

Barakalla
bbarakalla@conservation.org



BLUE CARBON APPROACH IN KAIMANA, WEST PAPUA

**Presented at the
INTERNATIONAL CONFERENCE ON SUSTAINABLE MANGROVE ECOSYSTEM
(18-21 April, Bali, INDONESIA)**



Outline

- **CI's involvement in SDG along with Bappenas (National Planning Agency).**
- **Mangrove in Indonesia and its potential.**
- **Mangrove in Kaimana, West Papua and its threats.**
- **CI's approach in Kaimana, West Papua.**
- **Recommendations & Next steps.**

Concept paper for Bappenas on SDG 14

- Mention carbon market opportunities
- Fisheries improvement program for local communities
- Include case studies such as Kaimana (blue carbon-fisheries), Lombok (ex shrimp ponds), Pangandaran (Tsunami)
- Opportunities on partnerships and scientific research.

Mangroves in Indonesia and its potential

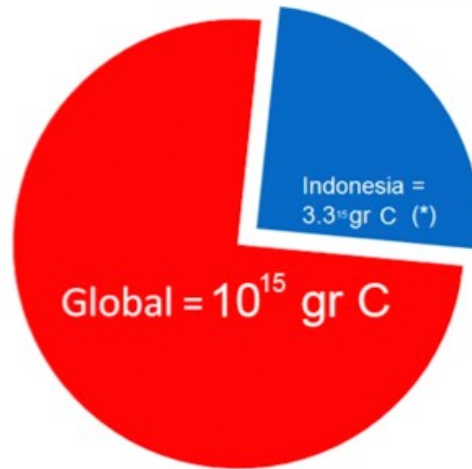
The 15 most mangroves-rich countries

SN	Country	Area (ha)	% of global total
1	Indonesia	3,112,989	22.6
2	Australia	977,975	7.1
3	Brazil	962,683	7.0
4	Mexico	741,917	5.4
5	Nigeria	653,669	4.7
6	Malaysia	505,386	3.7
7	Myanmar (Burma)	494,584	3.6
8	Papua New Guinea	480,121	3.5
9	Bangladesh	436,570	3.2
10	Cuba	421,538	3.1
11	India	368,276	2.7
12	Guinea Bissau	338,652	2.5
13	Mozambique	318,851	2.3
14	Madagascar	278,078	2.0
15	Philippines	263,137	1.9

(D. Murdiyarto)



(Eco)-Marine Services



From : Alongi, et al (2014 *in Prep*)

10¹⁵ gr = 1 PetaGram = 1 GigaTon = 1 milyar Ton

Carbon Storage

MANGROVES AREA (HA)

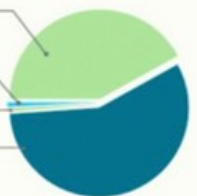
PNG - 480,121
 SOLOMON ISLANDS - 52,500
 TIMOR L'ESTE - 3,035
 MALAYSIA - 505,386
 PHILIPPINES - 263,137
 INDONESIA - 3,112,989



(Giri et al., 2011)

