

Specification of Website

For

National Designated Authority of Sri Lanka

(Ver.01)

JICA Expert Team
September 15, 2011
Colombo, Sri Lanka

Index

1. Objectives, Policy & Strategy

- 1-1. Objectives
- 1-2. Policy & Strategy

2. Details of CCD's Existing Website (as of April, 2010)

- 2-1. Environment
- 2-2. Site Map
- 2-2. Contents

3. Specification of CCD's web-pages (ver.01-02 as of Feb, 2011)

- 3-1. Structure
- 3-2. Contents
- 3-3. Function
- 3-4. Design

4. Architecture

- 4-1. Hardware for website creation
- 4-2. Source/Data Management
- 4-3. Network

5. Creation, Operation & Maintenance

- 5-1. CCD's Organization & Responsibility for each member of staff
- 5-2. Creation
- 5-3. Operation
- 5-4. Maintenance

6. Attachment

- 1) Specification of CCD's web-pages (ver.01-02 as of May, 2010)
- 2) Sample of Check Sheet

1. Objectives, Policy & Strategy

1-1. Objectives

- 1) Introduction of Designated National Authority of Sri Lanka
- 2) Awareness Rising of Clean Development Mechanisms
- 3) Disclosure as much CDM related data & information as possible
(Focus on those of Sri Lanka)
- 4) Promotion of Clean Development Mechanisms in Sri Lanka
- 5) Promotion of Investment on Clean Development Mechanisms Projects in Sri Lanka

1-2. Policy & Strategies

- 1) High Quality (Design, Structure and Data & Information)
- 2) High Usability (Design, Structure)
 - In compliance with *W3C(*1)* Recommendation
 - Utilization of External Cascade Style Sheet (CSS)
- 3) Popularity
 - Taking Search Engine Optimization into consideration
- 4) Standardization & Compliance (Copyright etc)
 - Introduction of Rules & Regulations for Website Management
 - Work-Process & Responsibility Visualization
 - Compliance (copyright)
- 5) **Demarcation for the DNA's website**
 - Focus on CDM (*other data & information are available at CCD's web-pages*)
 - Focus on basic & necessary information except for those of Sri Lanka (*setting hyperlink to other organization, such as UNFCCC for further data & information*)

*1 W3C ; World Wide Web Consortium

2. Details of CCD's Existing Website

2-1. Environment

Since Climate Change Division (hereinafter referred as "CCD") has already had its own website at www.climatechange.lk , CCD has made decision to allocate space for web-pages for Designated National Authority (hereinafter referred as "DNA") inside their existing website. Therefore we have to start from checking structure and contents of the CCD's existing website in order to find most suitable location for web-pages for DNA and avoid having duplication of contents in the same website. It is depending on the website owner's policy, however most of the case, it is not preferable to have the same contents to be shown in different pages in the same website. Therefore it is strongly recommended to continue to check the contents in DNA's website and make sure not to have any duplication at any other locations in the same website.

2-2. Site Map of Climate Change Division's existing website

Details are shown as

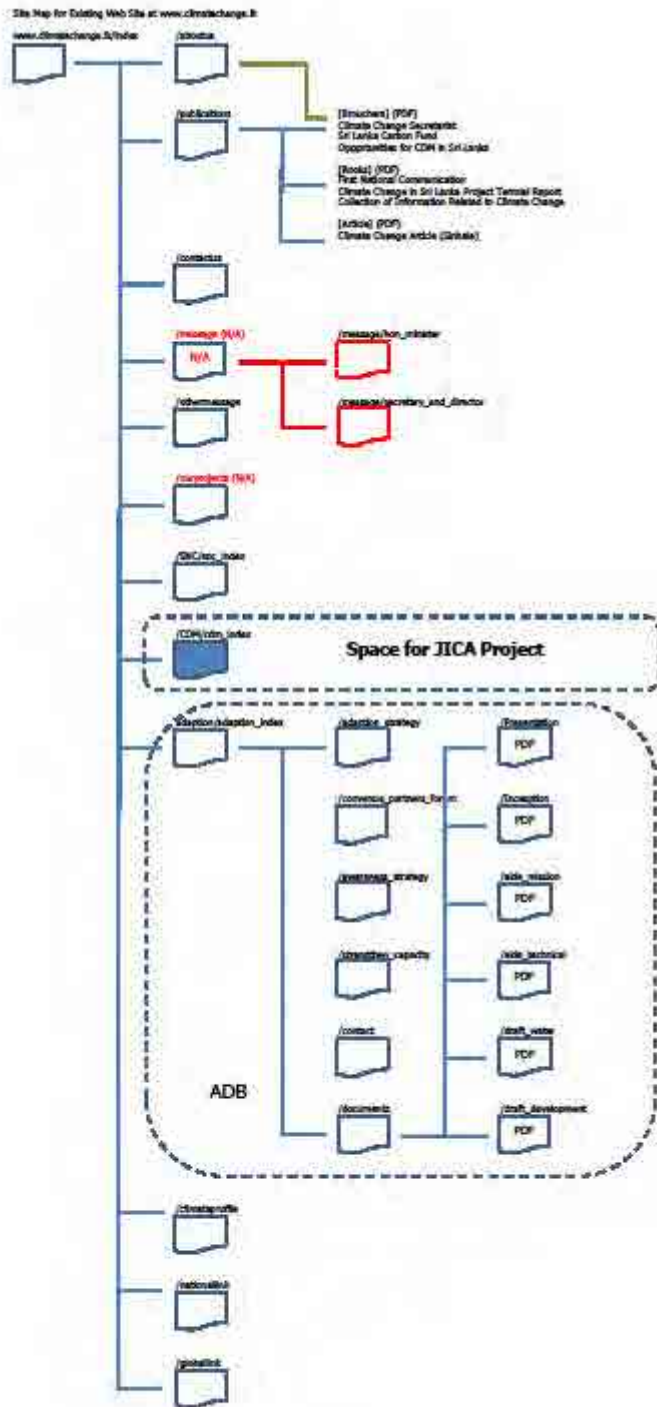
sheet 2-1. Site Map of Climate Change Division's existing website

2-3. Contents of Climate Change Division's existing website

Details are shown as per

sheet 2-2. Content of Climate Change Division's existing website.

Original = CCD Existing P1 (PDF)



Original = CCD Existing P2 (PDF)

Layer	Page	Content		Remark
1	home; /css_index.html	about us	Hyper Link	/about_us
		publications	Hyper Link	/publications
		contact us	Hyper Link	/contactus
		Message Hon. Minister	Hyper Link	n/a
		Message from Secretary	Hyper Link	/othermessage
		Message from Director	Hyper Link	/othermessage
		our projects	Hyper Link	n/a
		Second National Communication	Hyper Link	/snc/snc_index
		CDM	Hyper Link	/cdm
		Climate Change Adaption	Hyper Link	/adaption/adaptation_index
		Sri Lanka Climate Profile	Hyper Link	/climate_profile
		Links (National)	Hyper Link	/nationalink
		Links (Global)	Hyper Link	/globalink
		Picture	FIX	Slide Show / 8 pc in total
		Header + Footer	FIX	
		Our Vision	FIX	
		Our Mission	FIX	
2	about us; /about_us	Objective of CCS	FIX	
		NACC	FIX	
		SLOP	FIX	
		Sri Lanka Carbon Fund Page 1 & 2	Hyper Link	/documents/carbon_fund
		Opportunities for CDM in Sri Lanka Page 1 & 2	Hyper Link	/document/cdm/
		Header + Footer	FIX	
		FIX		
2	publications; /publications	[Brochures]	FIX	
		Climate Change Secretariat Page 1 & 2	Hyper Link	/document/ccs
		Sri Lanka Carbon Fund Page 1 & 2	Hyper Link	/documents/carbon_fund
		Opportunities for CDM in Sri Lanka Page 1 & 2	Hyper Link	/document/cdm/
		[Books]	FIX	
		First National Communication	Hyper Link	/document/fnc
		Climate Change in Sri Lanka Project Terminal Report	Hyper Link	/document/ntr
		Collection of Information Related to Climate Change	Hyper Link	/document/circ
		[Article]	FIX	
		Climate Change Article (Sinhala)	Hyper Link	/document/cca_s
		Header + Footer	FIX	
		FIX		
2	Contact Us	Organization Name	FIX	
		Address	FIX	
		TEL/FAX	FIX	
		E-Mail	FIX	
		Web Address	FIX	
		Header + Footer	FIX	
2	SNC; /SNC/snc_index	SNC		
		TOP	F/B	not active
		Header + Footer	FIX	
2	CDM			
		Header + Footer	FIX	
2	Adaption; /adaption/adaptation_index	[Key Project Components]		
		Develop a National Climate Change Adaptation Strategy	Hyper Link	/document/develop_NCCAS
		Convene a Partners Forum	Hyper Link	/document/convenue_PF
		Formulate Public Information and Awareness Strategy	Hyper Link	/document/formulate_PI
		Strengthen Capacity	Hyper Link	/document/capast
		Download	Hyper Link	/documents
		Contact Us	Hyper Link	/contact_us
		Header + Footer	FIX	
2	Sri Lanka Climate Profile; /climate_profile	Geography	FIX	
		Temperature	FIX	
		Monsoon	FIX	
		Reference Map	FIX	7 sheets
		Header + Footer	FIX	
2	Message (2)	Secretary		
		Director		
		Picture		2 pc
		Header + Footer		
2	National Link	Link in Sri Lanka		
		Header + Footer		
2	Global Link	Link in the World		
		Header + Footer		

Original = CCD Existing P3 (PDF)

Contents of Existing Web Site (Climate Change Secretariat) 2/2

as of ; April, 2010

Level	Page	Content	Remark
3	Climate Change Secretariat Page 1		
3	Climate Change Secretariat Page 2		PDF
3	Sri Lanka Carbon Trust Page 1		PDF
3	Sri Lanka Carbon Trust Page 2		PDF
3	Opportunity for CDM in Sri Lanka Page 1		PDF
3	Opportunity for CDM in Sri Lanka Page 2		PDF
3	First National Communication		PDF
3	Climate Change in Sri Lanka Project Terminal Report		PDF
3	Collection of Information Related to Climate Change		PDF
3	Climate Change Article (Shribara)		PDF
3	Download	Strengthen Capacity for Climate Change Adaption (Download Document)	PDF
		PPWG/PSC Meeting	Hyper Link /document/down_nsc
		Inception Report - TA7326	Hyper Link /document/ir_ta7326
		Aide Memoire-Inception Mission 20-24 Dec 2009	Hyper Link /document/am_im_051220
		Aide Memoire- Technical Mission 29 Mar - 2 Apr 2010	Hyper Link /document/am_ta_100329
		(Draft Sector Vulnerability Profiles (SVPS))	PDF
		Draft Water SVP-May 10	Hyper Link /document/draft_svp
		Draft Urban Development, Human settlements, Economic	Hyper Link /document/draft_ud_hs
4	PPWG/PSC Meeting		PDF
4	Inception Report - TA7326		PDF
4	Aide Memoire-Inception Mission 20-24 Dec 2009		PDF
4	Aide Memoire- Technical Mission 29 Mar - 2 Apr 2010		PDF
4	Draft Water SVP-May 10		PDF
4	Draft Urban Development, Human settlements, Economic		PDF

3. Detailed Design for new web-pages

3-1. Structure

- 1) Basic Concept ;
 - Simple
 - No dead-end pages except for pop-up
- 2) Details ; as per sheet 3-1. Structure

3-2. Contents

- 1) Basic Concept ;
 - Focus on CDM related data & information of Sri Lanka
 - All the documents and pictures to be uploaded into web-pages shall be in compliance with International & Domestic laws & regulations
(Documents to be uploaded shall be officially approved by Authority and pictures and/or image to be utilized shall be no copyright or those be approved by copyright Owners)
- 2) Details ; as per sheet 3-2. **Contents' List**

