Ministry of Forests and Soil Conservation

REDD Forestry and Climate Change Cell

Development of a Measurement, Reporting and Verification (MRV) System for Emissions and Removals

Contract No.: FCPF/REDD/S/QCBS-7

Summary of Comments on Final Submission

April 2014

AGRICONSULTING S.p.A.

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Summary of Comments on Final Submission

A. Comments WP4-MRV IT and GIS Platform

Comments on the Draft Report (WP-4) have been well received and revised accordingly and appropriately. Few points still need Consultant's attention. Attached herewith are the observations/reviews of the corrections summarized made in the main document? Review texts are suggested to be re-examined, if possible by the Consultant.

- On the print version of the report/document, it is recommended to include the Logo of GoN along with the full name of the organization as "Ministry of Forests and Soil Conservation/REDD and Climate Change Cell" on the top of the page. Other layout in the reports are appropriately presented. The Consultant may also include their full name with logo and address at the bottom of the page.
- It is suggested to include a data ownership information directing to the REDD Cell as the owner of the data developed under this assignment in the second inner cover page. The names of author(s), contributors and editors(s) names if applicable, are to be presented in the second inner cover page. Acknowledgement text is also suggested in a separate page.

Revised

B. Comments WP7-MRV IT and GIS Platform

Comments on the Draft Report (WP-7) have been provided with clarification/justification with suggested revisions/correction made in the main text for few of the review only. The "Answers to Comments" provided for this WP-7 by Agri-consulting seems rather defending their statements with the clarifications. Several points still need Consultant's attention with minor revisions if acceptable. Attached herewith are the observations/reviews of the corrections summarized made in the main document. Reviewed texts are suggested to be re-examined, if possible by the Consultant.

General review suggestions are here under, the detailed is attached.

- Summary is mentioned in the TOC, but not provided in the report.
- On the print version of the report/document, it is recommended to include the Logo of GoN along with the full name of the organization as "Ministry of Forests and Soil Conservation/REDD Forestry and Climate Change Cell" on the top of the page instead of Nepal REDD-….". Other layout in the reports are appropriately presented.
- It is suggested to include a data ownership information directing to the REDD Cell as the owner of the data developed under this assignment in the second inner cover page. The names of author(s), contributors and editors(s) names if applicable, are to be presented in the second inner cover page. Also include a "disclaimer" stating that the thoughts and the statements in the report are those of the author(s)/Consultant and may not reflect those of the GoN and REDD Cell. Acknowledgement text is also suggested in a separate page.

Revised

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C. Comments WP10-MRV Full Cost Proposal

Comments on the Draft Report (WP-10) have been well received and revised accordingly and appropriately. Few points still need Consultant's attention. Attached is the observations/reviews of the corrections summarized made in the main document. Reviewed texts are suggested to be re-examined, if possible by the Consultant.

General review suggestions are here under, the detailed is attached.

- Some errors in the TOC. Corrections are suggested
- On the print version of the report/document, it is recommended to include the Logo of GoN along with the full name of the organization as "Ministry of Forests and Soil Conservation/REDD Forestry and Climate Change Cell" on the top of the page instead of Nepal REDD-….". Other layout in the reports are appropriately presented.
- It is suggested to include a data ownership information directing to the REDD Cell as the owner of the data developed under this assignment in the second inner cover page. The names of author(s), contributors and editors(s) names if applicable, are to be presented in the second inner cover page. Also include a "disclaimer" stating that the thoughts and the statements in the report are those of the author(s)/Consultant and may not reflect those of the GoN and REDD Cell. Acknowledgement text is also suggested in a separate page.