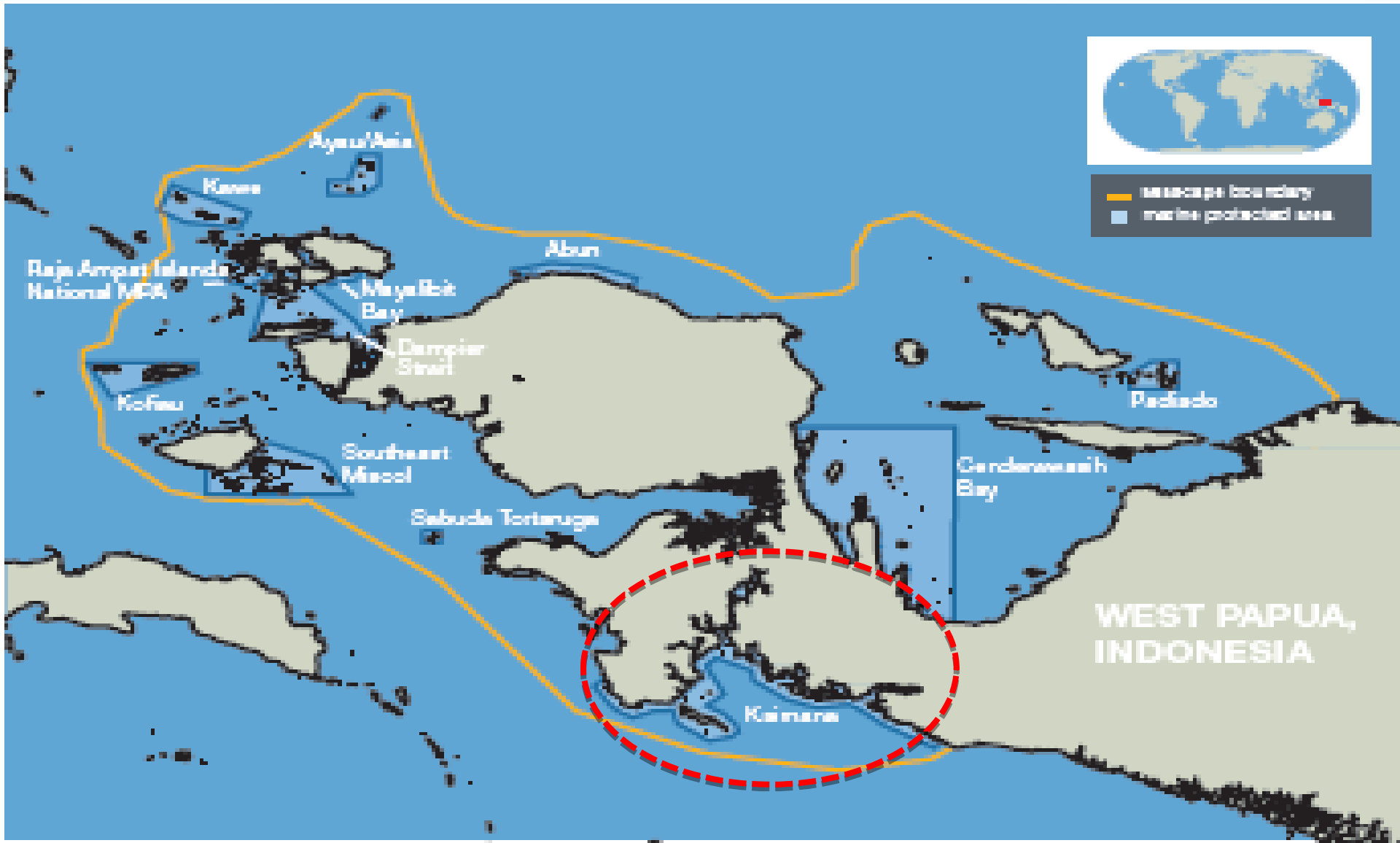
SEAGRASS AREA (HA)