3-3. Function

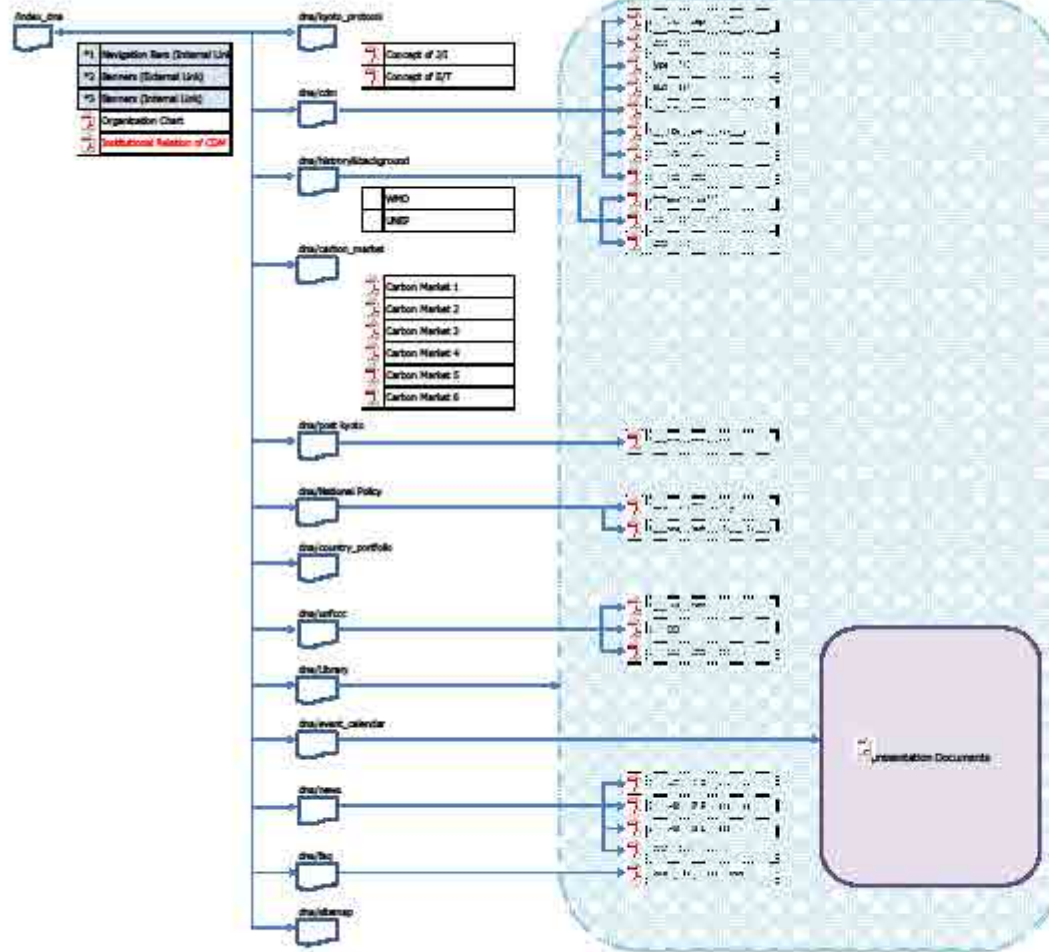
- 1) Basic Concept ;
 - Access Counter (Business Version) shall be equipped in website
 - Access Analyzer shall be introduced and utilized for access analysis
 - Any program request to work with ActiveX Control shall not be added
 - Setting Anchor points
- 2) Details ; as per sheet 3-3. Function List

3-4. Design

- 1) Basic Concept ;
 - United design for all pages other than html documents.
 - Utilization of Cascade Style Sheet
 - Put Update Info, News & Event Calendar at the top of index page
- 2) Details ; as per sheet 3-4. Draft design

Original = Web Spec-V01.02_P1 (PDF)

Navigation: Home | About | Contact | Search



Original = Web Spec-V01.02_P2 (PDF)

Layer	Title	URL	Subject	Contents	Source of Information	Approval	
						By	On
1	DNA	/dna/index	Introduction of DNA	Function 1) Evaluation & Approval 2) Capacity Development for CDM Project Development 3) CDM Market Promotion			
			Update Information				
			News				
			Event Calendar				
			Organization Chart				
			Institutional Relations of CDM				
			Banner (1) on TOP *1	Climate Change Secretariat			
			Banner (2) Navigation Bar *1				
			Banners (3) Direct Link *1	UNFCCC/POC/UNEP/ISO/JICA & IGES			
			Banners (4) Internal Link *1	CDM Row Chart/CDM Project & PDN Form			
2	Kyoto Protocol	/dna/kyoto_protocol	General Information				
			Keywords	UNFCCC GHG Annex I Parties & committed target Non Annex I Parties Kyoto Mechanisms (J/I, CDM, E/T, LULUCF)	UNFCCC Website UNFCCC Website UNFCCC Website UNFCCC Website		
			Joint Implementation / Emission Trading	Clean Development Mechanism Joint Implementation / Emission Trading LULUCF	UNFCCC Website UNFCCC Website UNFCCC Website	n/a	n/a
			Pictures	Kyoto-city	Microsoft		
			General Information				
			Description in the Kyoto Protocol				
			Keyword	CER AMU Removal Unit Baseline Emission Project Emission	UNFCCC Website UNFCCC Website UNFCCC Website UNFCCC Website UNFCCC Website		
			Institutional Background	CDP/HOP CDM Executive Board Methodology Panel Afforestation/Reforestation Working Group Small Scale CDM Working Group Registration and Issuance Team CDM Accreditation Panel	UNFCCC Website UNFCCC Website UNFCCC Website UNFCCC Website UNFCCC Website UNFCCC Website UNFCCC Website		
			CDM project development				
			Type of CDM project		UNFCCC Website		
1	History & Background	/dna/history	History & Background				
			Progress of Sri Lanka				
			Pictures				
1	Carbon Market	/dna/carbon_market	Carbon Market				
			Demands & Supply for Carbon Credit Carbon Credit Pricing Factors in the Market				
2	Post Kyoto	/dna/post_k	General Information				
			New Mechanisms				
			MRY				
1	National Policy	/dna/national_policy	Pictures				
			Mahindra Chintana				
			Harita Lanka				
			National Environmental Policy				
			National CDM Policy (Draft)				
2	Country Portfolio	/dna/country_portfolio	Other Related Documents		Central Environmental Authority		
			Country Portfolio	Outline of the Country GHG Emission & Absorption by GHG type GHG Emission & Absorption by Sector	Census of Central Bank (2010) 2nd National Communication 2nd National Communication		
			National Flag				

Original = Web Spec-V01.02_P3 (PDF)

Layer	Title	URL	Subject	Contents	Source of Information	Approval	
						By	On
2	UNFCCC	/dna/unfccc	General Information				
			COP/MOP				
			Organization				
			UNFCCC Website	http://cdm.unfccc.int/index.html			
2	Data & Information	/dna/data_info	DNA Related	Organization Chart			
				Institutional Relation for CDM project			
				CDM Projects in Sri Lanka	CDM Projects in Details (Name, Status & Others)		
				CDM Flowchart in Sri Lanka			
				PIN Form			
				Policies & Action Plans of Sri Lanka	National CDM Policy (Draft)		
					Action Plan on CDM		
					National Carbon Finance		
					National Carbon Finance Strategy		
					Presentation Document at Seminars & Workshops		
2	Event Calendar	/dna/news	Event Calendar			n/a	n/a
2	News	/dna/news	News			n/a	n/a
			Pictures	Pictures taken by CCD staff		n/a	n/a
2	FAQ	/dna/faq	Frequent Asked Questions	FAQ...			
2	Site Map	/dna/sitemap	sitemap			n/a	n/a

Original = Web Spec-V01.02_P4 (PDF)

Layer	Title	URL	Subject	Contents	Source of Information	Approval	
						By	on
3	CDM Chart in Sri Lanka	/data/CDM%20Development%20Chart%20E_110727.pdf					
3	CDM Projects in Sri Lanka	http://www.climatechange.lk/DNA/Registered_Projects.htm					
3	PTM Form	/data/PTM%20format.doc					
3	Documentary Requirement						
3	Host Country Approval Process	/data/host_country_approval.pdf					
3	Organization Chart	/images/ORG_Chart.jpg	Organization Chart of DNA	Organization Chart of DNA	DNA		
3	Institutional Relation	/images/IR_Structure.jpg	Contents	National Approved Criteria & Procedure	DNA		
3	Concept of J/I	/images/JI.png	Concept of Joint Implementation		Lecture of JICA Expert		
3	Concept of E/T	/images/ET.png	Concept of Emission Trading		Lecture of JICA Expert		
3	Basic Concept of CDM	/data/Basic_Concept_CDM.pdf	Basic Concept of CDM	Introduction of CDM	UNFCCC		
3	Governance	/data/CDM_Governance_01.pdf	Governance for CDM	Introduction of institution for governing CDM	UNFCCC		
3	Type of CDM	/data/CDM_Type.pdf	Type of CDM	Introduction of various types of CDM	UNFCCC		
3	EB21 Report Annex21	/data/EB21_ANNEX21.pdf			UNFCCC		
3	EB47 Report Annex29	/data/EB47_ANNEX29.pdf			UNFCCC		
3	CDM Project Database	/data/CDM_Database.pdf		CDM Project Database as of Sep 01, 2011	JICA/UNFCCC		
3	CDM Guidebook	n/a	CDM Guidebook				
3	CDM Broucheur	n/a	CDM Broucheur				
3	Statement 1985	/data/Statement%20by%20the%20UNEP%20on%20Vilach_1985.pdf		Statement issued at International Conference			
3	Agenda 21	/data/Agenda_21.pdf					
3	Carbon Market 1	/images/CARBON_MARKET_1.pdf		Introduction of Carbon Market 1	World Bank		
3	Carbon Market 2	/images/CARBON_MARKET_2.pdf		Introduction of Carbon Market 2			
3	Carbon Market 3	/images/Carbon%20Credit%20Price%20Index.jpg		Introduction of Carbon Market 3			
3	Carbon Market 4	/images/Breakdown%20of%20CER%20supply.jpg		Introduction of Carbon Market 4			
3	Carbon Market 5	/images/Demand%20of%20Supply%20of%20Carbon%20Credit.jpg		Introduction of Carbon Market 5			
3	Carbon Market 6	/images/Breakdown%20of%20CER%20supply.jpg		Introduction of Carbon Market 6			
3	Cancun Agreement						
3	National CDM Policy	/data/260209_National_Policy_CDM(Draft).pdf	National CDM Policy				
3	National Carbon Finance	n/a	National Carbon Finance				
3	National Carbon Finance Strategy		National Carbon Finance Strategy				
3	JI Implementation Article 6	/data/JISC_15_CF7.pdf	JI Implementation Article 6				
3	UNFCCC	/data/UNFCCC_Original.pdf	UNFCCC	Original Document of UNFCCC (1992)	UNFCCC		
3	Presentation Documents	/data	Presentation Documents at Seminar / Workshop		JICA Expert		
3	Exam & Answer	/data	Examination & Answer	from JICA project	JICA Expert		
3	News						

Legend :
 Descriptions in Blue Word(s) : Content(s) & Topic(s) with High Priority
 Descriptions with Pink Color in Back : Content(s) & Topic(s) in details shall be continued to discuss
 Description with Blue Color in Back : Frame shall be continued to consider
 Description with Green Color in Back : existing & consider to utilize as it is

Original = Web Spec-V01.02_P4 (PDF)

Sheet 3-3. Function List in Web Page(s)