Revised

Attachment:

A.   Summary of Comments on WP4-MRV IT and GIS Platform (Review of revisions made by AGRICONSULTING)

Report Section/ Sub Section	Page	Review/Observations/Suggestions	Review of the Commented Revisions	
		Abbreviation is needed in the document	Well incorporated/revised.	
		A third chapter on implementation and institutionalization framework is recommended containing these topics: 3.1 Operationalization of the MRV IT System 3.1.1 Hosting 3.1.2 Administering 3.2 Institutionalization 3.3	This has not been incorporated nor provided with reference to other document series. WP 8, chapter 4 defines Key Tasks to be undertaken, but misses out on the clear road map and some technical issues listed here that needs to be addressed. However, based on this WP 4, WP 8 and WP 9; REDD Cell along with the DFRS may be able to devise a clear roadmap on the institutionalization and implementation of MRV.	Being unknown the network environment (CED) and the internal organization in charge of the system administration it is not possible to foreseen the server hosting, its administration neither its integration in the network. As noticed using WP_04, WP_08 and WP_09 it is possible to draft a roadmap for the institutionalization and putting into services of IT MRV system, as all needed information are provided.
		Detailed system architecture is recommended in Annex so that the upgrading and adding of additional components may be possible in the future.	Not incorporated. However, database model is presented with ER diagram in Figure 6.	The System architecture is explained in chapter 1 paragraph 3 of WP4, it highlighted the internal structure (visualization system and software architecture) and the external clients' link. MRV Nepal User Manual shows

Report Section/ Sub Section	Page	Review/Observations/Suggestions	Review of the Commented Revisions	
				the machines IP addresses (actual and real), the Tomcat server addresses, di Liferay and database models with users (WP_09 Summary of system configuration).
1. The MRV System – IT Platform	1	In the system architecture diagram, what is the OS? Linux/Win. Which Linux kernel is the used?	Not clarified. Is this a dedicated Linux (CentOS 6.5) or guest OS hosted on a virtualized environment on top of Win/Linux platform?? Text in page 5 suggests, CEntOS is hosted on VirtualBox.	Database is located in the virtual machine running throughout the Virtual Box on the actual server. The Virtual machine OS is the CentOS 6.5 (Linux, kernel 2.6.32). Same OS (CentOS 6.5) is used for the actual server.
1.2 Technological Features of the IT platform	2	Does this mean mobile devices (tablets. smart phones with net connections)??	Well incorporated/revised	
	4	Why two versions of Tomcat servlet container? Geoserver, Geonetwork runs in Tomcat 7 as well.	Well incorporated/revised	
1.5 Private features of the IT platform	8	Statement is not clear, please considering rephrasing	Well incorporated/revised	
	8	Please mention/refer the algorithms for calculations	Well incorporated/revised	
	8	Biomass calculation equations needs to be referenced		
2. The MRV System - GIS Platform	10	Group under server platform (CentOS, Apache httpd) , database, web container,	Well incorporated/revised	

Report Section/ Sub Section	Page	Review/Observations/Suggestions	Review of the Commented Revisions	
		mapping service, catalogue service, desktop app. Etc		
GeoServer	11	Why WFS and WCS are not prototyped/implemented?	Well clarified/incorporated/revised	
NFMS WebGIS Platform	12	Is this mandatory? If yes, why. What about other desktop platforms?	Well clarified/incorporated/revised	
2.2 The WebGIS geoportal	12	MRV pillars referred in page 1 and this is not consistently referred	Well incorporated/revised	
	13	Mention the standards viz. WFS, WMS, WCS etc	Well incorporated/revised	

B.   Summary of Comments on WP7 Remote Sensing of MRV- Activity Data Monitoring (Review of revisions made by AGRICONSULTING)

Report Section/Sub Section	Page	Review/Observations/Suggestions	Answer to the comments from Redd Cell	Review of the Commented Revisions	
1.5 Estimation of Uncertainties	10	Suggested to refer the papers, other publications	The key publications are already mentioned in the text (GOFC-GOLD 2012; Sanchez-Azofeifa et al. 2009). In these documents, further references can be found.		
2 Review of Data Sources, Methodologies and Tools Remote Sensing Data	14	Further clarification for "not recommending" for MRV in Nepal is appreciated	The reason is explained in the previous paragraph "but are not yet a robust option for operation MRV systems at national level (Olander et al. 2012)". The same concept (these are tools with good potentialities but with limited applicability at the moment for operational MRV at national scale		

