutions such as CELOS are also conducting assessments at a set of intervals, which can be considered monitoring. All institutions are part of the participation process for the implementation of REDD+. The figure below gives an overall idea on how Suriname could potentially link REL, RL and MRV and how the established monitoring unit would perform within

a depicted framework. Details of these linkages and integration will need to be discussed and agreed as part of the process of elaborating the RL.

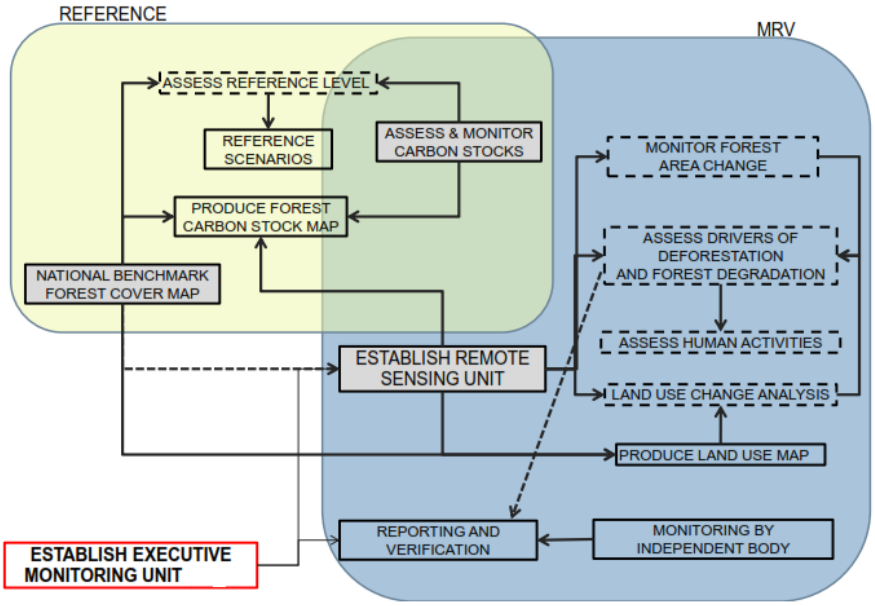


Figure 16. Linkages of RL and MRV by Nijbroek, R. 2011

Activity 3.6: Outreach and information sharing activities

Consultations will take place with relevant stakeholders, including indigenous peoples and other forest dwellers, on proposed options for development and adoption of an RL. As the draft and final RL become available, the outcomes will be disseminated and the results will be the subject of targeted consultations before national commitment is given.

3.6 Capacities and capacity requirements for RL development

Institutional framework: government and other institutions involved

NIMOS will provide overall coordination of the establishment of the RL. As with other elements of the REDD+ readiness activities, NIMOS will provide the coordination, but will make use of and strengthen existing institutions and departments.

Considering the data that is currently available and gaps that have been identified, Suriname is elaborating partnerships with national and international partners and institutions. Through partnerships, financial and technical opportunities as well as stakeholder engagement, it is expected that the relevant capacities will be developed as needed and strengthened were required. Table 24 gives a clear idea of partners and institutions with regards to their role in the development of the RL.

Table 24. Roles of institutions for the development of a national RL

Organization	Role
National Institute for Environment and Development (NIMOS)	• Coordinates the IMAC and has open communications with REDD+ Steering Committee. • Will be responsible for the overall coordination of the implementation of REDD+ readiness. • Coordinates the RL and MRV system development.
Foundation for Forest Management and Production Control (SBB)	• Conducts National Forest Inventory • Data processing, analysis and data storage • Supports and facilitates establishment of national forest reference levels • Mapping land cover/ land use/ vegetation by using remote sensing technology • Undertakes and manages remote sensing data collection and analysis. • Processes incoming field-based data.
Centre for Agricultural Research in Suriname (CELOS)	• Active in various areas of agriculture and forestry research. • Will contribute to the development of a national forest monitoring system and RL development. • CELOS' forestry department conducts research activities through the development of sustainable forest management systems.
National Herbarium (BBS)	• Will contribute in field work. • Will collect and handle plant material and non-timber forest products (NTFP) for identification.
Ministry of Regional Development	• Will contribute by facilitating the field work. • Liaison with the forest dependent communities and provide support so that activities are conducted in a culturally appropriate way.

Forest dependent and maroon communities	• Will contribute in field work:
	  ○ Helping to select areas suited and accepted for sampling
	  ○ Support in field work
	  ○ Logistics
	  ○ Reporting

National: Geological Mining Service (GMD), Meteorological Service, Logging companies, Platform Houtsector, ASHU	• The Meteorological Service established a network of weather stations and can produce data on weather conditions throughout the country. • GMD provides data on mining concessions. • Forestry associations (Platform and ASHU), logging companies and other entrepreneurs in remote areas are important partners for logistics, communication (infrastructure of radio communication), and perhaps introduction in local communities as well as data on

Organization	Role
	forestry (developments).
International: WWF CI Tropenbos International Suriname Institute for World Forestry (Hamburg), ANRICA (Austria), ACTO, INPE (National Institute for Spatial planning in Brazil)	To support (governmental) institutions for the implementation of forest carbon related activities focusing on capacity building.

Existing and required capacities needed to establish a national reference emission level / forest reference level

Technical capacity on forestry issues in Suriname is reasonably extensive. This capacity comes from a combination of sources: SBB and CELOS, the national institutions for respectively forest management and forest research among others. There are several forest related international NGO's that provide capacity building programs on forest management, conservation, geographic information systems (GIS) and spatial mapping.

Forest dependent communities will be involved in carbon stock inventory, monitoring and reporting. Capacity building trainings for sampling and gathering of data will be provided, as well as appropriate tools and mechanisms.

The technical capacity needs assessment results for REDD+ specific tasks for component 3 are shown in table 25.

Table 25. Capacity needs assessment for tasks for component 3

Component 3 Establish national Forest reference Level	Personnel needed (Full-Time Equivalent)					Total
SBB and other technical institutes						
	2014	2015	2016	2017	2018	
Conduct NFI	28	28	28	28		28
Support and facilitate establishment of RL	2	2	2	2	2	2
Remote sensing	1	1	1	1	1	1
Data analysis and data storage	1	1	1	1	1	1
Total FTE	32	32	32	32	4	32

Capacity building efforts to date

Suriname has conducted several activities aiming to build capacities needed to develop an RL. These include:

- Conservation International has started a spatial planning training course for technical governmental institutions and CELOS in June 2009. A network of spatial planners was

established after the training and additional courses were organized in October 2009 and January 2010. The course included future modeling scenarios and reference emission level scenarios. In 2010 and 2011, a 'Forest carbon stock assessment' project was carried out by the Ministry of ROGB with funding from the Worldwide Fund for Nature (WWF Guianas) and Tropenbos International in Suriname. The field coordination was carried by SBB and the Forest Service Suriname, the Centre for Agricultural Research in Suriname (CELOS), and the National Herbarium (BBS) were the project partners. AidEnvironment was contracted to increase the technical capacity of the participating institutes in order to develop an efficient monitoring system in compliance with IPCC. In November 2010, personnel from ROGB, SBB, CELOS and BBS were trained in monitoring of carbon pools in aboveground biomass, necromass (dead stems and branches), litter (leaves, fruits and twigs) and soil organic matter. In the end of 2011, CI Suriname with funding from the ALCOA Foundation trained about 40 students from the ADEK University of Suriname and advanced teacher training institute in forest carbon assessment and other environmental assessments to build national capacity and aid in national planning for the REDD+ readiness process and environmental protection.

- ACTO project 2012 - 2014: GIS unit within SBB is strengthened with hardware and software, personnel trained, is ongoing.
- COICA workshops for forest dependent communities, conducted in the first half of 2011

Table 26. Current projects related to RL development

Project title	Implementing (and funding) agency	Duration	Project purpose	Project outcomes relevant for RL development
ACTO project	SBB and ACTO	2012-2014	Gathering real-time data on forest cover change	Potential contribution to a national monitoring system
National Forest Inventory pilot	SBB and ANRICA	2012-2013	Testing a methodology for aerial monitoring and assessment of carbon stocks	Potential contribution to a national forest inventory and a national monitoring system
Avoided deforestation....	CI-Suriname and KfW	2009-2013	Developing scenarios based on drivers of deforestation and an MRV road map for Suriname	Scenarios based on drivers of deforestation; including BAU scenario and MRV road map

Activity 3.7: Institutional and technical capacity building

Capacity building and institutional strengthening are the main objectives for an adequate implementation for the development and future updates of the RL. A considerable amount of data has already been published and is accessible and can be used to draft new regulations, to update existing guidelines for harvesting, to validate sustainable forest management practices that are obligatory for concessionaries as well as to monitor forest carbon. Capacity building of existing and new institutions related to REDD+ issues will be required both on technical and policy issues. Currently, there is no planning department within each Ministry in order to make national development REDD+ proof. Therefore, conducting of training sessions in planning

expertise is needed. Quantitative modeling expertise is needed in order to convert data into information, which can then serve to inform and shape policy.
The above trainings provide a solid basis, but need to get expanded and intensified as per of REDD+ readiness implementation to build the specific capacities required for forest carbon stock assessments and carbon monitoring.

Hardware and technical support (available and required)
Hardware and technical support is needed to implement activities for the development of a spatial lab, particularly for obtaining (spatial) data through satellite monitoring. Data obtained from the latter will lead to the development of (spatial) maps. An efficient management plan is important to maintain a network and communicate with relevant stakeholders concerning spatial planning, spatial data and (spatial) maps.