No	Page Title	Link	Remarks	Type	Target	Comment
1	Menu Bar					
1	Home-CCD	I/L	http://www.climatechange.lk/ccs_index.html	htm	blank	
2	DNA	I/L	http://www.climatechange.lk/DNA/index_dna.html	htm	main	
3	Kyoto Protocol	I/L	http://www.climatechange.lk/DNA/kyoto_protocol.html	htm	main	
4	CDM	I/L	http://www.climatechange.lk/DNA/cdm.html	htm	main	
5	History&Background	I/L	http://www.climatechange.lk/DNA/history&background.html	htm	main	
6	Carbon Market	I/L	http://www.climatechange.lk/DNA/carbon_market.html	htm	main	
7	Post Kyoto	I/L	http://www.climatechange.lk/DNA/post_kyoto.html	htm	main	
8	National Policy	I/L	n/a	htm	main	
9	Country Portfolio	I/L	http://www.climatechange.lk/DNA/country_portfolio.html	htm	main	
10	UNFCCC	I/L	http://www.climatechange.lk/DNA/unfccc.html	htm	main	
11	Library	I/L	http://www.climatechange.lk/DNA/library.html	htm	main	
12	Event Calendar	I/L	http://www.climatechange.lk/DNA/event_calendar.html	htm	main	
13	News	I/L	http://www.climatechange.lk/DNA/news.html	htm	main	
14	FAQs	I/L	http://www.climatechange.lk/DNA/faq.html	htm	main	
15	Site Map	I/L	http://www.climatechange.lk/DNA/faq.html	htm	main	
2	Banner I					
1	UNFCCC	E/L	http://unfccc.int/2860.php	php	blank	
2	IPCC	E/L	http://www.ipcc.ch/	htm	blank	
3	UNEP/WHO	E/L	http://uneprisoe.org/	htm	blank	
4	JICA	E/L	http://www.jica.go.jp/english/	htm	blank	
5	IGES	E/L	http://www.iges.or.jp/en/cdm/report_kyoto.html	htm	blank	
3	Banner II					
1	CDM Flowchart	I/L	http://www.climatechange.lk/DNA/data/CDM%20Development%20Chart%20I_110727.pdf	pdf	blank	
2	CDM Projects in Sri Lanka	I/L	http://www.climatechange.lk/DNA/Registered_Projects.htm	pdf	blank	
3	PIN Form	I/L	http://www.climatechange.lk/DNA/data/PIN%20format.doc	doc	blank	
4	Others					
1	Other Internal Links (1)	I/L		htm	main	
2	Other Internal Links (2)	I/L		all	blank	
3	Other External Links	E/L		all	blank	
4	Anchor	I/L		n/a	Self	
5	Access Counter	n/a		JS	n/a	DNA page

Sheet 3-4. Draft Design (css_dna.css)

```
@charset "utf-8";
/* CSS Document */

<meta? Words_decoration>
.title1
  {font: bold 20px Verdana, Arial, Helvetica, sans-serif; color: #000099;}

.title2 {font: 15px Verdana, Arial, Helvetica, sans-serif; color: #000099;}

.title3 {font: bold 15px Verdana, Arial, Helvetica, sans-serif; color: #000099;}

.title4 {font: 12px Verdana, Arial, Helvetica, sans-serif; color: #000099;}

.text1 {font: 12px Verdana, Arial, Helvetica, sans-serif; color: #000000;
padding-left: 3px; padding-right: 3px;}

.text2 {font: italic 12px Verdana, Arial, Helvetica, sans-serif; color: #666666;}

<meta?Staructural Design>
p.header {background: url(climate_change_top.jpg) center; height: 120px;
width: 938px; border: 1px solid #000000;}

p.menu {font: 12px "Times New Roman", Times, serif; color: #FFFFFF;
background: #FFFFFF; width: 120px; border-right: 0px none
#000099; border-bottom: none #000099; border-left: 1px none
#000099; border-top-style: none; border-top-color: #000099;
position: absolute; left: 8px; top: 126px; height: 30px;}

p.menu a {color: #FFFFFF; background: #000099; display: block;
border-bottom: 1px solid #000099; border-top-style: solid;
border-right-style: solid; border-left-style: solid; border-top-color:
#000099; border-right-color: #000099; border-left-color: #000099;
padding-left: 2px; font: 11px/1.5em Verdana, Arial, Helvetica,
sans-serif; width: 122px; height: 25px;}
```

```
p.menu ahover {background: #FF0000;}
```

```
.img_float_l {clear: both; float: left; margin-right: 8px; margin-bottom: 10px;  
margin-left: 8px;}
```

```
.img_float_r {float: right; padding-right: 10px; padding-bottom: 10px;  
padding-left: 10px; margin-left: 5px; margin-bottom: 5px;}
```

```
.table_float_l {float: left; margin-right: 5px; margin-bottom: 5px; margin-left:  
5px;}
```

```
.table_float_r {float: right; margin-right: 5px; margin-bottom: 5px;  
margin-left: 5px;}
```

4. Architecture

4-1. Hardware for Website Creation

- 1) Computer ; ASUS Notebook of CCD
- 2) Authoring Application ; Dreamweaver CS3 (Non Licenced*1)

4-2. Source/Data Management

- 1) Original Source ; ASUS Notebook of CCD
- 2) Backup Data ; External Hardware (Personal Own)

4-3. Network

- 1) Mail / FTP Server

Provider Name	Lanka E-Works Private Limited
TEL/FAX	+94-11 2788394 / +94-11 2791203
E-Mail	info@lankaeworks.com
URL	http://lankaworks.com/
Capacity	200MB
Contract	A year basis / auto extension
FTP Username	climatec *2
FTP Password	pass*&^ *2
Mail Server Username	info@climatechange.lk
Mail Server Password	Abc123

- 2) Hardware (Network Devices available at LAN)

- ADSL Modem Router

Manufacturer Name	U.S. Robotics
Model Name	U.S. Robotics Wireless MAXg ADSL Gateway
Vender Name	Lanka E-Works Private Limited
TEL / FAX	+94 11 278 83 94 / +94 11 279 12 03
E-Mail	
Date Purchased	2008
Location	192.168.1.1
User Name	Admin
Password	Admin123

3) Internet Accessibility

- Domain

Domain Name	@climatechange.lk
NIC Name	Moratuwa University
TEL/FAX	+94-11 4216061 / +94-11 4219124
E-Mail	hostmaster@nic.lk
URL	http://www.nic.lk
Contract	A year basis / auto extension

- Internet Service Provider (ISP)

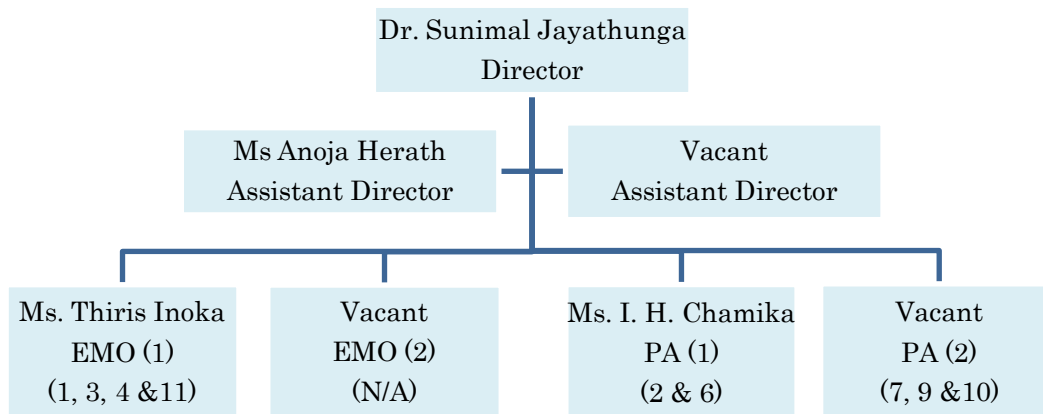
ISP Name	Sri Lanka Telecom (SLT)
TEL/FAX	Sri Lanka Telecom, Lotus Road, P.O.Box 503, Colombo 1, Sri Lanka. +94-11-2329711
E-Mail	pr@slt.lk / info@sltnet.lk
URL	http://www.slt.lk/
Connection Speed	512Kbps/ 2048 Kbps
Line No.	0112883481
Username	
Password	

**1 ; strongly recommended to be improved at soonest possible.*

**2: strongly recommended to be kept as confidential.*

5. Creation, Operation & Maintenance

5-1. CCD's Organization Chart



Responsibility

1. Review & Up Date the CDM policy, strategy and Action Plan in Sri Lanka
2. Liaise with the CDM Executive Board of the UNFCCC and submit necessary information
3. Oversee the Sri Lanka Carbon Fund and facilitate CDM activities in Sri Lanka
4. To carry out the function of DNA of Sri Lanka
5. Assess mitigation options and grant DNA approval for CDM project
6. To evaluate PIN and PDD of CDM projects
7. To identify and promote potential CDM projects in Sri Lanka
8. To identify potential buyers in Sri Lanka
9. To conduct training & awareness programs on CDM
10. To promote and cooperate for the research, development, demonstration, deployment, transfer and diffusion of new and existing technologies for CDM
11. To maintain an inventory and depository data base on research findings in relation to climate change mitigation

5-2. Creation

There is no permanent staff, who takes responsible for IT, working for CCD, while CCD employs Mr. Aurasha as temporary staff in charge of networking and website management and even website creation. As a result Project Implementation **Force for DNA's web**-pages creation is going to be set up as follows ;

1) Organization

Activities	Responsible Persons from CCD	JICA
Policy & Decision Maker	Director & Assist. Director	
Planning, Contents Selection (Wording, Images & Pictures)	EMO(1), PA(1) & PA(2)	Target 5
Technical Support for Creation (Design, Function, Authoring)	Mr. Aurasha	Target 5
Project Management	EMO(1), PA(1) & PA(2)	Target 5
Advisory (Contents)		All Experts

2) Authoring Application

We have selected "Dreamweaver CS3" as only the authoring application, as Mr. Aurasha gets used to the application for website creation.

5-3. Operation

1) Organization

	Party and/or Person
Responsible Person	Management Staff
Implementation	PA (1) and/or PA (2)
Technical Support	IT

2) Scope of Works

(1) Periodical Update

- (2) Corresponding with Visitors who contact DNA by E-Mail (info@climatechange.lk)

3) Operation Flowchart & Manual

As per sheet 5-1. Operation Flowchart for web-pages operation

5-4. Maintenance

1) Organization

	Party and/or Person
Responsible Person	Management Staff
Implementation	PA (1) and/or PA (2)
Technical Support	IT

2) Scope of Works

(1) Web-pages

- Periodical check of hyperlinks
- Periodical **check of CCD's website (for avoiding contents duplication)**

(2) Network

(2)-1. Hardware

Clean up all devices (connecting points, electric adaptor)