Report Section/Sub Section	Page	Review/Observations/Suggestions	Answer to the comments from Redd Cell	Review of the Commented Revisions	
			is underlined in many other documents (e.g. GOFC-GOLD 2012). These are interesting tools for specific applications or limited areas, not for an operational, cost-effective, and nation-wide MRV (which is the focus of this paper).		
	14	Does this refer to atmospheric correction and terrain normalization? Terrain correction and terrain shadow removal is very critical and important on the account of very steep and hilly terrain starting from the Churia to the Highhimalaya. It is recommended to address this challenge in image processing	The document makes a general reference to the steps required because these largely depend on both the source of the images (and their pre-processing level) and final goal (for visual interpretation, some of these corrections are not as relevant as for pixel classification methods). Atmospheric correction and orthorectification are part of this process, as well as shadow removals, where needed. A reference to another paper is given for more details. A more specific reference to shadow detection is now included in the text, but the precise pre-processing steps will have to be identified once data source, level of preprocessing and classification method will be decided by REDD Cell.		
2 Review of Data Sources, Methodologies and Tools Software Tools	16	It is suggested to differentiate between commercial-of-the-shelf products and free and open source software. Also highlight	An extensive answer is already in chapter 5.2 that is entirely dedicated to this topic.		

Report Section/Sub Section	Page	Review/Observations/Suggestions	Answer to the comments from Redd Cell	Review of the Commented Revisions	
		and clarify, if open source software tool can be an alternative to commercial software on the grounds of financial resources, ease of learning and institutionalization within MRV framework in Nepal.			
2.1 Review of Recent and On-going Experiences in Nepal	17	Definiens Software is now termed as Trimble eCognition. Please review and revise if necessary.	The name of the software is taken from the available FRA documentation. In any case, a note has been added to the text.		
2.1 Review of Recent and On-going Experiences in Nepal Terai Arc Landscape Project	17	I wonder if FCD mapper does perform ortho-rectificaiton and radiometric Enhancement (?). It estimates forest crown density based on LANDSAT derived indices and mentioned below. Please confer this statement with the documentation/ reference from TAL.	In the text is reported a synthetic summary of the documentation available for each project (4/5 lines). It is not within the scope of this document to make a complete review of the software used by other projects or to give a detailed description of their methodology. The information provided is sufficient to give a general ideas of the different approaches used.	Authentication of the statements in the available secondary documentation might be useful. Since this WP-7 is a technical document, statement cited from the available document needs to be verified/filtered if the information may be misinterpreted as in this case. Please reconsider.	Sentence rephrased
	18	Physiographic regions viz. Terai,	This is a general information to	For Terai, Hills and	Sentence

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Report Section/Sub Section	Page	Review/Observations/Suggestions	Answer to the comments from Redd Cell	Review of the Commented Revisions	
		Churia, Mid Hill, High Mountain and High Himalaya might be more relevant.	describe the physiography of the country, not a functional division of Nepal to be used for forest-related analysis.	Mountains, use the terminology "Ecological Regions" and not the "physiographic region". Forest related analysis are now deemed necessary at the Physiographic Regions, as the situation of forest and degradation/deforestation are different in these regions, as is the drivers. The ongoing national inventory is also designed at physiographic regions level. Therefore, it becomes logical to follow consistent sub-national level definitions.	rephrased
		Licensing of the RapidEye images stipulates "all civilian use" inferring that the image in its purchased form (Level 1b) can be used for all civilian purposes. FRA Project and DFRS has processed the images with value addition of orthorectification and atmospheric correction. Distribution of these value added products is liable	We received the RapidEye images from the FRA project with the specific request to not disseminate them to any subject. We have no direct access to the agreement between FRA, DFRS and the image provider, so it was impossible for us to assess the possibility to further disseminate them. As DFRS is a	Definitely, a third party may not disseminate/distribute the images. However, DFRS can share the images to "all-civilian" purpose. Therefore, data can be used by other projects/users with the	Sentence rephrased