Scope for collaborating with national and international organizations
Several international organizations provide support to governments interested in forest carbon development. Alliances are routinely formed between governments and the private sector, local communities and civil society in order to influence policy decisions regarding REDD+. International initiatives are built on current regional project such as the KfW-CI Suriname project which has supported systems for improving conservation efforts in support of REDD+.
A strong network with national institutions ranging from governments, to national and local institutions and NGOs is needed in order to implement forest carbon monitoring. All relevant institutions are collaborating in the national projects and activities on forest carbon and implementation of REDD+, which have been mentioned in previous sections. These activities include, but are not limited to forest monitoring, forest carbon assessment, spatial data analyses and scenario modeling.
International support is being provided through organizations such as WWF, Tropenbos International, AidEnvironment, CI Suriname (KfW), ACTO, ANRICA, INPE and international consultants will be required to guide the national institutions to build the required capacity. Collaborations between WWF, Tropenbos and AidEnvironment have been established and will be further strengthened.

3.7 Work plan and budget for development of a national RL

The different activities as described in the above sections lay out a clear roadmap of activities that will lead to the creation of a Suriname RL that will, after the appropriate validation and acceptance locally, enable Suriname to provide clear commitments with regards to the role of forests along her development path.
Two tables are presented below. Table 27 summarizes the activities and sub-activities for the component, while also providing information on sequencing / timing, outputs and inputs. Table 28 presents estimated annual budget per sub-activity.

Table 27. Component 3 work plan

Activity	Sub-activity	Expected outputs and/or outcome(s)	Timeframe (2014-2018)				
3.1 Streamlining of 'forest' definition in national legislation	Assessment of the implications of different forest definitions on MRV requirements and costs	National forest definition in accordance with the UNFCCC requirements					
3.2 Assess-ment of historical forest cover data	Assessment of existing available historical remote sensing information for Suriname and its usefulness and the accuracy and consistency	Identification of remote sensing data availability and data gaps					
3.3 Activity data: data gathering, analysis and modeling	Definition of the national accuracy and precision targets for remote sensing data	QA/QC, accuracy and precision protocol for Surinam					
	Determination of the most appropriate remote sensing technology	Cost-effective remote sensing technology and methodology selected					
	Assessment of emissions factor data and activity data	Identification of data availability on					
	Definition accuracy/precision targets and QA/QC protocols	QA/QC protocols for emissions factors assessment					
	Assessment of data gaps	Identification of required capacity for activity data and emissions factors analysis					
	Creation of a benchmark forest cover map	Preliminary benchmark map Surinam for year 2000by REDD+ activity type					
	Conduct accuracy assessment	Compliance to identified IPCC based national QA/QC protocol					
	Collection and analysis of new activity data between 2000 and 2013	Quantified forest area changes between 2000 – 2013					
	Identification of key deforestation and forest degradation areas	Key deforestation/ degradation areas identified					
3.4 Emission factors: data gathering, analysis and modeling	Analysis and selection of key carbon pools	Selected carbon pools to be assessed and monitored					
	Stratification, sampling, collection and analysis of field data to determine emission factors	Emissions factors for Suriname					
	Link field and remote sensing data	Combined activity data with emissions factors					
	Aggregation of activity data and emissions factors	Historical BAU scenario for Suriname					
	Uncertainty assessment	Quantified uncertainties of Surinam's BAU scenario					
3.5 Development of national RL and possible alternative future scenarios	Assessment of national circumstances	Identified information for scenario modeling					
	RL scenario modeling	RL BAU and REDD+ scenarios					
	Consultations with national stakeholders on RL scenarios	Identified of credible BAU and REDD+ scenarios					
	Determination of national RL	Finalization of an internationally					

Activity	Sub-activity	Expected outputs and/or outcome(s)	Timeframe (2014-2018)				
	subject to UNFCCC approval	accepted RL for Surinam					
3.6 Outreach and information sharing	Consultations with relevant stakeholders, incl. indigenous peoples and other forest dwellers	Stakeholders informed about options for development and adoption of an RL.					
	Dissemination of results	RL disseminated among stakeholders and discussed with them					
3.7 Institutional and technical capacity building	Acquire quantitative modeling expertise and train governmental staff on remote sensing						
	Training of field assessment crews						
	Acquiring technical hardware and support						
	Strengthening technical capacity through training						

Table 28. Component 3 budget

TABLE 3. DEVELOP REFERENCE LEVEL ACTIVITIES AND BUDGET							
Activity	Sub-Activity	Estimated Cost (in thousands)					
		2014	2015	2016	2017	2018	Total
3.1 Update 'forest' definition in national legislation	Assess implications of different forest definitions on MRV requirements and costs	20					20
3.2 Assess historical forest cover data	Assess existing available historical remote sensing information for Suriname and its usefulness, accuracy and consistency	10					10
	Identify key deforestation and forest degradation areas	10					10
3.3 Activity data: data gathering, analysis and modeling	Determine most appropriate remote sensing technology	15					15
	Define accuracy/precision targets, conduct accuracy assessment and formulate QA/QC protocols	15	15				30
	Assess data gaps	20					20
	Collect and analyze new activity data between 2000 and 2013		50	50			100

TABLE 3. DEVELOP REFERENCE LEVEL ACTIVITIES AND BUDGET							
Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
3.4 Emission factors: data gathering, analysis and modeling	Analyze and select key carbon pools	20	20				**40**
	Stratification, sampling, collection and analysis of field data to determine emission factors	100	100				**200**
	Link field and remote sensing data		70				**70**
	Aggregate activity data and emissions factors		50				**50**
3.5 Develop national RL and possible alternative future scenarios	RL scenario modeling		20	20			**40**
	Determine national RL subject to UNFCCC approval			30			**30**
3.6 Institutional and technical capacity building	Acquire quantitative modeling expertise and train governmental staff on remote sensing	75	75	75	75		**300**
	Acquire technical hardware and support	100	100	100	100		**400**
Total		**385**	**500**	**275**	**175**		**1335**
Government							**0**
FCPF		**231**	**300**	**165**	**105**		**801**
UN-REDD Programme (if applicable)		154	200	110	70		**534**

Component 4: Design Systems for National Forest Monitoring and Information on Safeguards

4a. National Forest Monitoring System

Introduction

As previously noted, Suriname is a country with high forest cover and low deforestation. The majority of Suriname's population is concentrated in the northern part of the country, close to the coastal areas. Deforestation and forest degradation is mainly concentrated in this region (see Component 2a). Suriname's MRV will focus on these key deforestation and degradation areas in order to ensure cost-effectiveness.

Objectives and guiding principles of the monitoring system

Taking into account the decisions of the 17th Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC) held in Durban in 2011 and the Cancun Agreements (FCCC/CP/2010/7/Add.1), a National Forest Monitoring System will be designed. It will also anticipate the forthcoming decisions of the Subsidiary Body of Scientific and Technological Advice (SBSTA) and of the Ad-hoc Working Group on Long-term Cooperative Action (AWG-LCA) on REDD+.

The monitoring system will be designed to follow changes in all five REDD+ eligible activities, i.e. reducing emissions from deforestation; reducing emissions from forest degradation; conserving forest carbon stocks; sustainable forest management; enhancing forest carbon stocks. It will build on available terrestrial inventory and remote sensing data, while aiming to incorporate new emerging technologies to continuously improve the quality and cost-efficiency of the national MRV system.

The total forest area, including community forests, will be registered for monitoring. First, an inventory of all 16 forest types identified in Suriname will be made, in terms of total surface area per type. A plan will be made and an inventory will be done to determine how much forest is eligible for REDD+. The part that is not eligible will/can be used for agriculture. The logging companies, Indigenous People and Maroons will need to make an inventory of their concessions, community forest and living area, determine the forest type and make a plan for how to use that forest for REDD+, with the assistance of SBB. With the use of GPS, the total forest area that is eligible for REDD+ will be mapped.

The monitoring system will help to ensure that forests are exploited more efficiently. Issuance of concessions and permits for logging, mining and agriculture will be streamlined after discussion in the IMAC. Issuance will be based on forest zoning. Laws for issuance of permits will be adjusted, adding additional guidelines for forest users, such as reduced impact from small-scale goldmining, prevention of erosion, increased yield and more efficient use of wood waste. In this way, Government will use REDD+ as a tool for land use planning.

4a.1 Institutional framework

Suggested overall design of the institutional framework

A national forest monitoring system consists of institutional arrangements that enable the country to estimate its greenhouse gas emissions and removals from forests, including those due to REDD+ activities. A national forest monitoring system has to be designed in such way that it provides information on *all* forestland, including land on which re-growth is taking place. Several organizations and stakeholders are expected to be part of the MRV institutional structure to enable an efficient monitoring system[18]:

- NIMOS: NIMOS will have the mandate to collect all necessary information to produce a State of REDD+ report. It will be responsible for national and international reporting, coordinating monitoring activities and ensuring public access to data and information for transparency. NIMOS' Environmental Monitoring and Enforcement Department (EME) will collaborate with SBB for a design of adequate monitoring system and related protocols.

- SBB: MRV falls under the oversight of SBB, at least in the initial phase. SBB will report to the IMAC. The MRV Coordination Unit to be set up will function as an administrative entity in charge of national forest measurements. With its monitoring experience, SBB will have the lead role in the National Forest Monitoring System, assisted by other organizations. SBB already has put up a Remote Sensing Unit. SBB responsibilities will include carbon inventory, calculation of carbon data and remote sensing.

- Research institutions, such as Anton de Kom University, will support the work of SBB with MRV related research work programmes.

- Forest dependent communities: These communities will participate in the design and operation of a forest monitoring system. They will monitor their community forests, in collaboration with local NGOs. They will collect field data, which will be processed by SBB.

- The Ministry of Natural Resources (NH), Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) and Ministry of Public Works (OW): These Ministries will monitor and report to NIMOS on forthcoming investments in their respective sectors, including mining activities, agricultural activities and infrastructural activities with possible impacts on forest.