Check the Condition

(2)-2. Accessibility

Username & Password Control

(2)-3. Up-date Information

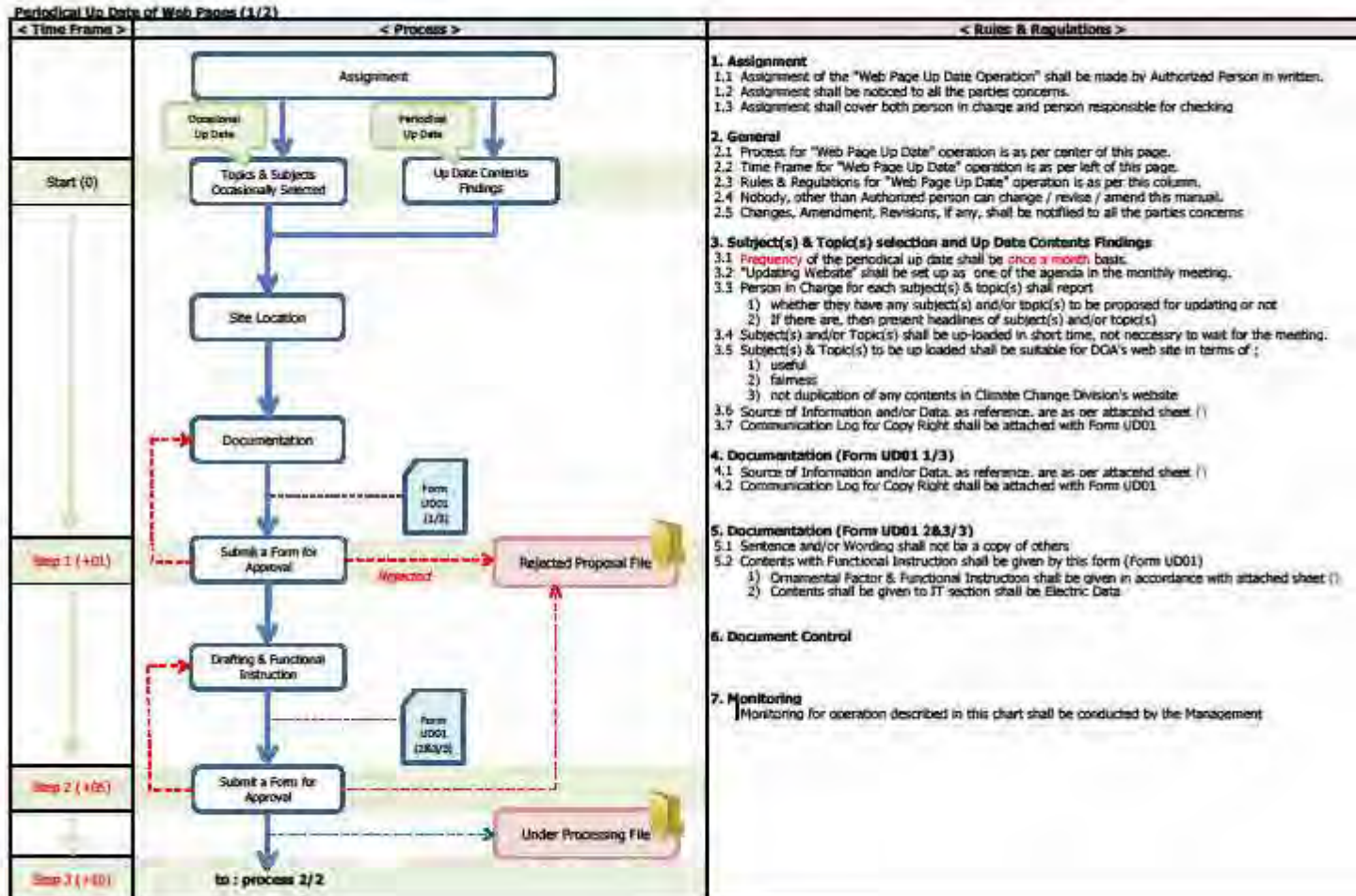
New Products/ Technologies

Security

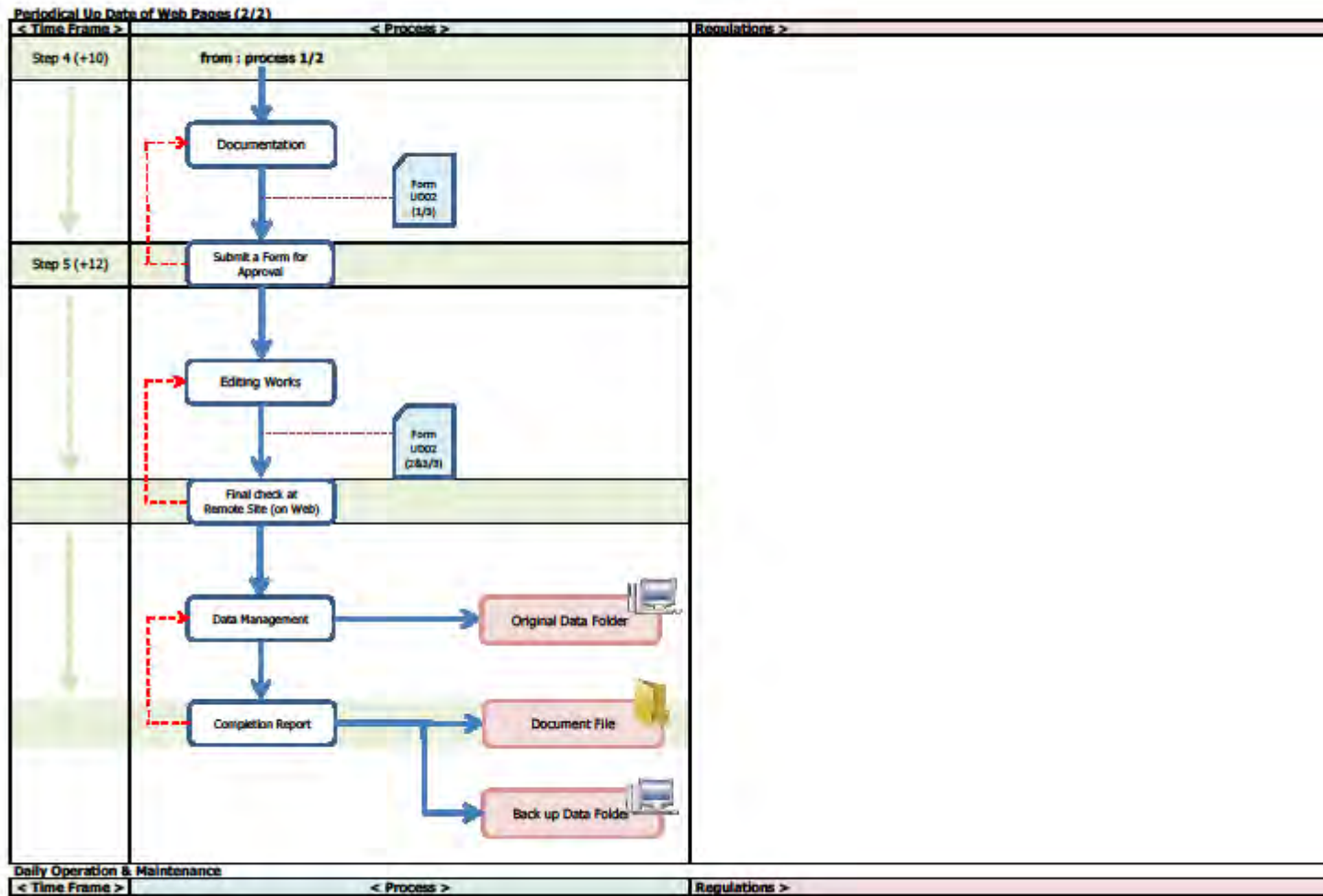
3) Operation Flowchart & Manual

As per sheet 5-2. Operation Flowchart for web-pages operation

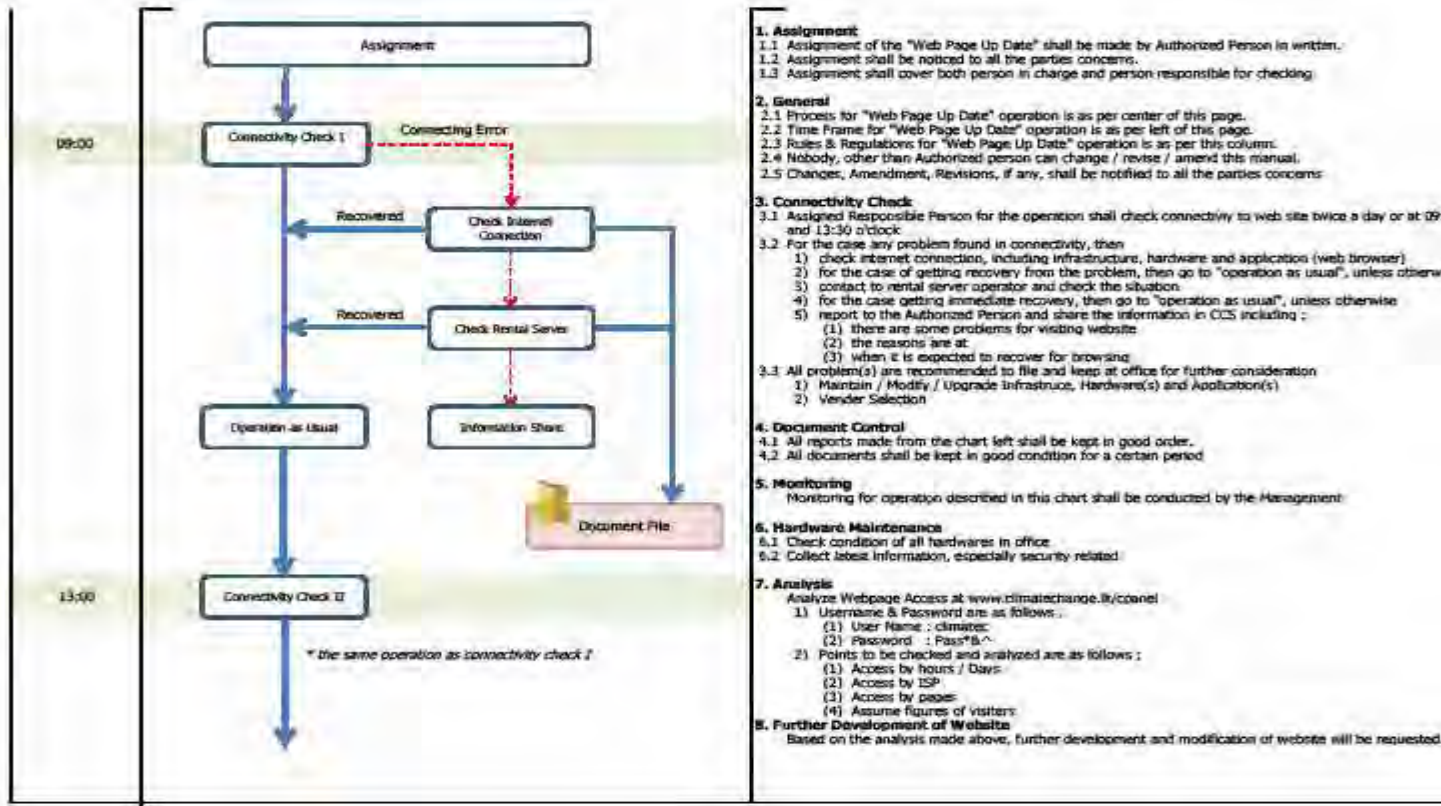
Original = Operation Manual P1 (PDF)



Original = Operation Manual P2 (PDF)



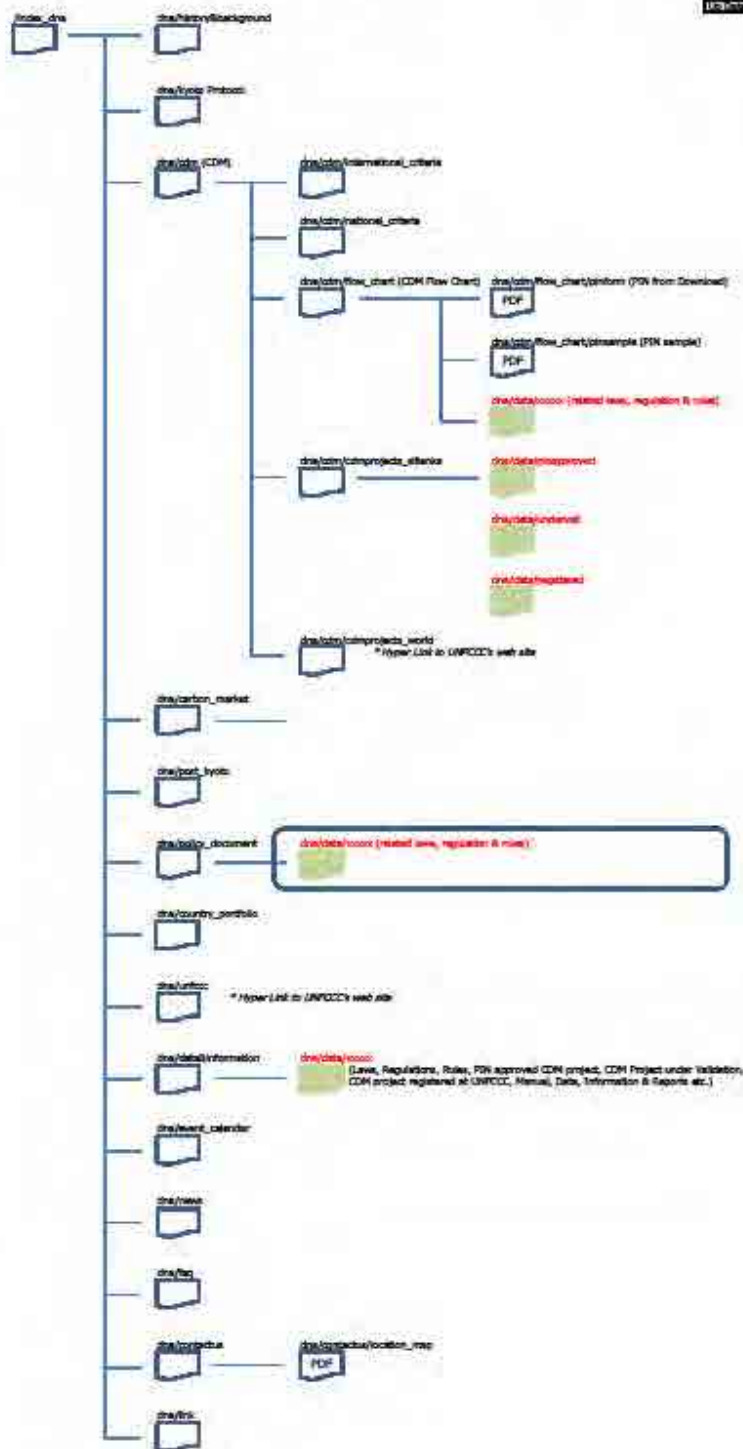
Original = Operation Manual P3 (PDF)