Report Section/Sub Section	Page	Review/Observations/Suggestions	Answer to the comments from Redd Cell	Review of the Commented Revisions	
		to rules and regulations (data sharing protocol) of the DFRS.	technical partner of the ReddCell, they can clarify this aspect.	consent of DFRS BUT cannot re-sale/re-distribute with commercial purpose. Statement in the report is suggested to be rephrased accordingly.	
	19	Clarification for recommending this time frame is suggested	From the text: "According to the requirement analysis discussed in the previous section, to the official guidelines and to the recommendation reported in the bibliography".		
3.1. Proposed Methodology	19	Use "defined number" instead of "limited number" of land cover classes	"Defined" can be a very large number, while we indicate that just a "reduced" number of classes (e.g. less than 10) should be used. "limited" is thus the correct word.	Clear recommendation of proposed land cover classes may be helpful. "Defined/limited" may be ambiguous to interpretation. Suggestions of defined classes and their definitions perhaps according to LULUCF/ National land use policy or other could clarify the confusion within the forestry sector on MRV requirements for land use/land cover.	In table 1 is provided the list of recommended classes. Added a reference to the table.
		FAO defines Forest criteria "as	The proposed MMU is a compromise		

Report Section/Sub Section	Page	Review/Observations/Suggestions	Answer to the comments from Redd Cell	Review of the Commented Revisions	
		minimum of 0.5ha", MMU of 5ha will result in generalization/ Merging of patches less than 5ha. Please clarify on this statement and requirement of the MMU	between the information that can be extracted at national level with the available data in a cost-effective process and the requirement of spatial resolution. It is not very useful an information provided at 0.5 hectare that is not reliable. As specified in the text, to keep the potential heterogeneity of the MMU in consideration, the use of mixed classes is recommended.		
	20	Needs to be specific whether LandsatTM or ETM+	From the text "From 2013 on, Landsat 8 provides a complete coverage of the country every 2 weeks". In case of images before 2013, it depends on the data available ad the date required. A note on the failure of Scan Line Corrector (SLC) of the ETM+ on 31st May 2003 has been added to the text.		
	20	LANDSAT ETM+ has SLC effect after 2001/2002, therefore suggest to mention specifically whether TM/ETM.	See explanation above.		
	20	Possibility of acquisition of mid-resolution and high resolution optical and SAR images through GFOI/ GEoFCT initiative is worthwhile to be explored and recommended. Nepal is	The aim of this document is to identify an operational, cost-effective, and nation-wide MRV for the REDD-CELL. In this perspective, these images are not a practical		

Report Section/Sub Section	Page	Review/Observations/Suggestions	Answer to the comments from Redd Cell	Review of the Commented Revisions	
		the demonstrator country of GFOI and DFRS is the National Demonstrator authority	solution to answer the identified requirements. They are very interesting as "pilot" or "research" initiative, which are out of the scope of the document.		
	20	pre-processed image products (especially orthorectified) from the vendors tend to have significant geometric errors for higher resolution imageries as in the case of FRA's RapidEye 3A product. Therefore, geometric corrections and atmospheric corrections may be recommended to be undertaken by the MRV RS/GIS team. Technical trainings have been conducted by the FRA in case of DFRS RS/GIS team which will presumably assume the role of MRV RS/GIS unit as well.	As outlined in the response to a previous comment, the exact pre-processing chain will depend on which kind of image will be acquired and on a number of additional factors related to the quality of the image (e.g. presence of clouds, physiography of the area). Moreover, as noted in the comment, DFRS has the capability to manage this process, so it is not needed to provide very detailed technical specifications for this sub-task. In any case, a sentence about this has been added to the text.		
	21	Using a higher resolution Google Earth/Bing images and other sources.	It has been added to the text "For example" (although not many other sources of free and accessible high resolution images are available on the web for Nepal).	May have missed out in the revised text. Please revisit the report text.	In the version provided, the sentence starts with "For example". To be sure, the sentence has been rephrased again.
	21	Other possible difficulty might be changes in river courses generally in	A change in the river courses is one of the many land cover changes that		