Activity 4a.1: Establishment of an institutional framework for monitoring REDD+

During the R-PP, two important steps will be taken in order to establish the institutional framework for monitoring REDD+:

- Establishment of a REDD+ MRV Coordination Unit
- Establishment of systems and structures for monitoring and review

[18] *The IMAC (Interministerial Advice Commission) will decide if other institutions need to be added.*

4a.2 Overall design and planning of the MRV system

Preliminary design of the MRV

Activities already undertaken in relation to development of a REDD+ MRV system include:

- Workshops held in 2012 to determine steps for development of a roadmap for MRV. The concept roadmap, currently under preparation, will be discussed and decided upon within the IMAC.
- Knowledge and information exchanges with other countries such as Guyana (low carbon development strategy, Brazil (remote sensing) and Austria (as a pilot for NFI)
- Workshops and training on land use change and on forest biomass inventory for staff of SBB, CELOS and Herbarium.
- Creation of a forest cover map and capacity strengthening in forest cover assessment
- An extensive workshop on Suriname's future MRV system was organized in August 2011. During the workshop, the main elements and principles of this system were tentatively identified (see Table 29 below).

Table 29. Main elements and principles of Suriname's future MRV System

General/Overall MRV	Measuring	Reporting	Verification	Monitoring
Overall REDD+ Strategy • Institutional Capacity (Capacity Building Needs Analysis) • Human capacity in place • Institutions structured/arranged • Data tracing system • Empowerment and use of local knowledge for REDD+	**Activity data:** • National Definition of Forest • Baseline as starting point • Nat'l data base for land use • Forest classification (Land use classification) • Baseline Land use map (starting) • Assessment of historical deforestation and degradation • Assessment of drivers of deforestation / Analysis of drivers of deforestation • Quality Check of process **Carbon Inventory:** • Assessment of existing data • Carbon stock data base • Standard methodology for carbon stock assessment and inventory • Sampling Design (National design) • Community based • Quality Check of processmeasurement	• Reporting to relevant stakeholders (National and International) • System for feedback from stakeholders • Data Analysis system • Standard Reporting Format (using appropriate methods) • Designing Template for National Reporting • Creation of a Website	• Internal Verification • Local Validation of National Reports • International Verification by roster of experts (UNFCCC or third party)	• Land use map (updates) • Carbon inventory • Capacity Needs (Human and others) • Implementation of REDD+ Strategy • Data security • Policy Development (REDD+ Policy in Field Activities) • Scientific Development • Reference Level • Impacts on Communities • Data-Base • Other Impacts, governance, safeguards • Carbon Stock Change (new measurements)

Planning of the MRV

The MRV will build on the existing national forest inventory data. A key objective will be to monitor all eligible REDD+ activities at an appropriate accuracy level as defined in Component 3. As a basis for monitoring, the following is currently available:

- design of a protocol for carbon sampling and calculation, which needs to be fine tuned for further use;
- historical deforestation map, which is almost finalized;
- land cover mapping and stratification of biomass strata of the entire Guianas, and;
- institutional GIS capacity that is strengthened within SBB

Key data in existing GIS systems cover:

1. Transportation networks;
2. Mining concessions;
3. Forestry concessions and location of logging activities;
4. Protected areas; and
5. Population centers.

Criteria and processes used for designing the monitoring system

Suriname will develop its RL based on its historical deforestation and forest degradation patterns and adjusting to national circumstances. Component 3 gives a full description of the development of the RL. The RL needs to be verified and upgraded regularly. However, there is currently no clear and agreed guidance available from UNFCCC. Depending on the identified national circumstances, e.g. policies, development plans, etc. Suriname will also identify and monitor parameters that will be identified as "national circumstances" that are expected to lead to adjustments in the BAU scenario.

- Generation of activity data: The generation of activity data will be in wall-to-wall mode, whereas forest inventories will be conducted in the key deforestation and forest degradation areas. The focus will be on areas where logging concessions have been issued, on mining areas, and where infrastructural activities, commercial agricultural expansion and housing development take place. New forest inventories will build upon existing ones and will be complemented by additional inventories. Stratification and sampling will be aligned with the work related to RL development (component 3).

- Remote sensing (RS): The results from the land use assessment described in component 2a and 3 will provide a good understanding of the drivers of deforestation and forest degradation. Suriname can access different geographic data, such as remote sensing data, aerial photographs, historical Landsat and CBERS data, and limited cloud-free SPOT coverage. Radar data (ALOS) and optical data processed and analyzed with support from the Netherlands (Wageningen University and SARvision) are also available. While this remote sensing data can be used for component 3 to develop historical forest area changes, for the future monitoring of Suriname's forests additional higher resolution products will be required to monitor its forest dynamics, which will be identified in the planning stage. It is envisioned to collect and analyze remote sensing data at least every five years.

- Determination of emissions factors: Based on components 2a and 3, an analysis of remote sensing data will provide the key inputs for field-based data collection. Stratification and sampling will be developed in the relevant deforestation and forest degradation areas.

- Data analysis and management: This will require modeling, application of statistical methods to quantify, report and analyze data and will include sophisticated assessments regarding the degree of precision of collected data.

Further technological options and choice of (combination of) MRV methods

There is currently a GIS system within SBB in place but no other technological options. Utilizing the GIS system requires:
- collecting field data,
- mapping,
- interpretation of satellite images.

While skills have improved in recent years in these areas, additional capacity building will be needed (see section 4.a.3 below).

Sub-national MRV systems and their potential benefits

There will be no sub-national MRV system

Synergies and integration of the MRV system with other R-PP components

- With component 2a: Assessment of deforestation drivers: Changes in these would need to be captured in the MRV, especially on forward-looking projections.
- With component 2b: REDD+ strategy activities.
- With component 3: RL development: Progress on REDD+ activity performance (e.g. expanding forest conservation areas) will need to be compared against the reference level as measured and monitored by the monitoring system.
- With national GHG inventory and reporting processes: National Communications report historical land use trends and GHG emissions, using IPCC Good Practice Guidelines methods.

Displacement/leakage

Suriname's REDD+ strategy is focused on national level REDD+ implementation, ensuring that no in-country leakage will take place. Neighboring countries are sovereign States; they will decide on their own rules for addressing leakage.

Role of local communities, NGOs, government agencies and the private sector

Currently NGOs such as WWF, CI and Tropenbos International Suriname are collaborating actively with SBB in financing promotional activities and trainings on how to use the forest sustainably. Participation in these trainings will be expanded with forest dependent communities and trainings will incorporate procedures so that adequate and comparable information from local level will be delivered for various REDD+ activities. Forest communities will be trained to do field sampling in collaboration with trained NGOs. Local communities will be requested to also apply protocols to feed the monitoring system. Data from the local level will be consolidated within SBB. Samples will be sent to SBB, which will be responsible for analysing and processing of the data.

> *To help monitor the forest we want to be trained as forest control officers.*
>
> People in local dialogue in Apoera
> 24 November 2012, local dialogue Apoera

One of the most important things to pay attention to is the communities' means of sustenance in their living area. If this is stressed in the pojrect, solutions can be sought together with the State for a forest monitoring system; including how it can be used sustainably and how it can be protected. In this case, both government and community would be monitoring.

Ifna Vrede, REDD+ project group member and Marroon Womens' network
15 November 2012, PG meeting

In summary, the MRV related tasks of the key stakeholders are:

- SBB tasks:
  - Data collection from other contributors to the MRV such as University and forest dependent communities
  - Data processing, analysis and storage
  - Species determination
  - Remote sensing

- NIMOS tasks:
  - Develop and implement forest monitoring system to measure and monitor emissions and removals of GHGs, in collaboration with SBB
  - National and international reporting considering specific reporting standards and guidelines
  - Monitoring of social and environmental impacts
  - Ensuring public access to data and information for transparency

- Forest communities' tasks:
  - Participate in design and operation of forest monitoring system

Activity 4.a.2: Development and setting up of a standardized remote sensing and forest inventory methodology for monitoring activity data and emissions factors

During the R-PP, the following steps will be taken in order to finalize the design of the MRV:

- Selection of satellite data for national monitoring based on component 3
- Stratification and sampling design (national design) based on component 3
- Design QA/QC protocols for activity data and emissions factors based on component 3
- Establish permanent plots and conduct field measurements based on Component 3

4a.3 Assessment and building of MRV capacities

Overall, MRV system activities require a technology transfer program and training that allows different stakeholders to adequately handle the system's different protocols and implement field activities in an informed and systematic manner.

Even though Suriname has conducted several introductory trainings on forest carbon assessments, there is still insufficient capacity to operate an MRV system. Therefore, Suriname will require further capacity building support in order to build its MRV capacity for GIS and field-based forest (carbon) assessments in compliance with the required IPCC standards. NIMOS and SBB have existing capacities that need to be strengthened.

Existing and required capacities

During the Forest Carbon Stock Assessment training, several sample plots/transects were measured. SBB is continuing to measure carbon stocks, results of which can be used when setting up the MRV system. Also, when SarVision (Netherlands) developed the first forest cover map for Suriname in 2011, they provided hands-on training to local partners in the use of advanced radar remote sensing technology for land and vegetation cover mapping, classification and monitoring.

Although some capacity exists in terms of remote sensing interpretation, the number of staff trained specifically for R-PP implementation needs to be expanded. Capacity needs to be developed to carry out field measurements, remote sensing, data analysis and reporting.