Attachment 1. Specification of CCD's web-pages

Attachment 1) - (1) Structure for Web Pages under climatechange.ky/index_dna (DNA)

URL	Content	Language	Format
index_dna		English	HTML
history/background		English	HTML
policy/abstract		English	HTML
index_cdm		English	HTML
index/informational_criteria		English	HTML
index/national_criteria		English	HTML
index/row_chart (CDM Row Chart)		English	HTML
index/row_chart/platform (PIN from Download)	PDF	English	PDF
index/row_chart/sample (PIN sample)	PDF	English	PDF
index/row_chart/sample (related laws, regulation & rules)		English	HTML
index/cdmprojects_alliance		English	HTML
index/cdmprojects_alliance		English	HTML
index/cdmprojects_alliance		English	HTML
index/cdmprojects_world		English	HTML
index/cdmprojects_world		English	HTML
index/carbon_market		English	HTML
index/post_hoc		English	HTML
index/policy_document		English	HTML
index/policy_document		English	HTML
index/country_portfolio		English	HTML
index/links		English	HTML
index/links		English	HTML
index/data/information		English	HTML
index/data/information		English	HTML
index/event_calendar		English	HTML
index/news		English	HTML
index/faq		English	HTML
index/contactus		English	HTML
index/contactus/location_map	PDF	English	PDF
index/links		English	HTML



Attachement 1) - (2) Specification of Web Page(s) subject to final confirmation & approval (1/3)

Layer	Type	URL	Contents	Attribution	Action	Operation	Remarks		
1	DNA	/dna	History & Background	Menu Bar (Frame 2)	L-Click	move to	/dna/history	Source : dna/menu	
			Kyoto Protocol	Menu Bar (Frame 2)	L-Click	move to	/dna/k_protocol	Source : dna/menu	
			CDM	Menu Bar (Frame 2)	L-Click	move to	/dna/cdm	Source : dna/menu	
			Carbon Market	Menu Bar (Frame 2)	L-Click	move to	/dna/carbon_market	Source : dna/menu	
			Post Kyoto	Menu Bar (Frame 2)	L-Click	move to	/dna/post_k	Source : dna/menu	
			National Policy	Menu Bar (Frame 2)	L-Click	move to	/dna/national_policy	Source : dna/menu	
			Country Portfolio	Menu Bar (Frame 2)	L-Click	move to	/dna/country_portfolio	Source : dna/menu	
			UNFCCC	Menu Bar (Frame 2)	L-Click	move to	/dna/unfccc	Source : dna/menu	
			Data & Information	Menu Bar (Frame 2)	L-Click	move to	/dna/data_info	Source : dna/menu	
			Event Calendar	Menu Bar (Frame 2)	L-Click	move to	/dna/event_calendar	Source : dna/menu	
			News	Menu Bar (Frame 2)	L-Click	move to	/dna/news	Source : dna/menu	
			FAQ	Menu Bar (Frame 2)	L-Click	move to	/dna/faq	Source : dna/menu	
			About us	Menu Bar (Frame 2)	L-Click	move to	/dna/about_us	Source : dna/menu	
			Link & Useful Contact	Menu Bar (Frame 2)	L-Click	move to	dna/link		
			DNA *	Menu Bar (Frame 2)	L-Click	move to	/dna	Source : dna/menu	
			Back to Home (CPS Top Page)	Menu Bar (Frame 2)	L-Click	move to	/climatechange.lk	Source : dna/menu	
			Logo	FIX	n/a	n/a			
			Up Date Information	Frame 3					Source : /dna/up_date_Frame Set = XXX
			Latest News	Frame 4					Source : /dna/news_Frame Set = XXX
			Event Calendar	Frame 5					Source : /dna/event_calendar_Frame Set = XXX
			Introduction of DNA In- Webpage						
			continue						
			Banner (1) for Direct Link to Key Info.				L-Click	move to	
Banner (2) for Direct Link to Key Info.				L-Click	move to				
Banner (3)				L-Click	move to				
Banner (4)				L-Click	move to				
2	History & Background	/dna/history	Background in the World	FIX				*CONSIDER TO ADD H-LINK WITH KEY WORDS	
			Progress of Sri Lanka	FIX					
			MENU BAR	Frame 2					Source : dna/menu
			Logo	FIX					
2	Kyoto Protocol	/dna/k_protocol	General Information	FIX				*CONSIDER TO ADD H-LINK WITH KEY WORDS	
			Kyoto Mechanisms (J/L, CDM, E/T)	FIX				*CONSIDER TO ADD H-LINK WITH KEY WORDS	
			MENU BAR	Frame 2					Source : dna/menu
			Logo	FIX					
2	CDM	/dna/cdm	General Information	FIX					
			International Criteria	FIX					
			National Criteria	FIX					
			Guideline	FIX	L-Click	Open New	/data/guideline		
2	Carbon Market	/dna/carbon_market	Small Scale CDM	FIX					
			Programmatic CDM	FIX					
			Flow Chart CDM Development	FIX					
			UNFCCC registered Projects (World)	FIX	L-Click	Open New	Hyper Link to UNFCCC's		
2	Carbon Market	/dna/cdm	Logo	FIX					
			Pictures	FIX					
			Market in the World (AAD & Emission)	FIX					
			Emission Reduction by Method (RMU,N/T)	FIX					
			Emission Trading	FIX					
			National Registry System	FIX					
			Potential Buyer(s)	FIX					
			Procurement Source(s)	FIX					
			Market Trend	FIX					
			Key Notes for Emission Trading	FIX					
			Logo	FIX					
Pictures	FIX								

Attachment 1) - (3) Specification of Web Page(s) subject to final confirmation & approval (2/3)

Layer	Title	URL	Contents	Attribution	Action	Operation	Remarks
2	Post Kyoto * Fact & Information only	/dna/post_k	General Information Pictures Logo	FIX FIX FIX			
2	National Policy	/dna/national_policy	General Information National Policy, Regulation, Gazette (1) National Policy, Regulation, Gazette (2) National Policy, Regulation, Gazette (3) National Policy, Regulation, Gazette (4) Pictures Logo	FIX FIX FIX FIX FIX FIX FIX	L-Click L-Click L-Click L-Click	open New open New open New open New	
2	Country Portfolio	/dna/country_portfolio	Pictures Logo	FIX FIX			
2	UNFCCC	/dna/unfccc	General Information Pictures Logo	FIX FIX FIX			* Hyper Link to UNFCCC's Website
2	Data & Information	/dna/data_info	Data & Information (1) Data & Information (2) Data & Information (3) Data & Information (4) Manual (1) Manual (2) Manual (3) Manual (4) Manual (5) Manual (6) Manual (7) Pictures Logo	 FIX FIX FIX			
2	News Calendar	/dna/news	Pictures Logo	FIX FIX			
2	News	/dna/news	Pictures Logo	FIX FIX			
2	FAO	/dna/faq	Pictures Logo	FIX FIX			
2	Contact Us	/dna/about_us	Administration Name Address Phone/FAX E-Mail Working Time & Contact Hours Administration Chair Introduction of members of staff Pictures Photography (NPO) & Address Pictures Logo	 FIX FIX FIX FIX			
2	Use & Useful Contact	/dna/link	Pictures Logo	FIX FIX			
2	Up Date Information	/dna/log	Log Pictures Logo	 FIX FIX			

Attachement 1) - (4). Specification of Web Page(s) subject to final confirmation & approval (3/3)

Layer	Topic	URL	Contents	Attribution	Action	Operation	Remarks	
3	International Criteria	/dna/cdm/inter_criteria	Contents	FIX				
			Pictures	FIX				
			Logo	FIX				
3	National Criteria	/dna/cdm/national_criteria	Contents	FIX				
			Pictures	FIX				
			Logo	FIX				
3	Flow Chart	/dna/cdm/flow_chart	Contents	FIX				
			Pin Form (Download)		L-Click	open New	/data/pin_form	
			Pin Sample		L-Click	move to	/data/pin_sample	
			Pictures	FIX				
			Logo	FIX				
3	CDM Projects in Sri Lanka	/dna/cdm/projects_ik	Contents	FIX				
			Pin approved projects		L-Click	move to	/data/pin_approved	
			Project under Validation (Sri Lanka)		L-Click	move to	/data/underval	
			UNFCCC registered Projects (Sri Lanka)		L-Click	move to	/data/registered_ik	
			Pictures	FIX				
Logo	FIX							

Legend :

Descriptions in Blue Word(s) : Content(s) & Topic(s) with High Priority

Descriptions with Pink Color in Back : Content(s) & Topic(s) in details shall be continued to discuss

Description with Blue Color in Back : Frame shall be continued to consider

Description with Green Color in Back : existing & consider to utilize as it is

Attachement 1) - (5) Content in Web Page(s) subject to final confirmation & approval (1/3)

Layer	Title	URL	Subject	Contents	Source of Information	Up Load			Responsible Person
						Initial	Second	Onward	
1	DNA	/dna	Introduction of DNA (in Reports)			2010/06	-	x	Ms. Inoka
			Pictures			2010/06	-	x	Ms. Inoka
			Banner (1) for Direct Link to Key Info.			2010/06	-	x	
			Banner (2) for Direct Link to Key Info.			2010/06	-	x	
			Banner (3)			2010/06	-	x	
			Banner (4)			2010/06	-	x	
2	History & Background	/dna/history	History & Background					x	Ms. Chamika
			Progress of Sri Lanka					x	Ms. Chamika
			Pictures					x	Ms. Chamika
2	Kyoto Protocol	/dna/k_protocol	General Information			2010/06	-	x	Ms. Deepani
			Kyoto Mechanisms (JIT, CDM, EIT)			2010/06	-	x	Ms. Deepani
			Pictures			2010/06	-	x	Ms. Deepani
2	CDM	/dna/cdm	General Information			2010/06	-	x	Ms. Deepani
			Small Scale CDM			2010/06	-	x	Ms. Deepani
			Programmatic CDM			2010/06	-	x	Ms. Deepani
			Flow Chart CDM Development			2010/06	-	x	Ms. Deepani
			CDM Guideline	from Activities in Target 4 (PDF)	from Activities in Target 4	2011/04	2011/07	x	
			CDM Statistics (World)	http://cdm.unfccc.int/Statistics/index.html		2010/06		x	Talaga
			Pictures			2010/06		x	
2	Carbon Market	/dna/carbon_market	Market in the World (AAU & Emission)					x	
			Emission Reduction by Method (RMU, J/T)					x	
			Emission Trading					x	
			National Registry System					x	
			Potential Buyer(s)					x	
			Procurement Source(s)					x	
			Market Trend					x	
			Key Notes for Emission Trading					x	
			Pictures					x	
			General Information						
2	Post Kyoto * Fact & Informative only	/dna/post_k	Pictures						
			General Information						
2	National Policy	/dna/national_policy	General Information			2010/06			Ms. Inoka
			National Policy (Draft)			2010/06			Ms. Inoka
			National Policy (Public Comments)			2010/06			Ms. Inoka
			National Carbon Finance Strategy of Sri Lanka			2010/06			Ms. Inoka
			National Strategy for Implementation of policy			n/a			
			Action Plan for Implementation of Strategy			n/a			
			Environment Impact Assessment	Central Environmental Authority		Jun-10			
			National Policy, Regulation, Gazette(s)			2010/06			Ms. Inoka
			Pictures			2010/06			
2	Country Portfolio	/dna/country_portfolio	Pictures						