Report Section/Sub Section	Page	Review/Observations/Suggestions	Answer to the comments from Redd Cell	Review of the Commented Revisions	
		the Terai region, which might affect the change analysis over longer period of time. - Worthwhile to mention this as well	a proper change assessment should be able to detect.		
	22	Replace "lumping" with "combining". Please use appropriate terminology	"Lumping together" is a synonymous of combining/associating. This is not a jargon. In any case, the text has been modified.		
	23	Technical definition of "Open" and "Closed" is suggested. For eg. 10-30 % crown density - open ....or any other forest physiognomic/ structure parameter used	The definition of open/closed forest is given in other technical papers of the MRV project.		
	23	Is shrub included in OWL? Need to specify	From the text "Other Wooded Land (e.g. shrubs, trees out of forest)".		
4. Remote Sensing for MRV at Sub-National Level	24	Possible recommendations for sub-national level (physiography, regional, zonal, river basin etc) is suggested	A sentence is added to recommend river basins, but they sub-level that will be used is also (and probably mainly) a "political decision" rather than a technical issue.	Well incorporated/revised.	
4.1 Proposed Methodology	25	ASTER generally may not have continuous coverage and even the adjacent images may have gaps. The acquisition process of ASTER is through the LPDAAC, which is sometimes difficult. The sections above, mentions LANDSAT and the latest LANDSAT 8 which can be	Aster is mentioned because is the cheapest option. A sentence is added to highlight the difficulty to create mosaics of different images if the study area falls into different scenes. This is still a good option for the local level in many cases. Fusion of a panchromatic band at 15 meters		

Report Section/Sub Section	Page	Review/Observations/Suggestions	Answer to the comments from Redd Cell	Review of the Commented Revisions	
		accessed relatively easily through GLOVIS. Fusion of LANDSAT PAN (15m) with MSS can yield MSS with 15 m resolution, which is similar to ASTERS 1,2 and 3 N/B bands. Please reconsider the ASTER Option with possible others.	with bands at 30 meters can partially improve the spatial resolution, but it is different from bands that have the original information taken at 15 meters. Landsat is already cited in the text as a possible alternative. A sentence has been added to recommend the use of the panchromatic band to improve the spatial resolution in case Landsat are used at local level.		
	26	Floristic classification has been defined by the FRA/DFRS based on the dominance of the species. Reference can be made to this document which has been approved.	This document was not available to the MRV project before the end of the project. We still do not have this document.		
4.4. Results of the Exploratory Analysis in the Pilot Area	27	Was the field data collection part of TOR and the proposed method by the Agriconsulting during the tendering? If these have been the part of the project proposal, perhaps this statement may be contradictory to be mentioned in the report	No field data collection was part of the TOR of the MRV project, as many times discussed and confirmed during the technical meetings with the experts from the World Bank. However the MRV Team has performed field visits and interviews with local stakeholders in the pilot areas where MRV acivities have been performed by other Projects at local level, in order to study the past experiences		
	27	Was this GeoEYe image from Google	In full resolution for the pilot area		