PHILIPPINES - 2,200,000
 SOLOMON ISLANDS - 6,633
 MALAYSIA - 315.5
 INDONESIA - 3,000,000

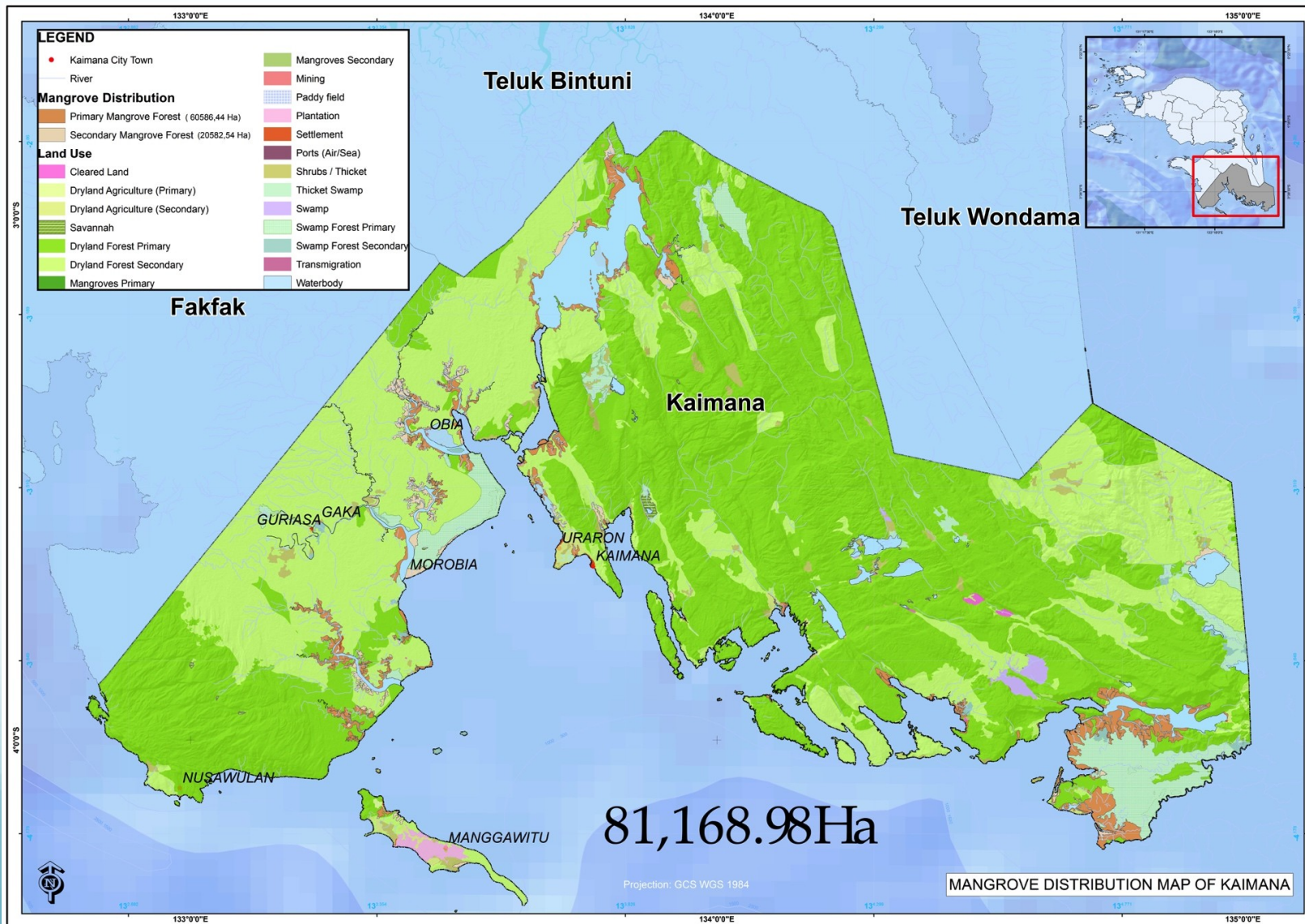


(Kiswara, 1994)

Kaimana & Bird's Head Seascape (BHS)



Mangrove condition in Kaimana



Mangrove deforestation in Kaimana

- **HIGH threat** – private sector, concessions & deforestation trends in Indonesia that goes from west to east and eventually reached West Papua.
- **Hak Ulayat & Sasi are the local system that most of the time saves community natural resource.**

CARBON DENSITY (1)