Attachement 1] - (7) Content in Web Page(s) subject to final confirmation & approval (3/3)

Layer	Title	URL	Subject	Contents	Source of Information	Up Load			Responsible Person
						Initial	Second	Onward	
3	International Criteria	/dna/cdm/inter_criteria	Contents						Ms. Chamika
			Pictures						
3	National Criteria	dna/cdm/national_criteria	Contents	National Approved Criteria & Procedure	from Activities in Target 3	2010/09			Ms. Chamika
			Pictures						
3	Flow Chart	dna/cdm/flow_chart	Contents			2010/06			Ms. Chamika
			BDI Form (Download)			2010/06			
			BDI Sample			2010/06			
			Pictures			2010/06			
3	CDM Projects in Sri Lanka	dna/cdm/projects_sl	Contents						Ms. Inoka
			BDI <i>අනුමැතිය ලබාදීම</i>		from Activities in Target 3				
			<i>අනුමැතිය ලබාදීමේ ක්‍රියාමාර්ගය (Sri Lanka)</i>		from Activities in Target 3				
			UNFCCC - <i>අනුමැතිය ලබාදීමේ ක්‍රියාමාර්ගය (Sri Lanka)</i>		from Activities in Target 3				
			Pictures						

Legend :
 Descriptions in Blue Word(s) : Content(s) & Topic(s) with High Priority
 Descriptions with Pink Color in Back : Content(s) & Topic(s) in details shall be continued to discuss
 Description with Blue Color in Back : Frame shall be continued to consider
 Description with Green Color in Back : existing & consider to utilize as it is

GUIDE TO MITIGATION

Occurrences / intensity of natural disasters have magnified, thus loss of human life, financial loss, and/or environmental damages are intensified.



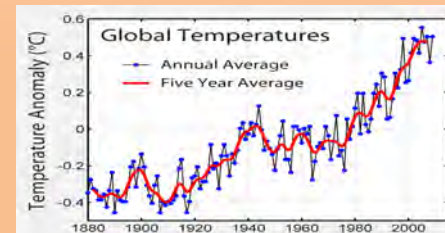
The Minister of Health Mr. Maitreepala Sirisena has appealed to the people and contribute to the relief assistance measures. The Minister has pointed out that the mats, mattresses, drinking water, medicine and other essential items. The floods have inundated 200,000 acres of paddy lands in the 5 major paddy cu estimated that rice harvest in the next season may go down by over 360,000 tons. have been damaged and another 300 Tanks and Reservoirs are reported to be in critic

(11.01.2011) The govern measures to help the peo the welfare of the disloc The relief assistance prog through the District Secret of Divisional Secretariats, as the Tri-service personr

How such a tragedy came about

Climate across the earth is changing. Increasing temperatures, changing weather patterns, rising sea level, and increasing frequency of natural disasters such as floods, hurricanes, and **tornados** are some of the manifestation of the climate change.

As shown in the graph below, an increasing trend in global temperature is clearly evident.



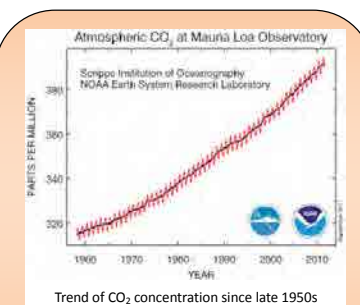
Source: http://upload.wikimedia.org/wikipedia/commons/f/f4/Instrumental_Temperature_Record.png

Increasing temperatures are causing the melting of ice layers, polar caps and glaciers, and the weather patterns to change, which in turn, are causing some parts of the world to experience intensive rains causing floods while other area experiences longer droughts. Computer models under simulation shows that these disasters are going to be more frequent.

Reasons for global warming

Solar energy received from Sun is reflected back to space. However, the greenhouses (GHGs) in the atmosphere trap part of the energy released from the surface and reflect it back to earth. This is a natural process which keeps the earth warm and helps accommodate life forms as we know it. Even though GHGs are essential to life on earth, too much of them can threaten the present ecosystem.

Ever since the industrial revolution took place in 18th century, human activities – like burning fossil fuels, **industrial activities**, and slash-and-burning of rainforest, put increasingly more GHGs into the atmosphere, resulting more solar energy to be trapped and thus heating the earth's surface.



Trend of CO₂ concentration since late 1950s
Source: <http://www.esrl.noaa.gov/gmd/ccgg/trends/>

Actions taken against global warming

To address the Climate Change Issues the United Nation and governments around the world formed two institutions, namely the **Intergovernmental Panel on Climate Change (IPCC)** and the **United Nations Framework Convention on Climate Change (UNFCCC)**.

The IPCC acts as a leading international scientific body which assess and review the scientific, technical and socio-economic information relating to climate changes, while the UNFCCC was formed to develop appropriate actions to reduce global warming and to cope with inevitable global temperature increase. Accordingly in 1997 UNFCCC formed the **Kyoto Protocol**, a treaty which set out the binding targets for industrialised countries to GHG reductions. Under this protocol, three GHG reducing mechanisms -- Emission Trading, Joint Implementation (JI), and Clean Development Mechanism (CDM), were introduced. Although the Protocol's first commitment period began in 2008 and end in 2012, with the experience gained



in the developing this concept and implementing the protocol UNFCCC, is planning to develop other forms of international treaties and global measures to continue GHG mitigation activities, including NAMA (Nationally Appropriate Mitigation Action).



Climate Change in Sri Lanka

Climate change can already be felt in Sri Lanka in the form of increasing temperatures, changing weather patterns, and rising sea-levels.

Intensive rainfall causing floods and longer drought periods are now becoming a common occurrence in Sri Lanka. The recent floods have caused severe devastation and destroyed large areas of agricultural land, property and killed livestock. Due to destruction of paddies and vegetable fields, Sri Lanka encountered a foods shortage. Heavy rains have also induced landslides and ruined several thousand houses. These destructions affected millions of people.



GHG inventory in Sri Lanka

GHG is a collective term given to gasses which absorb and releases infrared radiation in the atmosphere. In climate change arena, 6 gasses; i.e. CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆, are targeted for control as they are the major contributor of the human induced climate change. (In Sri Lanka, only CO₂, CH₄, and N₂O are targeted as the other gases rarely present in the country.)

GHG released from and removed in Sri Lanka in the year 2000 is shown below. As you can see, energy sector is, by far, major source of CO₂ emissions, but agriculture and waste also account non-negligible amount of GHG emissions.

Aggregate inventory of GHG emissions and removals (2000)

Sector	CO ₂ Gg	CO ₂ Removals Gg	CH ₄ Gg	CH ₄ Gg CO ₂ Eq	N ₂ O Gg	N ₂ O Gg CO ₂ Eq	Total GgEq Net
Energy	12,410		41.4	869	0.8	263	13,584.2
Industrial processes	493						493.0
Agriculture	0		185.1	3,885	2.6	841	4,913.7
Land use change and forestry	2,120	-13,214	1.7	36			-11,056.3
Waste			96.8	2,033			2,129.8
Total	15,023	-13,214	325.0	6,823	3.4	1,104	10,064.4

Source: Second national communication on climate change by Ministry of Environment, November 2010

Climate change impact on Sri Lanka

Various studies have shown that Climate Change will impact Sri Lanka in three ways: 1) increasing temperatures, 2) changing rainfall patterns, and 3) rising sea levels.



According to a projection made by the Department of Meteorology, the country's mean temperature is likely to increase by about 0.4°C and 0.9 °C over the baseline (1961-1990) by the year 2025 and 2050, respectively. Likewise, Sri Lanka is likely to receive higher rainfall; however, it will be erratic with periods of intense rainfall and prolonged drought period during the dry seasons. This will affect Sri Lanka in several ways such as flooding,

contamination and pollution of water flows and resources, agriculture production, and increased frequency of landslides.ⁱ

The global sea level rise will also affect Sri Lanka. The current sea level rise is about 1.4 cm per annum. By about 2050 it is projected that the sea level rise will be about 0.2 meters and which will cause a shoreline to retreat by about 10 m.ⁱⁱ

Agriculture

Needless to say, rice production is the main crop and the staple food of Sri Lanka. However, the increasing temperatures can adversely affect this rice production. Similarly tea plantations may also be affected by the increasing temperature as the cooler climate areas which are essential for growth of high quality tea could become warmer than current level. This will impact Sri Lankan economy as tea plantation sector is a major foreign exchange earner of the country.



Agricultural area along the coastline will also be affected by the climate change in the form of rising sea level. When weather pattern is concerned, changing precipitation patterns -- rainfall will be erratic with periods of high and intense rainfall and prolonged drought period during the dry periods -- and shifting climate zones may become in reality.

Biodiversity



Sri Lanka has unique and highly vulnerable ecosystem as the island has long been isolated from surrounding environment. Thus, changing climate induces alien species to easily invade into Sri Lankan ecosystem. In addition, rise in sea level will result in increase salinity, sea erosion and inundation, which of course, adversely affect coastal and freshwater ecosystem.

Human Health

As quality water will be affected by the rising sea levels, the challenges in ensuring access to safe drinking water will aggravate. This situation can further contaminate and pollute water resources and at the same time cause more frequent occurrences and spread of food water borne diseases such as dysentery, diarrhea, and typhoid. The stagnant and polluted water along with increase in temperatures will also cause vector-borne diseases such as malaria, filariasis, chikungunya, dengue, Japanese encephalitis.



Actions Sri Lanka Government has taken to tackle global warming?

Sri Lanka Government has realized the importance of contributing to the global efforts to reduce global warming and taking adaptation measures to minimize the adverse effects arising out of global warming. Some of the key actions taken by SL government in this regard are;



- Formulating **National Policies** to actively encourage mitigation and adaptation. These involve incorporating environment protection, mitigation, and adaption concepts. Some of the key policies for combating global warming are:

Policies	Date
• National Policy on CDM	
• National Environment Policy 2003	
• National Climate Change Policy	



- Establishment of **National Action Plan Haritha Lanka Program**, for Sustainable Development which includes short, medium and long term targets scanning the period 2009-2016. The main thrust areas covered under those programs are Clean Air-everywhere, Saving the Fauna, Flora and Ecosystem, Meeting the Challenges of Climate Change, wise use of Coastal Belt and Sea Around, responsible use of Land Resources, Doing Away with the Dumps, Water for all and Always, Green Cities for Health and Prosperity, Greening the industries knowledge of Civil rights. Another action plan directly related to climate change is:

Policies	Date
<ul style="list-style-type: none"> National Climate Change Adaptation Strategy for Sri Lanka 2011-2016 	Nov 2010

- Establishment and development of Institutions** such as climate change secretariat and Sustainable Energy Authority to develop renewable energy and energy efficiencies projects and activities to enable the government implement policy and contribute to the mitigation and adaptation efforts. As mitigation action SEA is engaged in promoting ESCOs, energy labeling schemes, Energy efficient building , energy management schemes, energy reporting and benchmarking.
- Further, through SEA the government has taken the following **initiatives** to promote investments in Renewable Energy Projects.
 - 10% of the energy required to be NCRE by 2015,
 - Introduce four medium scale hydro plants*
 - Introduction of LNG based CCGT plants*
 - Demand side management to increase the use of CFL bulbs which is expected to bring about a reduction of 114 ...tCGo2
- Through **adoption of Kyoto Protocol** in 2002 Sri Lankan has also committed to participate in CDM. This process has encourages Sri Lankan investors to develop GHG mitigation projects and generate foreign currency earnings. This has enabled Sri Lankan an opportunity to investments in renewable energy technology and project and to benefit by transfer of technology in the energy sector.
- Other **co-benefits** derived out of mitigation actions in Sri Lanka are reducing air pollution, Reduce dependency on fossil fuel and thus import of oil, Better conservation methods, Better land use, Increased productivity in the agriculture production, Lower health expenditure, Resilience to natural disaster



Mitigation actions taken in Sri Lanka

Climate Change Division (CCD) of Ministry of Environment (MOE), as Designated National Authority (DNA) of Kyoto Protocol, has promoting various mitigation actions under Clean Development Mechanism (CDM). Sri Lanka has already 7 registered projects under UNFCCC and various other projects are underway.