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Report Section/Sub Section	Page	Review/Observations/Suggestions	Answer to the comments from Redd Cell	Review of the Commented Revisions	
		Earth or was GE image procured in full resolution for the pilot area?	(provided by ANSAB)		
Data Sources	28	Mention the sources of these datasets	There is a dedicated working paper with all the metadata of the data used by the MRV project.		
	30	Also mention the spectral resolution in bandwidth	References added to the text.		
	31	Database schema is suggested to be presented using a UML Class diagram or ER diagram, this is the implementation of database in PostGIS and can be presented in an annex	The database content and structure is presented in another working paper as this paper is focused on the remote sensing component.		
Classification methods and outputs	32	What are the criteria of "dominancy"? Is it the percentage coverage or other parameter, please elaborate	Dominant is the class that cover the majority of the polygon (i.e. more than 50%). A note as been added to the text .		
	34	Has terrain normalization and BRDF corrections been applied? Recommendation of terrain and BRDF corrections is suggested to be included in the proposed RS method.	We used RapidEye images provided by the FRA project, which are supposed to be already preprocessed. The pre- processing steps are discussed previously.		
	35	Accuracy assessments (perhaps based on Google Earth based samples, in the absence of field data) is suggested with comparisons of overall accuracies and reliability of these three methods.	Google earth images are an option, but images of the proper date are necessary, especially when the land cover change is assessed every 2 years, and this can be a strong constraint to the use of Google Images. The possible data sources of		

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Report Section/Sub Section	Page	Review/Observations/Suggestions	Answer to the comments from Redd Cell	Review of the Commented Revisions	
			validation at national level are discussed in the specific section. At local level, the participation of local communities to the field data collection is a key point of the methodology, so at local level field data collection is feasible.		
Land cover change preliminary results	36	What is the MMU (minimum size of the changed polygon) of the changes that were compared?	As can be clearly inferred from the methodology adopted, the minimum mapping unit is the same defined for the land cover maps.		
	38	Method for accuracy assessment of the change analysis is recommended to be included.	In this section we present the result of the pilot study as an example to illustrate the methodology. A discussion of the accuracy assessment is included in the section related to the methodology.		
5.1. Human Resources and Capacity Building	39	What is the relevant of 40 projects?	This comment is not clear. The estimation of 40 local studies (changed to 60 according to the revised number of components of the RS/GIS team) that is the work load that can be done by experts, based on the average time that a single local study can take. If more (or less) local studies will be realized, the resources required will change accordingly		

C.   Summary of Comments on WP10 Fill Cost Proposal (Review of revisions made by AGRICONSULTING)

Comment	Text or Action	Review of the Commented Revisions	Final comment
Page: 13 Number: 1 Subject: Rectangle Date: 5/18/2014 1:19:58 PM ICIMOD and WWF may be categorized under NGOs	Requested correction has been made	Well incorporated/revised.	
Page: 18 Number: 1 Subject: Comment on Text Date: 5/18/2014 12:38:45 PM The role of the advisory committee needs to be clearly proposed. Organizational representative in the advisory committee needs to be specifically proposed. The examples suggested may not completely suffice the representation in the advisory committee, for instance IOF/TU has not been spelled others possible may be MoSTE, FECOFUN, NFA etc. Organizations with advisory capacity needs to be assessed	Text revised	Well incorporated/revised.	
Number: 2 Subject: Comment on Text Date: 5/17/2014 10:27:20 PM Change RONAST to Nepal Academy of Science and Technology (NAST)	Requested correction has been made	Well incorporated/revised.	
Page: 20 Number: 1 Subject: Oval Date: 5/18/2014 1:17:43 PM typo – Forum	Typing mistake corrected	Well incorporated/revised.	
Page: 21 Number: 1 Subject: Comment on Text Date: 5/18/2014 1:33:05 PM FRA has developed Open Source Forest Information System (OSFIS). This system in its current stage, manages the inventory data, spatial data sets and also has a standard platform for data dissemination. The OSFIS, however may not be considered as a full management Information System as the system is primarily designed for the ongoing inventory only. It	The comment was integrated into the Report	Well incorporated/revised.	