In a comprehensive capacity needs assessment further capacity strengthening is needed to:

- continue work in order to cover the priority data and information needs (such as carbon stocks, vegetation types, multiple benefits and opportunity costs);
- undertake statistical data analysis and interpretation and data storage, and;
- process and interpret remote sensing data

The following capacities building needs relevant for component 4 have been identified:

- NIMOS needs additional staff to develop and implement the forest monitoring system, review and structure collected data, conduct national and international reporting, coordinate the monitoring of environmental, social and other multiple benefits. Specific skills needed are for data management and accounting and reporting according to UNFCCC guidelines.
- SBB needs to strengthen capacities for GIS monitoring, processing and interpretation of remote sensing imagery for forest changes.
- The Nature Conservation Division within the Ministry of ROGB needs additional staff to operate existing monitoring systems for species.
- Forest dependent communities expressed their interest in monitoring of their surrounding areas, but they should be trained appropriately for sampling and gathering of data. They can provide data on non-timber forest products forest and multiple benefits. Local communities can also help with reporting of threatening activities such as gold mining in surrounding areas. Forest dependent communities are needed for collecting information on area changes and carbon stock changes, which are not detectable using remote sensing imagery. They need to be trained in relevant methods for monitoring land cover changes and carbon stock changes. For monitoring purposes, traditional knowledge of local communities needs to be converted to western knowledge. Communities need to be trained in these specific requirements and to be trained to monitor field activities in an informed and systematic manner to deliver data that can be incorporated in monitoring systems.

The results of the provisional capacity needs assessments regarding REDD+ specific tasks under component 4 are summarized in the table below, expressed in number of technical staff to be trained within the various participating institutions.

Table 30. Capacity building needs

Component 4a. National Forest Monitoring System	Personnel needed					Total
NIMOS						
	2014	2015	2016	2017	2018	
Develop and implement forest monitoring system	2	2	2	2	2	**2**
National and international reporting	1	1	1	1	1	**1**
Monitor social and environmental impacts	1	1	1	1	1	**1**
Subtotal FTE	4	4	4	4	4	**4**
SBB						
Data analysis	3	3	3	3	3	**3**
Species determination	1	1	1	1	1	**1**
Remote sensing	2	2	2	2	2	**2**
Subtotal FTE	6	6	6	6	6	**6**
TOTAL FTE	**10**	**10**	**10**	**10**	**10**	**10**

Activity 4a.3: Capacity building for implementing monitoring system

The capacity building programme supporting the implementation of the MRV system will consist of three elements:

- An in-depth assessment of capacity needs
- The implementation of a comprehensive training programme for dedicated MRV staff
- The development of capacities of technical staff for forest inventories

4a.4 Reporting, verification and consultation

Principles of the design for reporting, verification and consultation systems

NIMOS will undertake reporting activities according to guidance to be agreed on under the framework of the UNFCCC. NIMOS will be responsible for reporting and dissemination of the GHG information related to REDD+. Communication of the national REDD+ process will be communicated to the national stakeholders prior to UNFCCC submission and verification and feedback from stakeholders will be incorporated.

For reporting purposes, a 4-year interval is envisaged to submit national communications to the COP, as proposed under 1/CP.16, section III B on nationally appropriate mitigation actions by developing countries (NAMAs), in paragraphs 60 (b).

Verification audits could be conducted by independent auditors that may be accredited under the UNFCCC. Suriname will further follow the guidance of UNFCCC on this matter.

Activity 4.a.4: Reporting, verification and consultation

During R-PP implementation, the following activities will be taken up in order to develop and to implement systems for measurement, reporting and verification and the required consultation of local stakeholders:

- Reporting: Reports for UNFCCC submission and national stakeholders consultations
- Verification: Externally verified REDD+ outcomes
- Stakeholder consultation: Results communication and feedback from REDD+ stakeholders

Table 31 Summary of activities under sub-component 4a

Activity	Sub-activity	Expected outputs and/or outcome(s)	Timeframe				
			2014	2015	2016	2017	2018
4.a.1: Design and establishment of an institutional framework for monitoring REDD+	Establish MRV REDD+ coordination unit	National MRV REDD+ coordination unit					
	Establish systems and structures required for monitoring and review	Institutional monitoring structure for remote sensing (activity data) and forest inventories (emissions factors)					
4.a.2: Development and setting up of a standardized remote sensing and forest inventory methodology (for monitoring activity data and emissions factors)	Selection of satellite data for national monitoring based on component 3	Activity data collection plan					
	Stratification and sampling design (national design) based on component 3	Data collection plan					
	Design QA/QC protocols for activity data and emissions factors based on component 3	QA/QC protocols and reporting formats for activity data and emissions factors					
	Establish permanent plots and conduct field measurements based on component 3	Carbon stocks monitored + calculated; Capture rates and changes in forest stocks determined					
4a.3 Capacity building for implementing monitoring system developed under 4.a.2	In-depth assessment of capacity needs	Identified monitoring capacity gaps					
	Develop capacity for remote sensing techniques	Remote sensing expertise of relevant institutions					
	Develop capacity for	Forest inventory expertise					

Activity	Sub-activity	Expected outputs and/or outcome(s)	Timeframe				
			2014	2015	2016	2017	2018
	forest inventories	of relevant institutions					
	Pre- and post project audit	Verification of local capacity development					
4.a.4 Reporting, Verification and consultation	Reporting	Reports for UNFCCC submission and national stakeholders consultations					
	Verification	Externally verified REDD+ outcomes					
	Stakeholder consultations	Results communication and feedback from REDD+ stakeholders					

Table 32. Budget summary under sub-component 4a

Table 4A. NATIONAL FOREST MONITORING SYSTEM ACTIVITIES AND BUDGET							
Activity	Sub-Activity	Estimated Cost (in thousands)					
		2014	2015	2016	2017	2018	Total
4.a.1 Design and establish an institutional framework for monitoring REDD+	Establish MRV REDD+ coordination unit	20					**20**
	Establish systems and structures required for monitoring and review		50	10	10	10	**80**
4.a.2 Development and setting up of a standardized remote sensing and forest inventory methodology (for monitoring activity data and emissions factors)	Selection of satellite data for national monitoring based on component 3		50				**50**
	Stratification and sampling design (national design) based on component 3	30	70	50			**150**
	Design QA/QC protocols for activity data and emissions factors based on component 3		30	30			**60**
	Establish permanent plots and conduct field measurements based on Component 3 / National Forest Inventory	300	300	350	350	350	**1650**
4a.3 Capacity building for implementing monitoring system	In-depth assessment of capacity needs	25	25				**50**
	Develop institutional capacity for monitoring	120	120	120	120	120	**600**
	Develop capacity for remote sensing techniques	60	60	60	60	60	**300**
	Training of forest dependent communities	40	40	40	40	40	**200**

Table 4A. NATIONAL FOREST MONITORING SYSTEM ACTIVITIES AND BUDGET							
Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
4.a.4 Reporting and Verification	Establish and implement reporting protocol				50	50	**100**
	Define and implement verification strategy				20	20	**40**
Total		**395**	**545**	**460**	**450**	**450**	**3300**
Government		100	100	100	100	100	**500**
FCPF		**207**	**312**	**252**	**245**	**245**	**1261**
UN-REDD Programme (if applicable)		88	133	108	105	105	**1539**

4b. Designing an Information System for Multiple Benefits, Other Impacts, Governance and Safeguards

4b.1 Rationale

REDD+ for HFLD countries should be seen as a means to manage emission growth from forests and to ensure that opportunities to limit the rate of deforestation and degradation increase are utilized. Change in forest carbon levels, particularly as compared with baseline scenarios, represent the heart of the REDD+ concept and the basis for associated payments based on the concept of incrementality. Systems for carbon-related MRV are discussed in sub-component 4a above.

However, when designing a REDD+ programme, and particularly when monitoring and assessing its overall impacts, it is essential to go 'beyond carbon'. One useful framework for defining and categorizing the broader range of potential impacts—both positive and negative—associated with REDD+ is the concept of sustainable forest management (SFM). As shown in box 5 below, SFM, as defined by the United Nations General Assembly, involves a wide range of elements and associated forest ecosystem services, products and values. These include forest biodiversity, forest health, productive and protective functions, socio-economic functions and others.

Box 5. Seven thematic elements of sustainable forest management
(United Nations General Assembly, 2008)

1. Extent of forest resources,
2. Forest biological diversity,
3. Forest health and vitality,
4. Productive functions of forest resources,
5. Protective functions of forest resources,
6. Socio-economic functions of forests, and
7. Legal, policy and institutional framework

Implementation of REDD+ has the potential to generate a combination of *co-benefits* and *trade-offs* associated with these broader SFM elements, as compared with a scenario in which REDD+ were absent. Depending on the context and scale of a REDD+ effort, it may be advantageous to monitor changes in some or all of these elements that may be due to the REDD+ process. Such monitoring can be an important basis for programme design as well as for adaptive management of the REDD+ process. In this way, broader SFM-related co-benefits can be enhanced while potential negative impacts and other trade-offs can be minimized.
It is only through this wider monitoring lens that the overall costs and benefits of a REDD+ programme can be accurately measured and appropriate management responses

implemented. This approach is also an essential part of integrating REDD+ within broader development plans and processes, which extend well beyond forestlands and the forest sector. Closely related to the above is the need for a REDD+ programme to adhere to whatever national and international safeguards have been agreed to. These safeguards involve several of the elements described above, including socio-economic functions (and benefits) of forests and forest biological diversity. Assessing adherence to these safeguards and other commitments therefore represents an additional, intrinsic function of an effective REDD+ monitoring system.

4b.2 Initial design of monitoring system for multiple benefits, impacts, governance and safeguards

Taking the above rationale as a point of departure, a preliminary design has been prepared for a monitoring system covering multiple benefits, impacts, governance and safeguards related to REDD+ in Suriname. The initial design presented here will be further developed and fine-tuned through various activities and consultations planned to take place during Year 2 of R-PP implementation (see section 4b.3 below).

Safeguards

As a party to the United Nations Framework convention on Climate Change (UNFCCC), Suriname is held to the REDD+ safeguards as formulated in the Cancun Agreements as listed below:

Box 6. REDD+ safeguards in the Cancun Agreements (UNFCCC, 2011, p. 24–25)

The following safeguards should be promoted and supported in REDD+ implementation:

(a) That actions complement or are consistent with the objectives of national forest programmes and relevant international conventions and agreements;
(b) Transparent and effective national forest governance structures, taking into account national legislation and sovereignty;
(c) Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples;
(d) The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities, in REDD+ actions;
(e) That actions are consistent with the conservation of natural forests and biological diversity, ensuring that REDD+ actions are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits[1];
(f) Actions to address the risks of reversals; and
(g) Actions to reduce displacement of emission.