Registered	Title	Parties	Methodology	Reductions*
30 Oct 05	Magal Ganga Small Hydropower Project	Netherlands	AMS-I.D. ver. 5	34,179
28 Mar 09	Coconut shell charcoaling and power generation at Badalgama, Sri Lanka	Japan	AMS-III.K. ver. 3 AMS-I.D. ver. 13	43,265
24 Aug 10	Adavikanda, Kuruwita Division Mini Hydro Power Project	Japan	AMS-I.D. ver. 13	13,484
30 Oct 05	Small Hydropower Projects at Alupola and Badulu Oya.	Netherlands	AMS-I.D. ver. 5	25,109
26 Oct 09	10 MW Biomass Power Generation Project - Tokyo Cement, Trincomalee	Japan	AMS-I.D. ver. 13	43,800
30 Oct 05	Hapugastenne and Hulu Ganga Small Hydropower Projects	Netherlands	AMS-I.D. ver. 5	44,842
11 Dec 06	Sanquhar and Delta Small Hydro Power Projects	Switzerland	AMS-I.D. ver. 9	5,489

* Estimated emission reductions in metric tonnes of CO2 equivalent per annum (as stated by the project participants)
Source: <http://cdm.unfccc.int/Projects/projsearch.html>



Renewable Energy (Mini-hydro) Adavikanda, Kuruwita Division Mini Hydro Power Project	Amount of CO ₂ Reduced
	13,484 ton / yr



Company Name : Alternate Power Systems (Pvt.) Ltd.
 Location : Kuruwita Division, Rathnapura District
 Sector : Energy (renewable - / non-renewable sources)
 Products : Generation of Electricity
 GHG Emission : Hydropower Technology
 Reduction by

About Adavikanda Mini Hydro Power Project

Alternate Power Systems (Pvt.) Ltd. is constructing a run-of-river 6.5 MW mini hydro power plant in Sri Lanka. The project activity involves generation of electricity from a small-scale hydropower plant and supply of power generated to the Sri Lankan national utility grid which is Ceylon Electricity Board. The proposed project is expected to generate electricity of 19.93 GWh /year at 50.6% of the country's power from Thermal Energy in 2006, small hydropower plant will result in a displacement of this electricity from thermal power is run of the river type; hence required at the weir.



Electricity Board. to generate a PLF of 35%. As requirement came operation of this in a displacement of stations. The project minimal storage is required at the weir.

Renewable Energy (Biomass: Saw Dust & Glicidia) Hayleys Mgt Knitting Mills PLC	Amount of CO ₂ Reduced
	25,600 ton / yr



Company Name : Hayleys MGT Knitting Mills PLC.
 Location : Narthupana Estate, Neboda
 Sector : Manufacturing
 Products : Knitted fabric
 GHG Emission : Biomass boiler
 Reduction by

About the GHG Emission Reduction Measure

The company has successfully reduced the CO₂ emissions by switching two oil furnaces to a biomass burning boiler in September 2010. The boilers are used for generation of dry saturated steam for the process requirements of fabric dyeing machines. Approximately 75-80 MT per day of biomass (woodchips/saw dust) is used. Glicidia is also used as secondary fuels.



Renewable Energy (Wind Power) Mampuri Wind Power Project	Amount of CO ₂ Reduced
	18,771 ton / yr



Company Name : Senok Wind Power (Private) Limited
 Location : Mampuri, North Western Province
 Sector : Energy
 Products : Generation of Electricity
 GHG Emission Reduction by : Wind power

About Mampuri Wind Power Project

Mampuri Wind Power Project is located in the general are of the Mampuri village in the North Western Province. It uses the wind energy potential in the North West Coastal belt of Sri Lanka to produce a total of 10MW using eight wind turbines, each rated at 1.25MW. The power plant generates 27.638GWh per year, on the basis of long-term average wind speed at the location. Electricity produced is sold to Ceylon Electricity Board through a dedicated transmission line.

Renewable Energy (Biomass: Saw dust) Lalan Rubber (Pvt) Ltd - Biyagama Free Industrial Zone	Amount of CO ₂ Reduced
	N/A ton / yr



Company Name : Mapa Lalan (Pvt) Ltd
 Location : Biyagama Free Industrial Zone
 Sector : Manufacturing
 Products : Rubber gloves (for household use)
 GHG Emission Reduction by : Biomass boiler

About the Project

Lalan Rubber (Pvt) Ltd is a premier manufacturer and exporter of gloves from Sri Lanka. The company commenced operations in the mid 1940's and grew steadily and moved in to the production of centrifuged latex and manufacturing of gloves during the mid 1980's. The company has successfully reduced the CO₂ emissions by switching two oil furnaces to a biomass burning boiler in September 2010. With this project, the company is seeking Voluntary Emission Reduction (VER) credit – a type of carbon credit outside of legally binding framework to assure financial benefit.



What can you do to help to reduce GHG emissions, thus lessen the global warming?

There are several ways to know the environmental load that your activity causes. One of them is called 'carbon footprint' in which you see how much burden your activity produced in the form of CO₂ emission. By knowing the amount of CO₂ a person is emitting in his/her everyday life, he/she can understand how he/she can contribute to reducing the emissions. There are two approaches to use the carbon footprint:

- 1) Understand the source of GHG emission like CO₂ in individual, institutional, and corporate activities, and
- 2) Indicate and visualize the carbon footprint for their products (sometimes called carbon labeling).

By calculating your carbon footprint and/or selecting products that show less carbon footprint, you can assess and contribute to reduce the GHG emissions.



As graph shown right indicates, the energy sector is the biggest contributor of GHG emissions in Sri Lanka. Main source of the GHG from energy sector is through burning fossil fuels to generate electricity. In other words, reducing electricity consumption will directly contribute to the reduction of CO₂ emission you cause in your everyday life.

Following list is some of simple example that how you can reduce the GHG emission in your daily life, including not only how you can save electricity but other easily attainable efforts too.

GHG emission by sector

(2000)



Source: P58, Ministry of Environment
Second National Communication on
Climate Change



< In the living room >

- Replace regular light bulb with a Compact Fluorescent Light (CFL) bulb, and turn it off when you are not in the room.
- Do not over cool with the air conditioning. Clean/replace filters regularly.
- Turn off TV when you are not watching, preferably using main switch.
- Choose appliances and other electronic devices that use energy efficiently, and use energy efficiency features of PC and other electronic devices.
- -- Switch to green energy

< In the kitchen >

- Avoid opening refrigerator unnecessary, and do not keep the refrigerator door open for prolonged time. Do not put too much food and defrost regularly.
- Use your own bag when going for grocery shopping, refuse plastic bags at grocery store.
- Buy organic food

< Transportation >

- Use public transportation, rather than individual cars. If you own a car, tune up regularly.

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ⁱ Ministry of Environment, Second National Communication on Climate Change

ⁱⁱ Sector Vulnerability Profile: Biodiversity and Ecosystem Services

GUIDE to CDM In Sri Lanka



Sri Lanka at Glance

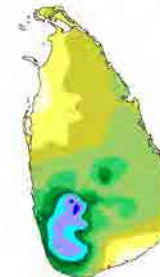
Geography:

Sri Lanka is an island in the Indian Ocean, located to the south of Indian Subcontinent, sprawling over the area of 65,525 Sq. km. It lies between 6 - 10 degree north latitude and between 80 - 82 degree east longitudes. It has a maximum length of 432 km (Devundara to Point Peduru) and maximum breadth 224 km (Colombo - Sangamankanda). Sri Lanka with its tear-dropped shape is dominated by the astonishingly varied features of topography, making it one of the most scenic places in the world. Three zones can be divided by its distinguished elevation: the central highland, the plains, and the coastal belt.



Climate:

The Climate of Sri Lanka is dominated by topographical features of the country and the Southwest and Northeast monsoons regional scale wind regimes. The Climate experienced during 12 months period in Sri Lanka can be characterized in to 4 climate seasons as follows:



Annual Rainfall (mm)

- | | |
|-------------------------|-----------------------------|
| 1. March - April: | First Inter-monsoon Season |
| 2. May - September | Southwest monsoon season |
| 3. October - November: | Second Inter-monsoon season |
| 4. December - February: | Northeast Monsoon season |



What are the actions taken against global warming?



In International Community:

The **Intergovernmental Panel on Climate Change (IPCC)** was established in November 1988 by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) to provide the world with a clear scientific view on the current state of knowledge in climate change and its potential environmental and socio-economic impacts.

United Nations Framework Convention on Climate Change (UNFCCC) is an International environmental treaty proposed at United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro on June 1992 with ultimate object of stabilization of greenhouse gas concentrations in the atmosphere and open for signature on May 9, 1992. UNFCCC was entered into force on March 21, 1994, and there are 194 parties ratified UNFCCC as of May 2011. The parties agreed to recognize “common but differentiated responsibilities” with concept of the developed/industrialized countries, who are listed in Annex I, shall take much more responsibilities for reducing greenhouse gas.

In Sri Lanka:

Sri Lanka is committed to act responsibly in international community, especially in tackling global warming issues. Accordingly, the Government ratified the UNFCCC in November 1993, and designated the Ministry of Environment as **“Designated National Authority (DNA)”** of Sri Lanka for the **Clean Development Mechanism (CDM)** scheme under Kyoto Protocol.

Meanwhile, the Government has developed and implemented various national policies and strategies to achieve sustainable and environmentally sounds development.

Some of the key national policies and strategies are as follows

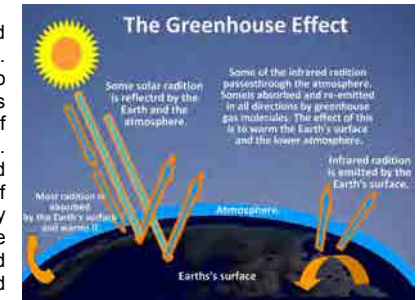


Mahinda Chintana – Vision for the Future Towards a new Sri Lanka	Set out a national development framework and strategies by sectors	Date
National Environmental Policy	Aims to promote the sound management of the environment.	2003
Haritha (Green) Lanka Programme	Action plan set up under Mahinda Chintana to achieve sustainable social and economic development.	2008
National Policy on Clean Development Mechanism (draft)	Develop/establish necessary framework to participate CDM activities.	

Climate Change and Sri Lanka

Greenhouse Gasses (GHGs):

GHGs are those of gasses that absorbs and emit infrared radiation in the atmosphere. Although the presence of those GHGs keep earth's surface warm enough to sustains the life forms as we see today, too much of them cause increase in temperature, i.e. global warming. The human induced change in chemical composition of atmosphere began in mid-18th century where industrial revolution occurred. The changes are confirmed by report published by IPCC that “most of the observed increase in globally averaged temperatures since the mid-20th century is very likely (greater than 90% probability) due to the observed increase in anthropogenic greenhouse gas concentrations.”



Climate Change in Sri Lanka:

Climate change can already be felt in Sri Lanka, in the form of increasing temperatures, changing weather patterns, and rising sea-levels. A computer model run by Ministry of Meteorology has predicted that these trends will accelerate further in the future, and intensive rains or prolonged drought may become common occurrence, which leads to destroying agricultural land, damaging property and killing livestock.

GHG inventory in Sri Lanka

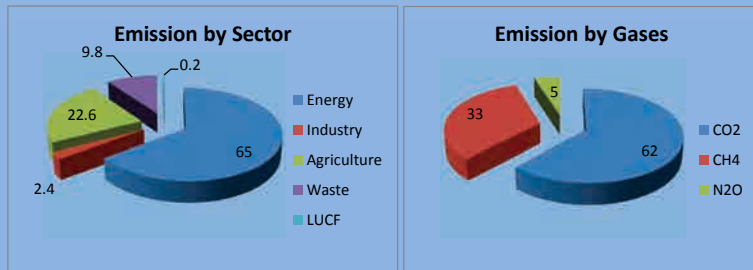
Greenhouse gasses released from and removed in Sri Lanka in 2000 is shown below. As you can see, energy sector is, by far, major source of CO₂ emissions, but agriculture and waste also account non- negligible amount of GHG emissions.