Comment	Text or Action	Review of the Commented Revisions	Final comment
needs to be upgraded to enable continuous monitoring of the permanent sample plots with advance UIs and modules and database structure. Therefore, it is suggested to mention FRA system as the OSFIS and recommend its upgrading to the NAFMIS			
Page: 23 Number: 1 Subject: Comment on Text Date: 5/18/2014 1:42:39 PM Is this 6 man days/month or 6 man month / year? The statement is not clear.	Clarification is given	Well incorporated/revised.	
Number: 2 Subject: Comment on Text Date: 5/18/2014 1:44:15 PM also include server system, OS, firewalls, web services etc.	Clarification is given	Well incorporated/revised.	
Number: 3 Subject: Comment on Text Date: 5/18/2014 1:48:09 PM Generation of all the standard tabular data, graphs and reporting needs to be automated in the proposed NAFMIS and the reporting and other units under the MRV section should be able to generate them using the automated query functions. Graphs and tabular data needs to pre-designed considering all the analysis and reporting needs. Standard GUI should be inbuilt in the NAFMIS system to execute complex SQL statements which can even be run by non-SQL trained personnel.	The implemented prototype is already provided with predefined query on tabular forested data, producing synthetic reports. Standard GUI and layout for reports will be built once the MRV system will be integrated in the NAFMIS, on the basis of the MRV report guidelines, at the moment not yet published in the REDD+ framework programme.		
Number: 4 Subject: Comment on Text Date: 5/18/2014 1:49:21 PM This also needs to be automated.	Same as above		
Number: 5 Subject: Comment on Text Date: 5/18/2014 1:53:52 PM Please review this requirement. Due to the	The quantity of resources needed according to the recommendations	Well incorporated/revised.	

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Comment	Text or Action	Review of the Commented Revisions	Final comment
scale and volume of the works at the national/sub nation level and the frequency of updating needed, RSGIS unit should have 3 levels of technical personnel. Level 1 - experts/specialists (2 nos), Level 2- analysts (3-4 nos) and Level 3- technicians (3-4 nos). This requirement also needs to consider additional personnel due to difficulty of retention of the skilled personnel in the government departments.	has been revised. Keeping in mind that the MRV structure should be as flowing as possible. The possibility of outsourcing is also discussed and budgeted		
Number: 6 Subject: Comment on Text Date: 5/18/2014 1:56:10 PM Is it the same as RSGIS?	Typing mistake corrected	Well incorporated/revised.	
Page: 25 Number: 1 Subject: Comment on Text Date: 5/18/2014 2:22:41 PM Not clear, rephrasing sentence structure needed.	Requested correction has been made	Well incorporated/revised.	
Number: 2 Subject: Comment on Text Date: 5/18/2014 2:24:27 PM Is this the REL forest base map of 1993?	Explanation given in the text	Well incorporated/revised.	
Page: 29 Number: 1 Subject: Comment on Text Date: 5/18/2014 3:59:10 PM	Text revised	Well incorporated/revised.	
Review of this sub-section		Well incorporated/revised.	
Page: 33 Number: 1 Subject: Comment on Text Date: 5/18/2014 4:14:21 PM FRA Nepal Project	Typing mistake corrected	Well incorporated/revised.	
Page: 35 Number: 1 Subject: Comment on Text Date: 5/18/2014 4:17:09 PM Please revise this map with the clusters in the High Mountain and High Himalaya photographic regions.	As mentioned, the FRA Nepal Project is still on-going. The map presented illustrates the most updated information received by the MRV Project from FRA Nepal Project. It is expected that the final FRA Nepal cluster allocation may	FRA now has completed the inventory and has the locations of all the inventoried plots. If possible, it is recommended to revise this map. Please request FRA for the map they have already prepared.	The information on FRA samples location reflects the information made available by FRA Nepal to us while our Project was still in operation, as clearly specified in the Report. We