[1]Taking into account the need for sustainable livelihoods of indigenous peoples and local communities and their interdependence on forests in most countries, reflected in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), as well as the International Mother Earth Day.

Building on baseline systems and capacities

The monitoring system will aim to make optimal use of existing systems and capacities, while extending these as needed to cover new issues and data and analytical needs introduced by

REDD+. Key elements of the relevant baseline monitoring systems to be drawn upon include the following:

- NIMOS: The existing environmental impact assessment system has generated a database of species, soil characteristics and other parameters.
- SBB: A GIS monitoring system is used by SBB, which provides forest production statistics.
- ROGB (Nature Conservation Division): This division is responsible for monitoring of fauna.
- Forest dependent communities: Communities have a wealth of knowledge on the importance of both timber and non-timber forest products (NTFPs) and forest ecosystem services.
- The ministry of public health has nationwide monitoring systems, including a dense monitoring network in our forest extent.
- The ministry of education has a monitoring system in place in the forest communities in order to measure education statistics and to foster education in the villages.
- The ministry of Regional development has a specific department dedicated to the monitoring of community forest development and associated fair benefit sharing.
- The commission for the structuring of the gold sector (OGS), in close collaboration with the Geological Mining Service (GMD), has developed extensive resources in the forestlands that serve to monitor small-scale gold mining and prospecting activities.
- The private sector has access to a range of monitoring networks and data collections, which will be engaged and deployed as appropriate.
- There are some monitoring activities with regard to biodiversity. In the 1980s and earlier, specific permanent vegetation sampling plots were established by CELOS. A monitoring program was set up in 2005 in the northern part of the Central Suriname Nature Reserve (CSNR) with the help of Conservation International, which is part of a larger, worldwide Tropical Ecology, Assessment and Monitoring (TEAM) program and is based on standard protocols for vegetation, climate and a limited number of species such as primates, birds, large mammals and butterflies.

Focusing on selected key elements of sustainable forest management

Key selected thematic SFM elements to be monitored include the following:

- Forest biological diversity and ecosystem services: Suriname's forests—both those of the coastal plain and the interior—support extensive, globally significant species and genetic diversity. This includes an estimated 5,100 species of (mostly higher) plants, 715 species of birds and 192 species of mammals. Globally threatened species include: mammals such as the giant otter, tapir, spider monkey, manatee and giant armadillo; birds, including many macaw and parrot species, and; amphibians such as harlequin toads and poison arrow frogs. The vast majority of Suriname's biodiversity depends on healthy, inter-connected and diverse forest ecosystems. Individual, narrowly endemic species in particular may benefit greatly from even moderate reductions in deforestation and forest degradation against a BAU scenario.

  In addition to supporting biodiversity, Suriname's forests provide an extensive range of ecosystem services, including various hydrological services, soil structure and nutrient cycling. REDD+ has a significant potential to protect existing biodiversity and ecosystem service conservation efforts through habitat protection and rehabilitation efforts. REDD+ site selection will be enhanced by considering biodiversity and ecosystem service threats and

importance. Finally, REDD+ finance has the potential to contribute to resolving financial challenges associated with protected area management and other SFM-related financing needs.

- Socio-economic functions: Forest products and services are critical to the livelihoods of Indigenous and Maroon peoples throughout Suriname, such as subsistence hunting, boat making, medicinal plant usage, agricultural usage, housing construction and cultural activities. Monitoring related to socio-economic functions will need to cover compliance with agreed safeguards as well as with relevant international commitments.

- Productive functions: According to various analyses, Suriname's forest sector appears to have operated well below sustainable levels of timber production in recent decades. This trend has recently shifted in the direction of higher levels of production. Given Suriname's relatively low current level of socio-economic development, as well as high poverty levels amongst Indigenous and Maroon peoples, it is important that forest resources can continue to contribute to achievement of the country's socio-economic development goals. Trends in this area will therefore bear careful monitoring.

- Governance: An important potential co-benefit of REDD+ involves its possible contribution to various areas of forest and land use governance. These include a range of issues related to SFM, land use rights, land use planning, etc. It also involves governance of the Readiness process itself. Monitoring of these aspects represents a key component of the R-PP.

A key aspect to be monitored here is that of benefit sharing, which will need to be designed in cooperation with all relevant stakeholders, including forest dependent communities, *inter alia*, to ensure that financial flows generated by REDD+ are distributed based on thematic, geographic and demographic appropriateness. Additional benefits will derive from REDD+ activities themselves, including employment and capacity building opportunities associated with REDD+ implementation and continued ecosystem service benefits.

Monitoring systems to be operated as a joint effort by key stakeholders

Monitoring of multiple benefits, impacts, governance and safeguards will be a joint effort of NIMOS, NB, SBB, Ministry of Public Health, Ministry of Education, OGS, GMD, the private sector and forest-dependent communities, under the overall leadership of NIMOS. Tentatively identified roles are as follows:

- NIMOS will support the development and implementation of the forest monitoring system, in collaboration with SBB. NIMOS will monitor social and environmental impacts and other multiple benefits and be responsible for national and international reporting considering specific reporting standards and guidelines.
- SBB will conduct data collection from other contributors to the MRV such as AdeKUS and forest dependent communities. SBB will do data processing, data analysis and data storage, species determination and remote sensing.
- The country's 17 Ministries have monitoring responsibilities of sectoral environmental related policies such as water supply and mining activities (Ministry of Natural Resources) and socio-economic effects (Ministry of Regional Development).

- Forest dependent communities will participate in the design and operation of the forest monitoring system. The advantage of their contribution is that their local knowledge and presence of local communities is utilized. These communities will perform monitoring activities for impacts of REDD+ and other forest values such as biodiversity.
- Universities and other research institutions and NGOs specializing in areas such as biodiversity conservation, local livelihoods, etc. will participate in areas related to their expertise

The proposed monitoring systems will plug in to existing mandates and organizational structures within the various contributors. The envisaged governance mechanism as such will be limited to issues such as reporting formats, periodicity, meta-information design, data validation and analytical systems.

Tentatively defined roles and responsibilities related to implementation of the monitoring strategy included the following elements (see also Table 31 below):

- Monitoring aspects of social and environmental impacts and other multiple benefits will be on the agenda of IMAC.
- Monitoring will be done within each ministry and/or institute, at the executing level.
- NIMOS advises the ministries and/or institutes regarding monitoring of sectoral implementation of policies.
- All data will be collected and processed by NIMOS, shared via appropriate channels, including the website of NIMOS and via the State-of REDD+ report.
- The RSC will be responsible for independent periodical monitoring. They can hire international experts to do actual monitoring work. This information will be shared with others.
- Local communities will be involved by applying protocols that need to be established.
- Participation and transparency will be guaranteed through national systems and structures including: (i) the IMAC structure; (ii) NIMOS Website and other appropriate channels; (iii) regular reports such as State-of-REDD+ and, (iv) audits.

Table 33 below pulls together the above thematic and institution / process specific aspects to present a summary of the monitoring programme's initial design.

Table 33. The roles of various stakeholders, by thematic monitoring element

Thematic element	Examples of issues likely to be monitored	Stakeholder participation	Related safeguards and other commitments
Overall / cross cutting	• Integration of thematic issues defined in remainder of the table	NIMOS responsible for coordination and reporting / publication	• IMAC oversight • Cancun agreement REDD+ safeguards
Forest biological diversity & ecosystem services	• Benefits associated with enhanced protection of endemic and threatened species will need to be monitored. Will be linked with traditional knowledge of forest dependent communities. • Ensuring protection of natural corridors	Work will build on existing biodiversity monitoring efforts being undertaken by the different institutions such as: SBB, NCD, OGS, FDC, Min RO, Min PH, Min EDU, PS, with	• UNCBD guidelines • Cancun agreement REDD+ safeguards

Thematic element	Examples of issues likely to be monitored	Stakeholder participation	Related safeguards and other commitments
	• Maintenance of ecological resilience	participation of NIMOS.	
Socio-economic functions	• Impacts (employment, income, NTFP availability) on communities living in and around REDD+ target areas • Benefit sharing	Work will build on existing biodiversity monitoring efforts being undertaken by the different institutions such as: SBB, NCD, OGS, FDC, Min RO, Min PH, Min EDU, PS, with participation of NIMOS.	Cancun agreement REDD+ safeguards
Productive functions	• Ensuring that REDD+ efforts do not hinder economic development efforts	• SBB responsible for monitoring of NTFP, timber production • Indigenous and Maroon communities monitoring NTFPs, timber products and other benefits nd trade-offs	Cancun agreement REDD+ safeguards
Governance	• Governance of REDD+ readiness process • Enhancement of dual purpose (SFM/REDD+) human and institutional capacities • Implementation of dual purpose (REDD+ / SFM) legal, regulatory, administrative and institutional reform	• RSC is responsible for guidance and oversight regarding the creation and functioning of the system of safeguards. • IMAC is responsible for guidance and oversight regarding the necessary reforms.	Cancun agreement REDD+ safeguards

4b.3 Development and implementation during R-PP

Key activities to be undertaken during the R-PP related to this sub-component are described below and summarized in the work plan and budget below.

Activity 4.b.1: Design information system for monitoring of multiple benefits, other impacts, governance and safeguards

As noted above, the monitoring system outline in section 4.b.2 above represents a preliminary design, which will need to be discussed and developed further during the first years of R-PP implementation. The process for the final selection of thematic areas to be included in the monitoring system will consist of a series of local dialogues, national dialogues, IMAC discussions, RSC discussions and sectoral and thematic consultations.