Aggregate inventory of GHG emissions and removals

Sector	CO ₂ Gg	CO ₂ Removals Gg	CH ₄ Gg CO ₂ Eq	N ₂ O Gg CO ₂ Eq	Total GgEq Net
Energy	12,409.42		866.67	251.10	13,527.19
Industrial processes	492.40				492.40
Agriculture			3,888.15	812.20	4,700.35
Land use change and forestry	10.34		35.07		45.41
Waste			2,033.22		2033.22
Total-Emissions	12,912.16		6,823.11	1,063.30	20,798.57
LUCF-Removal		-6,253.99			-6,253.99
Total -net	12,912.16	-6,253.99	6,823.11	1,063.30	14,544.58

Source: Second national communication on climate change by Ministry of Environment, November 2010

GHG emission in Sri Lanka for the year 2000.



Source: Dec. 2010, Ministry of Environment, Second National Communications

How Sri Lankan Government tackling against global warming

Sri Lanka Government has realized the importance of contributing to the global efforts to reduce global warming and taking adaptation measures to minimize the adverse effects arising out of global warming. Some of the key actions taken by SL government in this regard are;

- Formulating **National Policies** to actively encourage mitigation and adaptation. These involve incorporating environment protection, mitigation, and adaption concepts. Some of the key policies for combating global warming are:

Policies	Date
• National Policy on CDM	Mar. 2011
• National Environment Policy 2003	2003
• National Climate Change Policy	

- Establishment of **National Action Plan Hariitha Lanka Program**, for Sustainable Development which includes short, medium and long term targets scanning the period 2009-2016. The main thrust areas covered under those programs are Clean Air-everywhere, Saving the Fauna, Flora and Ecosystem, Meeting the Challenges of Climate Change, wise use of Coastal Belt and Sea Around, responsible use of



Some of the key

Land Resources, Doing Away a with the Dumps, Water for all and Always, Green Cities for Health and Prosperity, Greening the industries knowledge of Civil rights. Another action plan directly related to climate change is:

Policies	Date
• National Climate Change Adaptation Strategy for Sri Lanka 2011-2016	Nov 2010



- Establishment and development of Institutions** such as climate change secretariat and Sustainable Energy Authority to develop renewable energy and energy efficiencies projects and activities to enable the government implement policy and contribute to the mitigation and adaptation efforts. As mitigation action SEA is engaged in promoting ESCOs, energy labeling schemes, Energy efficient building , energy management schemes, energy reporting and benchmarking.

Further, through SEA the government has taken the following **initiatives** to promote investments in Renewable Energy Projects.

- 10% of the energy required to be NCRE by 2015,
- Introduce four medium scale hydro plants
- Introduction of LNG based CCGT plants
- Demand side management to increase the use of CFL bulbs which is expected to bring about a reduction of 114 ...tCO₂
- Through **adoption of Kyoto Protocol** in 2002 Sri Lankan has also committed to participate in CDM. This process has encourages Sri Lankan investors to develop GHG mitigation projects and generate foreign currency earnings. This has enabled Sri Lankan an opportunity to investments in renewable energy technology and project and to benefit by transfer of technology in the energy sector.
- Other **co-benefits** derived out of mitigation actions in Sri Lanka are reducing air pollution, Reduce dependency on fossil fuel and thus import of oil, Better conservation methods, Better land use, Increased productivity in the agriculture production, Lower health expenditure, Resilience to natural disaster



Climate Change Secretariat, Ministry of Environment

Climate Change Division (CCD):

Ministry of Environment (MOE) has been determined as Designated National Authority (DNA) of Kyoto Protocol. As a working body of DNA, Climate Change Division (CCD) of MOE performs, 1) Evaluation & Approval of CDM project, 2) Capacity Development for CDM Project Development and 3) CDM Market. Details each of these tasks are given below.

- 1) Evaluation & Approval
 - (1) Adaptation of International Criteria
 - (2) Development of National Criteria
 - (3) Establish Guidelines for the CDM Project Development
 - (4) Establish National Procedure for Evaluation & Approval of CDM Project(s)
- 2) Capacity Development for CDM Project Development
 - (1) To identify and formulate project(s)
 - (2) To definite Baseline
 - (3) To quantify Emission Reduction(s)
 - (4) To monitor project(s) performance
- 3) CDM Market Promotion
 - (1) Developing portfolio that contains reliable information and data
 - (2) Providing technical input for identification, formulation and development of CDM project(s) & baseline of the CDM project in Sri Lanka
 - (3) Providing carbon market information
 - (4) Supporting generation of cost effective CERs with maximum quantity

CDM Development in Sri Lanka:

A proponent for the CDM project in Sri Lanka should look into the following **Criteria** if his/her project comply with one or more conditions shown below:

Economical Criteria

- Improving quality of life
- Alleviation of poverty
- Improvement of equity

Social Criteria:

- Participation of the Community

Technological Criteria

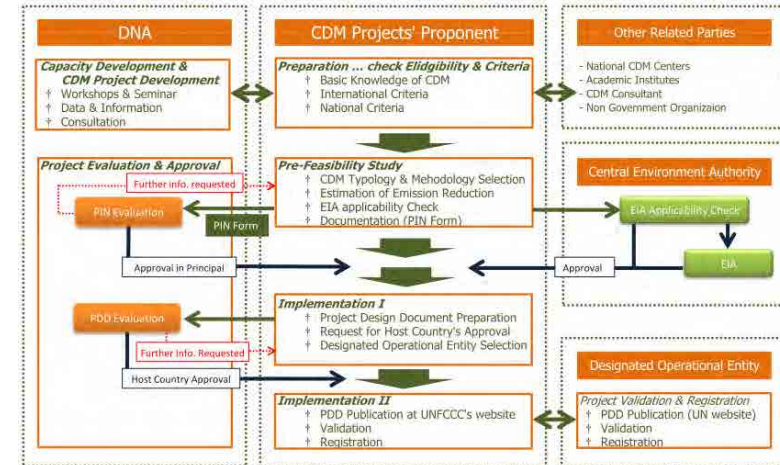
- Transfer of appropriate technology include know-how and method

Environmental Criteria

- Conservation of natural resources
- Sustainable use of land
- Contribution to the GHG reduction



Procedure for CDM in Sri Lanka can be surmised as below.



Introduction of Mitigation Actions in Sri Lanka

Sri Lanka has already 7 registered projects under UNFCCC and various other projects are underway. Following the list of registered project, some of the representative mitigation projects in Sri Lanka are shown.

Registered	Title	Parties	Methodology	Reductions *
30 Oct 05	Magal Ganga Small Hydropower Project	Netherlands	AMS-I.D. ver. 5	34,179
28 Mar 09	Coconut shell charcoaling and power generation at Badalgama, Sri Lanka	Japan	AMS-III.K. ver. 3 AMS-I.D. ver. 13	43,265
24 Aug 10	Adavikanda, Kuruwita Division Mini Hydro Power Project	Japan	AMS-I.D. ver. 13	13,484
30 Oct 05	Small Hydropower Projects at Alupola and Badulu Oya.	Netherlands	AMS-I.D. ver. 5	25,109
26 Oct 09	10 MW Biomass Power Generation Project - Tokyo Cement, Trincomalee	Japan	AMS-I.D. ver. 13	43,800
30 Oct 05	Hapugastenne and Hulu Ganga Small Hydropower Projects	Netherlands	AMS-I.D. ver. 5	44,842
11 Dec 06	Sanquhar and Delta Small Hydro Power Projects	Switzerland	AMS-I.D. ver. 9	5,489

* Estimated emission reductions in metric tonnes of CO2 equivalent per annum (as stated by the project participants)

Source: <http://cdm.unfccc.int/Projects/projsearch.html>

Renewable Energy (Mini-hydro) Adavikanda, Kuruwita Division Mini Hydro Power Project	Amount of CO ₂ Reduced
	13,484 ton / yr



Company Name : Alternate Power Systems (Pvt.) Ltd.
 Location : Kuruwita Division, Rathnapura District
 Sector : Energy (renewable - / non-renewable sources)
 Products : Generation of Electricity
 GHG Emission : Hydropower Technology
 Reduction by

About Adavikanda Mini Hydro Power Project

Alternate Power Systems (Pvt.) Ltd. is constructing a run-of-river 6.5 MW mini hydro power plant in Sri Lanka. The project activity involves generation of electricity from a small-scale hydropower plant and supply of power generated to the Sri Lankan national utility grid which is Ceylon Electricity Board. The proposed project is expected to generate electricity of 19.93 GWh /year at a PLF of 35%. As 50.6% of the country's power requirement came from Thermal Energy in 2006, operation of this small hydropower plant will result in a displacement of electricity from thermal power stations. The project is run of the river type; hence minimal storage is required at the weir.



Renewable Energy (Biomass: Saw Dust & Glicidia) Hayleys Mgt Knitting Mills PLC	Amount of CO ₂ Reduced
	25,600 ton / yr



Company Name : Hayleys MGT Knitting Mills PLC.
 Location : Narthupana Estate, Neboda
 Sector : Manufacturing
 Products : Knitted fabric
 GHG Emission : Biomass boiler
 Reduction by

About the GHG Emission Reduction Measure

The company has successfully reduced the CO₂ emissions by switching two oil furnaces to a biomass burning boiler in September 2010. The boilers are used for generation of dry saturated steam for the process requirements of fabric dyeing machines. Approximately 75-80 MT per day of biomass (woodchips/saw dust) is used. Glicidia is also used as secondary fuels.



Renewable Energy (Wind Power) Mampuri Wind Power Project	Amount of CO ₂ Reduced
	18,771 ton / yr



Company Name : Senok Wind Power (Private) Limited
 Location : Mampuri, North Western Province
 Sector : Energy
 Products : Generation of Electricity
 GHG Emission Reduction by : Wind power

About Mampuri Wind Power Project

Mampuri Wind Power Project is located in the general are of the Mampuri village in the North Western Province. It uses the wind energy potential in the North West Coastal belt of Sri Lanka to produce a total of 10MW using eight wind turbines, each rated at 1.25MW. The power plant generates 27.638GWh per year, on the basis of long-term average wind speed at the location. Electricity produced is sold to Ceylon Electricity Board through a dedicated transmission line.

Renewable Energy (Biomass: Saw dust) Lalan Rubber (Pvt) Ltd - Biyagama Free Industrial Zone	Amount of CO ₂ Reduced
	N/A ton / yr



Company Name : Mapa Lalan (Pvt) Ltd
 Location : Biyagama Free Industrial Zone
 Sector : Manufacturing
 Products : Rubber gloves (for household use)
 GHG Emission Reduction by : Biomass boiler

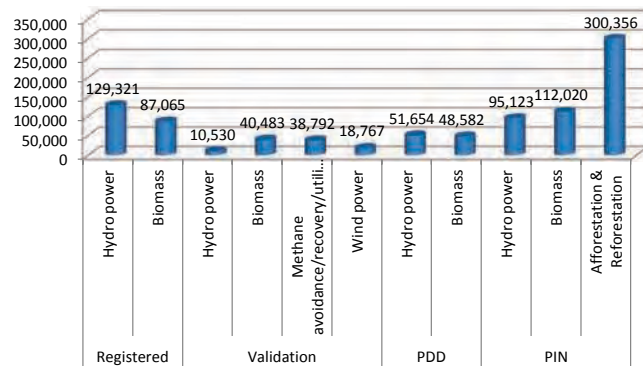
About the Project

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Future Perspective for CDM Projects

Sri Lanka holds excellent potential for future GHG reduction projects. Currently 50 projects are listed in CCD's database as existing/potential CDM projects. Out of them, PDD has been submitted for 21 projects (except already registered project), of which 12 of them are under validation. Furthermore, 20 projects are in PIN stage. As for CER, existing 7 registered CDM projects are expected to yield 216,386 tons of CER while totals 209,077 tons of CO₂ reduction is expected for projects in PDD stage.



Expected amount of CER by Maturity and Type of Project

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