Comment	Text or Action	Review of the Commented Revisions	Final comment
	differ. A footnote was added		never officially received the final report of FRA, so we cannot make corrections.
Page: 36 Number: 1 Subject: Comment on Text Date: 5/18/2014 4:28:50 PM Figure of FRA sample plot design is suggested	Figure added	Please cite the source of the figure and include a caption.	The source is FRA Nepal as we specified in the text that we used their methodology for the sample plot design
Number: 2 Subject: Highlight Date: 5/18/2014 4:29:03 PM	Typing mistake corrected		
Page: 38 Number: 1 Subject: Comment on Text Date: 5/18/2014 4:34:31 PM Review of the Final FRA Terai Report is recommended focusing on the forest soil chapter.	This Interim Report was used since the FRA Nepal Final Report on Terai was not available during the MRV Project implementation. A footnote was added	This correlation analysis has been excluded from the Final FRA Terai Report and the working paper has not been published yet. Therefore it is suggested to take caution on presenting these results and citing FRA. Please reconsider this reference text again.	This Interim Report was taken in consideration as draft FRA Nepal Final Report on Terai, however we are not aware whether these correlations have been confirmed in the final report. A footnote has been added in the document.
Number: 2 Subject: Comment on Text Date: 5/18/2014 5:49:46 PM Linux based web server platform (Apache http, Tomcat)	Requested correction has been made	Well incorporated/revised.	
Number: 3 Subject: Comment on Text Date: 5/18/2014 5:47:44 PM specific platform may not be recommended. Instead CMS (liferay, alfresco, wordpress, plone, zoomla, etc.) may be suitable	Requested correction has been made	Well incorporated/revised.	
Number: 4 Subject: Comment on Text Date: 5/18/2014 5:51:55 PM Expertise in Geoserver and Geonetwork is necessary	Requested correction has been	Well incorporated/revised.	

Comment	Text or Action	Review of the Commented Revisions	Final comment
based on the recommended MRV IT and GIS Platform WD 4)	made		
Number: 5 Subject: Comment on Text Date: 5/18/2014 5:53:15 PM Remote Sensing expert is likely to be experienced GIS user/expert as well therefore advance GIS skills is expected.	RS expert is not requested to be expert in advanced GIS	Well incorporated/revised.	
Page: 55 Number: 1 Subject: Sticky Note Date: 5/18/2014 5:55:46 PM Also add "Uploads and updates spatial data in the MRV	Requested correction has been made	Well incorporated/revised.	
PostGRE/PostGIS database and Geoserver Platform"		Well incorporated/revised.	
Number: 3 Subject: Comment on Text Date: 5/18/2014 5:56:40 PM Geoserver and Geonetwork Platforms	Requested correction has been made	Well incorporated/revised.	
Page: 56 Number: 1 Subject: Comment on Text Date: 5/18/2014 6:00:12 PM Suggested to re-think this proposed number as RSGIS unit is likely to require analyst/technicians as well. Similarly, the inventory unit will also require significant number of inventory technicians. .	See comment N. 5 on page 23. For the forest inventory up to 2 forestry experts are foreseen mainly with coordination and technical supervision tasks. Many tasks related to forest inventory will be dealt by GIS/Remote Sensing Unit (land cover mapping and handling of spatial data) and by the reporting unit (data processing and reporting). For the field work the proposal to rely on the existing field competences of the Department of Forests in its Central/Regional and	Well incorporated/revised.	

Comment	Text or Action	Review of the Commented Revisions	Final comment
	local structures has been made, as highlighted in Working Paper N.2 and 3.		
Number: 2 Subject: Comment on Text Date: 5/18/2014 6:01:35 PM Is international experts necessary??Probably needs justification	Clarification is given	Well incorporated/revised.	
Number: 3 Subject: Comment on Text Date: 5/18/2014 6:05:39 PM This paragraph needs to be cited as it seems to be copied from one of the FRA document.	Citation added	Well incorporated/revised.	
Number: 4 Subject: Highlight Date: 5/18/2014 6:02:40 PM	Typing mistake corrected	Well incorporated/revised.	
Page: 66 Number: 1 Subject: Highlight Date: 5/18/2014 6:16:21 PM	Typing mistake corrected	Well incorporated/revised.	
Number: 2 Subject: Comment on Text Date: 5/18/2014 6:17:15 PM Is it at CF compartments?	The approach to stratification is described in Working Paper N. 2	Well incorporated/revised.	
Page: 73 Number: 1 Subject: Comment on Text Date: 5/18/2014 6:31:14 PM Review of this section is similar to the section 4.1 of working paper 7	Text reviewed	Well incorporated/revised.	