Implementation of REDD+ can bring significant benefits in terms of organizational and governance factors throughout Suriname, including forest dependent communities. For the quantification of these benefits, a set of indicators will be developed that will allow the impact of REDD+ activities to be monitored, both environmentally and socially.

Activity 4.b.2 Capacity building

Based on the initial design of the information system, the following needs have been identified:

- NIMOS needs additional personnel to review and structure collected data.
- Additional GIS monitoring capacities necessary for SBB is already mentioned in component 4A.
- NCD contains focal points for a number of international environmental conventions (CITES for example) that provide support for monitoring of species. Additional personnel capacity is needed to operate these monitoring systems.
- Forest dependent communities will be involved in monitoring. They can provide data on non-timber forest products forest and multiple benefits. Their traditional knowledge will be combined with western knowledge. Communities will be trained in these specific requirements and will implement monitoring field activities in an informed and systematic manner to deliver data that can be incorporated in monitoring systems.
- An extensive awareness raising and training program will be designed with a specific set of modules geared towards forest dependent communities to better enable them to contribute to the data set.
- Contributing institutions will undergo an overall data collection and reporting capacity strengthening program.

Capacity-building requirements will ultimately depend on the final design of the monitoring effort. During the R-PP implementation, the existing assessment will be fine-tuned based on the final information system design. The resulting capacity building programme will then be implemented.

Activity 4.b.3 Implement information system, including monitoring, reporting and verification

The construction and initial operation of the information system will take place under this activity. The process will begin with acquisition of detailed and quantified baseline data related to agreed indicators, including field-based data gathering as needed. Based on agreed protocols and indicators, follow up data will be gathered during the R-PP, mainly related to implementation of the Readiness programme. This phase may be considered as a kind of testing of the information system, prior to full implementation of REDD+. Lessons learned from this process will be used in extending the system for use in the latter implementation phase.

Table 34. Summary of activities under subcomponent 4b

Activity	Sub-activity	Expected outputs and/or outcome(s)	Timeframe				
			2014	2015	2016	2017	2018
4.b.1 Design information system for monitoring of multiple benefits, other impacts, governance and safeguards	Assess current monitoring systems and possible need for new / revised structures for monitoring and for implementing adjustment measures	Completed baseline assessment					
	Finalize institutional design and governance roles	Information system, including full set of criteria, indicators and means of verification, with clear institutional roles for implementation of same					
	Develop and agree on thematic criteria, indicators and means of verification						
4.b.2 Capacity building	Fine tune assessment of capacity needs and gaps based on final design of information system	Revised capacity needs assessment					
	Develop human and institutional capacities in line with above assessment	Strengthened human and institutional capacities					
	Training of forest dependent communities	Increased capacity to contribute to monitoring					
4.b.3 Implement information system, including monitoring, reporting, and verification	Acquire available baseline data related to selected indicators	Detailed and quantified baseline related to agreed thematic indicators					
	Targeted field data gathering to fill identified gaps in baseline data						
	Monitor changes from baseline during R-PP period	Quantified and verified estimates of effects of REDD+ readiness programme in terms of co-benefits, other impacts, governance and safeguards					
	Report on initial results of monitoring (including lessons learned from process)						
	Apply lessons learned to design of extended system for REDD+ implementation phase	Design of information system for implementation phase of REDD+					

Table 35. Budget summary under sub-component 4b

TABLE 4B. INFORMATION ON MULTIPLE BENEFITS, OTHER IMPACTS AND SAFEGUARDS ACTIVITIES AND BUDGET							
Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
4.b.1 Design information system for monitoring of multiple benefits, other impacts, governance and safeguards	Assess current monitoring systems and possible need for new / revised structures for monitoring and for implementing adjustment measures		30				30
	Finalize institutional design and governance roles		20				20
	Develop and agree on thematic criteria, protocols, indicators and means of verification		80				80
4.b.2 Capacity building	Fine tune assessment of capacity needs and gaps based on final design of information system		40				40
	Develop human and institutional capacities	120	120	120	120	120	600
	Training of forest dependent communities	60	60	60	60	60	300
4.b.3 Implement information system, including monitoring, reporting, and verification	Acquire available baseline data related to selected indicators		20	50			70
	Targeted field data gathering to fill identified gaps in baseline data		70	70			140
	Monitor changes from baseline during R-PP period			100	100	100	300
	Report on results of monitoring			30	30	40	100
Total		**180**	**440**	**430**	**310**	**320**	**1680**
Government							**0**
FCPF		**108**	**264**	**258**	**186**	**192**	**1008**
UN-REDD Programme (if applicable)		72	176	172	124	128	672

Component 5: Schedule and Budget

In the following tables the budgets for each of the components is presented. The FCPF is considered the main source of funding, with a total of USD 8.6 million, while Surinamese Government will make available USD 1.5 million. The main additional source is considered the UNREDD. Other additional possible sources of funding are:

- Guiana Shield Facility
- World Wildlife Fund Guianas
- Conservation International
- Global Environmental Facility
- Australia's International Forest Carbon Initiative
- Norway‘s International Climate and Forest Initiative
- Caribbean Development Bank
- KfW
- JICA
- UNFCCC
- Suriname Conservation Foundation
- American Embassy Suriname

and the local private sector:

- SURGOLD (Newmount)
- IAMGOLD
- SURALCO
- Staatsolie
- Kersten
- Telesur
- Assuria

These additional sources have promised to support the country’s activities against deforestation and forest degradation. However, at this stage the exact amount of support is not clear as they are in anticipation of the World Bank’s decision on the funding of the R-PP.

Travels for dialogues and consultations will be coordinated to keep travel costs at a minimum and increased efficiency. In order to do this, the trainings of the RSC, of the Major Groups Collective and the REDD+ Assistants will be combined as much as possible with the information sharing process and the participation and consultation process.

TABLE 1A. NATIONAL REDD+ MANAGEMENT ARRANGEMENTS ACTIVITIES AND BUDGET							
Main activity	Sub-Activity	Estimated Cost (in thousands)					
		2014	2015	2016	2017	2018	Total
1a.1 Setting up institutional arrangements	Institutional arrangements consultations	20					20
	Meetings of RSC and Major Groups Collective	40	40	40	40	40	200
1a.2 Capacity building NIMOS, public sector, CCDU, RSC, Major Groups Collective and REDD+ assistants	Institutional strengthening of NIMOS through recruitment of human resources and training	180	210	240	240	240	1110
	Strengthening of planning expertise of public sector through training	50	50	50			150
	Strengthening of CCDU	200	200	200	200	200	1000
	Strengthening of RSC and Major Groups Collective through training	172	172	172	172	172	860
	Training of REDD+ assistants	100	100	100	80	80	460
	Communication and logistics	10	10	10	10	10	50
	Travel	80	80	80	40	40	320
Total		**872**	**882**	**912**	**802**	**802**	**4170**
Government		100	100	100	100	100	**500**
FCPF		**460**	**465**	**530**	**445**	**445**	**2345**
UN-REDD Programme (if applicable)		292	297	262	237	237	**1325**

TABLE 1B. INFORMATION SHARING AND EARLY DIALOGUE ACTIVITIES AND BUDGET							
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
1b.1 Formulation of stakeholder engagement strategy and awareness plan	Recruitment of communication consultants	30					**30**
	Strategy consultations	20					**20**
1b.2 Information Dissemination and Early dialogue	Information sessions, workshops, dissemination of materials	200	200				**400**
	Logistics and travel	100	100				**200**
Total		**350**	**300**	**0**	**0**	**0**	**650**
Government							**0**
FCPF		**236**	**236**	**0**	**0**	**0**	**472**
UN-REDD Programme (if applicable)		114	64	0	0	0	**178**

TABLE 1C. CONSULTATION AND PARTICIPATION PROCESS ACTIVITIES AND BUDGET							
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
1c.1 Formulation of Consultation and Participation	Recruitment of communication and social consultants	30					**30**
	Participatory meetings for the design of the roadmap for consultation and participation	50					**50**
1c.2 Consultations	Expert consultations		10	10	10	10	**40**
	Sector consultations		20	20	20	20	**80**
	Consultations with forest dependent communities		50	75	75	75	**275**
	Logistics and travel	50	70	90	120	120	**450**
	Communication material	10	20	30	30	30	**120**
1c.3 Strengthening existing grievance and redress mechanism	Institutional strengthening	20	20	20	20	20	**100**
Total		**160**	**190**	**245**	**275**	**275**	**1145**
Government							**0**
FCPF		**112**	**133**	**172**	**192**	**192**	**801**
UN-REDD Programme (if applicable)		48	57	73	83	83	**344**

TABLE 2A. ACTIVITIES AND BUDGET FOR ASSESSMENT OF LAND USE AND LAND USE CHANGE DRIVERS							
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
2a.1 Sectoral and development assessments and their linkages to deforestation and degradation	Sectoral analysis in relation to the impact on deforestation and degradation	50	50				**100**
	Analysis of development plans in relation to the impact on deforestation and degradation	50	50				**100**
2a.2 Refining analysis of the impacts of drivers and underlying causes of deforestation and forest degradation	Analysis of individual drivers and their degree of impact	40	40	40			**120**
	Study of opportunity costs			80			**80**
2a.3 Assessment of the current enabling environment with regards to REDD+	Analysis of policy, legal and institutional gaps for successful REDD+ implementation of regulatory framework		50	50			**100**
	Analysis of status of land tenure rights	25	25				**50**
	Formulation of strategies to address these gaps			25	50		**75**
Total		**165**	**215**	**195**	**50**		**625**
Government							**0**
FCPF		**124**	**162**	**146**	**38**		**470**
UN-REDD Programme (if applicable)		41	53	49	12		**155**

TABLE 2B+C. REDD+ STRATEGY OPTIONS AND IMPLEMENTATION ACTIVITIES AND BUDGET							
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
2b.1 Assessment of REDD+ strategy options	Analysis of cost effectiveness of different strategy options	50					**50**
	Interest group analysis of strategy options	50					**50**
	Feasibility assessment, including risk analysis of strategy options		50				**50**
	Assessment of environmental and social risks of strategy options		50				**50**
	Legal and governance review of strategy options		50				**50**
	Identification of options and policy interventions to deploy REDD+ strategy options and to identify mainstreaming opportunities		50	50			**100**
2c.1 Implement proposed institutional framework and capacity building	Institute REDD+ coordinating bodies within NIMOS	150	150	150	150	150	**750**
	Create, staff and train supporting bodies and departments within implementing institutions	30	60	60	60	60	**270**
2c.2 Establish system for REDD+ projects	Establishment of a REDD+ registry			**10**	**20**	**20**	**50**
	Developing guidelines for REDD+ projects			**25**	**10**		**35**
2c.3 Establish supplemental provisions for developing REDD+ delivery mechanisms	Design and implement a Climate Fund				90		**90**
	Design and implement a Benefit Sharing Mechanism				50	50	**100**
Total		**280**	**410**	**295**	**380**	**280**	**1645**
Government		100	100	100	100	100	**500**
FCPF		**135**	**233**	**120**	**188**	**120**	**796**
UN-REDD Programme (if applicable)		45	77	75	92	60	**349**

TABLE 2D. SOCIAL AND ENVIRONMENTAL IMPACT ACTIVITIES AND BUDGET							
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
2d.1 Technical design for impact assessment (SESA) and Monitoring and Management Impacts Framework (ESMF)	Workshops with technical and social groups on strategy options		100	100			**200**
	Specific sectoral dialogues on strategy options		50	50			**100**
	District level consultations on options in regards to SESA and ESMF			50			**50**
2d.2 Publication and dissemination of SESA results	Documentation			10			**10**
	Publication and dissemination			10	10		**20**
2d.3 SESA design for pilot projects, including TOR	Impact monitoring of REDD+ strategies and/or pilot projects				25	50	**75**
	Impact control, conflict resolution and social control measures				25	50	**75**
Total			**150**	**220**	**60**	**100**	**530**
Government							**0**
FCPF			**105**	**140**	**35**	**70**	**350**
UN-REDD Programme (if applicable)			45	80	25	30	**180**

TABLE 3. DEVELOP REFERENCE LEVEL ACTIVITIES AND BUDGET							
Activity	Sub-Activity	Estimated Cost (in thousands)					
		2014	2015	2016	2017	2018	Total
3.1 Update 'forest' definition in national legislation	Assess implications of different forest definitions on MRV requirements and costs	20					20
3.2 Assess historical forest cover data	Assess existing available historical RS information for Suriname and its usefulness, accuracy and consistency	10					10
	Identify key deforestation and forest degradation areas	10					10
3.3 Activity data: data gathering, analysis and modeling	Determine most appropriate remote sensing technology	15					15
	Define accuracy/ precision targets, conduct accuracy assessment and formulate QA/QC protocols	15	15				30
	Assess data gaps	20					20
	Collect and analyze new activity data between 2000 and 2013		50	50			100
3.4 Emission factors: data gathering, analysis and modeling	Analyze and select key carbon pools	20	20				40
	Stratification, sampling, collection and analysis of field data to determine emission factors	100	100				200
	Link field and remote sensing data		70				70
	Aggregate activity data and emissions factors		50				50
3.5 Develop national RL and possible alternative future scenarios	RL scenario modeling		20	20			40
	Determine national RL subject to UNFCCC approval			30			30
3.6 Institutional and technical capacity building	Acquire quantitative modeling expertise and train governmental staff on remote sensing	75	75	75	75		300
	Acquire technical hardware and support	100	100	100	100		400

Total	**385**	**500**	**275**	**175**		**1335**
Government						**0**
FCPF	**231**	**300**	**165**	**105**		**801**
UN-REDD Programme (if applicable)	154	200	110	70		**534**

Table 4A. NATIONAL FOREST MONITORING SYSTEM ACTIVITIES AND BUDGET							
Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
4.a.1: Design and establish an institutional framework for monitoring REDD+	Establish MRV REDD+ coordination unit	20					**20**
	Establish systems and structures required for monitoring and review		50	10	10	10	**80**
4.a.2: Development and setting up of a standardized remote sensing and forest inventory methodology (for monitoring activity data and emissions factors)	Selection of satellite data for national monitoring based on component 3		50				**50**
	Stratification and sampling design (national design) based on component 3	30	70	50			**150**
	Design QA/QC protocols for activity data and emissions factors based on component 3		30	30			**60**
	Establish permanent plots and conduct field measurements based on Component 3 / National Forest Inventory	300	300	350	350	350	**1650**
4a.3 Capacity building for implementing monitoring system	In-depth assessment of capacity needs	25	25				**50**
	Develop institutional capacity for monitoring	120	120	120	120	120	**600**
	Develop capacity for remote sensing techniques	60	60	60	60	60	**300**
	Training of forest dependent communities	40	40	40	40	40	**200**
4.a.4 Reporting and Verification	Establish and implement reporting protocol				50	50	**100**
	Define and implement verification strategy				20	20	**40**
	Total	**395**	**545**	**460**	**450**	**450**	**3300**
Government		100	100	100	100	100	**500**
FCPF		**207**	**312**	**252**	**245**	**245**	**1261**
UN-REDD Programme (if applicable)		88	133	108	105	105	**1539**

TABLE 4B. INFORMATION ON MULTIPLE BENEFITS, OTHER IMPACTS AND SAFEGUARDS ACTIVITIES AND BUDGET							
Activity	**Sub-Activity**	**EstimatedCost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
4.b.1 Design information system formonitoring of multiple benefits, other impacts, governance and safeguards	Assess current monitoring systems and possible need for new / revised structures for monitoring and for implementing adjustment measures		30				30
	Finalize institutional design and governance roles		20				20
	Develop and agree on thematic criteria, protocols, indicators and means of verification		80				80
4.b.2 Capacity building	Fine tune assessment of capacity needs and gaps based on final design of information system		40				40
	Develop human and institutional capacities	120	120	120	120	120	600
	Training of forest dependent communities	60	60	60	60	60	300
4.b.3 Implementinformationsystem, includingmonitoring, reporting, andverification	Acquire available baseline data related to selected indicators		20	50			70
	Targeted field data gathering to fill identified gaps in baseline data		70	70			140
	Monitor changes from baseline during R-PP period			100	100	100	300
	Report on results of monitoring			30	30	40	100
	Total	**180**	**440**	**430**	**310**	**320**	**1680**
Government							**0**
FCPF		**108**	**264**	**258**	**186**	**192**	**1008**
UN-REDD Programme (ifapplicable)		72	176	172	124	128	672

TABLE 6. PROGRAM MONITORING AND IMPLEMENTATION OF EVALUATION FRAMEWORK ACTIVITIES AND BUDGET							
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
6.1 Finalization and adoption of a M&E program	Hire specialists (local consultants) to finalize M&E program	30					**30**
	Indicator development	20					**20**
	Integrate M&E program into M&E systems of implementing institutions	10					**10**
	Meetings to adopt M&E	6					**6**
6.2 Development of a training manual for the program M&E and conduct trainings	Hire local consultants for the development of the training manual	10	17				**27**
	Expert consultation and training		15	15			**30**
6.3 Dissemination of information	Media messages, website				4	4	**8**
6.4 Stakeholders meeting regarding the M&E program	Follow up meetings, forums for sharing/learning and feedback			20	20	20	**60**
6.5 Monitoring by the Independent monitoring body incl. external audit				50	75	75	**200**
	Total	**76**	**32**	**85**	**99**	**99**	**391**
Government							**0**
FCPF		**52**	**13**	**64**	**74**	**74**	**277**
UN-REDD Programme (if applicable)		24	19	21	25	25	**114**

TABLE 7. SUMMARY OF ACTIVITIES AND BUDGET FOR R-PP COMPONENTS					
Component	**Sub-component**	**Estimated Cost (in thousands)**			
		Government	**FCPF**	**UN-REDD and other donors**	**Total**
1: Organize and consult	1A	500	2345	1325	**4170**
	1B		472	178	**650**
	1C		801	344	**1145**
2: REDD+ strategy	2A		470	155	**625**
	2B + C	500	796	349	**1645**
	2D		350	180	**530**
3: Forest reference level	3		801	534	**1335**
4: Forest monitoring	4A	500	1261	1539	**3300**
	4B		1008	672	**1680**
6: Program monitoring	6		277	114	**391**
	Total	**1,500**	**8,581**	**5,390**	**15,471**

Component 6. Design a Program Monitoring and Evaluation Framework

A Monitoring and Evaluation Framework (M&E) will be designed with the objective to follow up on the execution of Suriname's R-PP proposal. This M&E Framework differs from the monitoring system described in component 4, which refers to the monitoring of carbon emissions and removals, multiple benefits, other impacts, governance and safeguards. The overall purpose of monitoring and evaluation is to track changes in program performance over a certain time and to attribute program outcomes to their causes. The Monitoring & Evaluation Framework is a continuous cycle of information gathering, participation, communication, analysis and reporting to implementing institutions, key ministries, development partners, forest communities and other stakeholders. It promotes timely decision-making, and it provides the basis for evaluation, learning and adaptive management in response to progressive monitoring and evaluation. It also promotes accountability for the achievement of R-PP objectives and information sharing on results and lessons learned.

The objectives of the M&E Framework are:

1. To provide a basis for systematical and continuous collecting and analyzing information on the changes emerging during R-PP implementation;
2. To submit information to stakeholders needed to guide the R-PP implementation towards achieving its goals and objectives;
3. To provide a basis for an early contingency plan for the likely problematic activities and processes that need collective action;
4. To provide feedback opportunity for implementing institutions by creating opportunities for them to reflect critically on the R-PP implementation and interventions;
5. To ensure transparency and accountability.

6.1 M&E Framework implementation modalities and responsibilities

The development and implementation of a National Monitoring and Evaluation Program framework will be led by the RSC, which assesses the performance of the implementation of the R-PP and the REDD+ readiness strategy.

For the design and implementation of the M&E framework, the RSC will be assisted by the following partners:

a. NIMOS, who will coordinate the necessary inputs from several implementing institutions (through the IMAC structure)
b. Implementing institutions, such as SBB and key ministries, who will be responsible for certain activities listed in the R-PP components and who will provide feedback to NIMOS
c. Forest dependent communities, women organizations and private sector who will actively participate in the design and evaluation of programme performance.
d. Representatives of forest dependent communities in implementing community level monitoring of the programme.

The RSC can hire international experts to do actual monitoring work and reporting. Results of the M&E will be systemized in periodic reports which will be shared with relevant institutions, participating forest dependent communities and other interested stakeholders. The monitoring reports will be critically discussed during RSC meetings and within additional workshops/meetings arranged as necessary.

The M&E reports will be provided once a year and, from the 2nd year onwards, it will include the annual status report for the concluding year.

An independent audit (as a monitoring tool) will also be performed yearly to assess the financial performance of the implementation framework. This provides checks and balances to ensure transparency, accountability and equity.

Table 36 Time schedule and sequencing of activities for program monitoring and evaluation

Activities	Year 1	Year 2	Year 3	Year 4	Year 5
The development of the M&E Program Framework	X				
Development of a training manual for the M&E Program and conduct the training.	X	X	X		
Dissemination of information		X	X	X	X
Stakeholders meeting regarding the M&E program	X	X	X	X	X
Monitoring by the independent monitoring body			X	X	X

To guide the implementation of the preparation stage, table 37 describes outputs, indicators and means of verification (data sources) for each component that will allow monitoring and evaluating of the progress in implementing the country's preparation.

Table 37 The Monitoring and Evaluation Framework

No.	Activity	Output	Key Indicator(s)	Means of Verification	2014	2015	2016	2017	2018
Component 1: Organize and Consult									
Component 1A National Readiness Management Arrangements									
1.	Implement proposed institutional arrangements	R-PP implementation structure in place and functioning	• REDD+ focal point in place at NIMOS • RSC established • Major Groups Collective established	• MoU between NIMOS and Ministries • Appointment letters and ToR for members of the RSC and the Major Groups Collective • Progress reports submitted by NIMOS to RSC					
2.	Implement capacity building activities	Capacity building process ongoing	• Staff recruitments	• Capacity building material generated for training • Number of additional personnel • Minutes and reports of training and workshops • Reports on investments for capacity building					

No.	Activity	Output	Key Indicator(s)	Means of Verification	2014	2015	2016	2017	2018
Component 1B Information Sharing and Early Dialogue with Key Stakeholder Groups									
1.	Conduct information sessions with key stakeholder groups	Strategies and actions for conducting information sharing and dialogues Stakeholders informed	• REDD+ Assistants trained • Stakeholder participation	• Stakeholder engagement Strategy • Number of trained REDD+ Assistants • Reports of local and sectoral dialogues					
2.	Conduct awareness activities	Increased awareness on REDD+ among stakeholders	• Stakeholder participation	• Awareness plan • Messages in the media					
Component 1C Consultation and Participation Process									
1	Develop and implement Consultation and Participation Plan	Strategies and actions developed for conducting consultations and participation sessions	• Inputs from stakeholders consolidated and included in the formulation of the REDD+ Strategy	• Consultation plan • Reports on responses and inputs from stakeholders • Reports and records of consultations					
2	Develop Conflict Resolution and Grievances Mechanism	Strategies and actions developed for addressing conflicts and grievances	• Defined mechanism for Conflict Resolution and Grievance	• Reports on conflicts and grievances submitted to the RSC					

No.	Activity	Output	Key Indicator(s)	Means of Verification	2014	2015	2016	2017	2018
Component 2: Prepare the REDD+ Strategy									
Component 2A Assessment of Land Use, Land Use Change Drivers, Forest Law, Policy and Governance									
1	Conduct assessments on land use, land use change drivers, forest law, policy and governance	Increased understanding of the effects of the drivers on Suriname's forest resources. Increased understanding of knowledge gaps, specific legislative shortcomings and governance enhancements required to protect Suriname's forest.	• Comprehensive-ness of information in the assessment reports	• Assessment reports on drivers for deforestation and forest degradation					
Component 2B REDD+ Strategy Options									
1	Select best strategic options for REDD+ Strategy	REDD+ Strategy developed	• Comprehensiveness of the Strategy options	• Feasibility report • Cost benefit analysis report • REDD+ Strategy report					
Component 2C REDD+ Implementation Framework									
1	Implement proposed institutional strengthening activities	Increased capacity for implementation of REDD+ Strategy Increased capacity for land use planning	• Economic, legal and governance arrangements that are necessary for implementation of the REDD+ Strategy	• 'State of REDD+' report • Revised policies, systems and					

No.	Activity	Output	Key Indicator(s)	Means of Verification	2014	2015	2016	2017	2018
			• Zoning regulations	procedures related to land use					
2	Establish benefit sharing mechanism	Climate Fund established	• Availability of funds • Sharing of revenues	• Operational procedure for Climate Fund • Government agreements • 'State of REDD+' report					
Component 2D Social and Environmental Impacts during Readiness Preparation and REDD+ Implementation									
1	Conduct SESA	Approved ESMF	• Description of environmental and social issues and safeguards • Methods and measures to mitigate environmental and socio-economic risks during REDD+ Strategy implementation	• Minutes and reports of workshops • Capacity assessment report • ESMF document					
2	Implement capacity building activities for ESMF	Staff and institutional capacities built for ESMF implementation	• Capacity to implement ESMF	• Monitoring reports					

No.	Activity	Output	Key Indicator(s)	Means of Verification	2014	2015	2016	2017	2018
Component 3: Develop an National Forest Reference Level									
3	Develop National Forest RL	Data and modeling results of future deforestation scenarios Increased capacity for forest cover data analysis and modeling National Forest RL established	• Approved forest definition • Inventories to gather field data • Methodology for biomass assessment and carbon accounting	• Revised Forest Management Act • Analysis report on historical data • Report on Reference Scenarios • Technical hardware and software for remote sensing • Minutes and reports of trainings					
Component 4: Design Systems for National Forest Monitoring and Information on Safeguards									
Component 4A National Forest Monitoring System									
1	Design and implement a forest monitoring system	MRV REDD+ coordination unit established Data available for MRV Increased capacity for remote sensing and carbon measurements data collection and analysis	• Approved roadmap of MRV • Data collection plans • QA/QC Protocols and reporting formats • Quality and adequacy of MRV reports	• Sectoral reports • Establishment of permanent field plots • Analysis report of MRV gaps for effective implementation • MRV reports					

No.	Activity	Output	Key Indicator(s)	Means of Verification	2014	2015	2016	2017	2018
			• Observation Room SBB optimized	• Technical hardware and software for remote sensing					
2	Implement capacity building activities for MRV	Forest communities and other relevant institutions strengthened to fulfill monitoring tasks Increased remote sensing capacity Increased reporting capacity	• Training of forest communities and other relevant institutions • Seminars, workshops on remote sensing	• Workshop and training reports • Reports written by NIMOS					
Component 4B Designing an Information System for Multiple Benefits, Other Impacts, Governance and Safeguards									
1	Design and implement Monitoring System for multiple benefits, other impacts, governance and safeguards	Institutional design, procedures and protocols to monitor impacts and benefits of REDD+ Baseline data related to selected criteria	• Quality and adequacy of monitoring reports • Social and environmental indicators participatory defined	• Document that describes safeguards, social and environmental indicators, with the institutional arrangements for its monitoring • Monitoring reports		X	X	X	X
2	Implement capacity building activities for MRV	Forest communities strengthened to fulfill monitoring tasks	• Training of forest communities	• Workshop and training reports					

No.	Activity	Output	Key Indicator(s)	Means of Verification	2014	2015	2016	2017	2018
Component 5: Schedule and Budget									
1	Update Schedule and Budget	R-PP Implementation budget and schedule updated	• Actualized R-PP Implementation schedule and budgets	• Periodic progress and financial status reports • Funding agreements					
Component 6: Design a Program Monitoring and Evaluation Framework									
1	Update and implement Monitoring and Evaluation Framework	Approved M&E Framework Institutional capacity increased and facilities provided for implementation	• Baseline information available • Set of indicators available • Training manual • External audit	• Training reports • Evaluation reports and audit reports					

Table 38. Activities and budget for component 6

TABLE 6. PROGRAM MONITORING AND IMPLEMENTATION OF EVALUATION FRAMEWORK ACTIVITIES AND BUDGET							
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
6.1 Finalization and adoption of a M&E program	Hire specialists (local consultants) to finalize the M&E program	30					**30**
	Indicator development	20					**20**
	Integrate M&E program into M&E systems of implementing institutions	10					**10**
	Meetings to adopt M&E	6					**6**
6.2 Development of a training manual for the program M&E and conduct trainings	Hire local consultants for the development of the training manual	10	17				**27**
	Expert consultation and training		15	15			**30**
6.3 Dissemination of information	Media messages, website				4	4	**8**
6.4 Stakeholders meeting regarding the M&E program	Follow up meetings, forums for sharing/learning and feedback			20	20	20	**60**
6.5 Monitoring by the Independent monitoring body incl. external audit				50	75	75	**200**
Total		**76**	**32**	**85**	**99**	**99**	**391**
Government							**0**
FCPF		**52**	**13**	**64**	**74**	**74**	**277**
UN-REDD Programme (if applicable)		24	19	21	25	25	**114**