LAND USE

- Managed forests
- Protected areas

GRAYSCALE

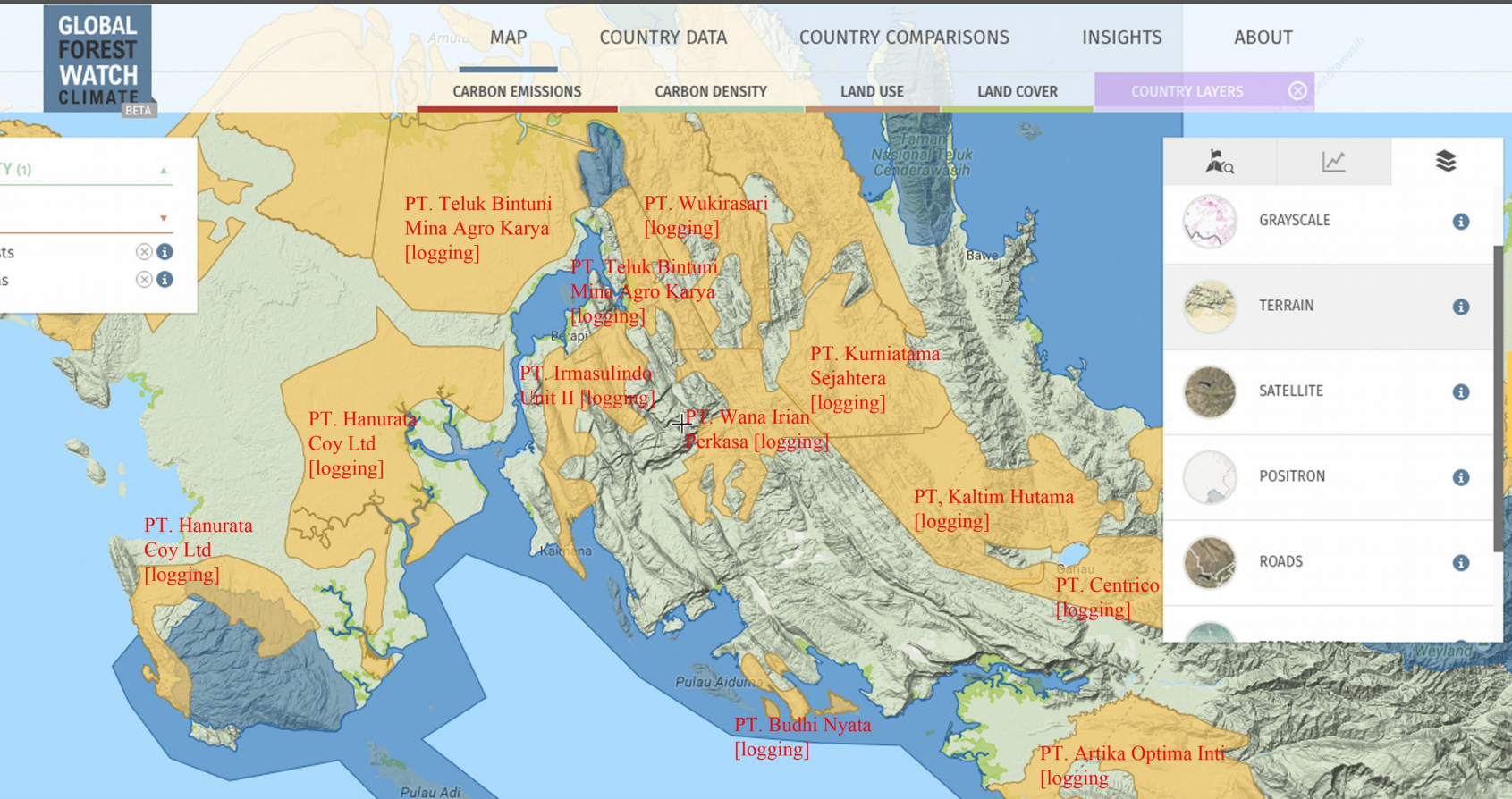
TERRAIN

SATELLITE

POSITRON

ROADS

Map navigation controls: zoom in (+), zoom out (-), pan, and search (Q).



Conservation International's approach for Blue Carbon in Kaimana, West Papua

Problems	Solutions	Actions
<ul style="list-style-type: none"> • Mangrove protection policies and regulations. • Private sector mangrove management plans. • Local communities awareness of mangrove ecosystems • Direct benefits for local communities from mangrove ecosystem conservation. 	<ul style="list-style-type: none"> • MPA management that includes mangrove ecosystem protections. • Stakeholder engagements on mangrove management under a specific regulation. • Capacity building programs for local communities • Fisheries improvement program • Mangrove-based carbon crediting project 	<ul style="list-style-type: none"> • Alignment with other sectors and stakeholders of mangrove protection commitments. • To bring greater stakeholder and sectors attention to local level mangrove protection (fisheries). • Capacity building for coastal communities, • Social assessment in mangrove area. • Scientific research on mangrove environmental services

MPA traditional declaration with 6 tribes (**Kambala, Boiya, Nusaulan, Namatota, Tugarni & Daramai**) in Kaimana for conservation including mangrove protection.

deklarasi adat sistem zonasi n.ulan.pdf Open with Adobe Acrobat Pro






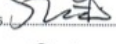



**BERITA ACARA
DEKLARASI ADAT SUKU BAHAM
TENTANG SISTEM ZONASI KKP KAIMANA
KAMPUNG NUSAULAN**

Pada Hari Kamis, tanggal dua puluh lima, bulan April, tahun dua ribu tiga belas telah dilakukan kesepakatan bersama antara masyarakat adat / petuanan, pemerintah kampung, tokoh agama serta pemerintah daerah kabupaten Kaimana yang diwakili oleh dinas kelautan dan perikanan kabupaten Kaimana tentang hal-hal sebagai berikut :


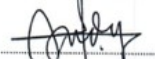

1. Menyepakati dan mendukung sistem zonasi yang telah ditetapkan oleh pemerintah daerah sesuai dengan Peraturan Bupati Kaimana Nomor 4 Tahun 2012 tentang Kawasan Konservasi Perairan Daerah (KKP) Kabupaten Kaimana.
2. Menyelaraskan peraturan dan kebijakan adat suku Baham dengan sistem zonasi yang telah ditetapkan.
3. Masyarakat adat suku Baham kampung Nusaulan berkomitmen untuk terlibat secara langsung dalam sistem pengelolaan KKP Kaimana.
4. Masyarakat adat suku Baham kampung Nusaulan Kabupaten Kaimana dan Masyarakat adat suku Baham Wilayah Karas Kabupaten Fakfak bersedia membangun komunikasi dan koordinasi dengan pemerintah kabupaten masing-masing untuk kegiatan konservasi laut di wilayah petuanan suku Baham.
5. Masyarakat adat suku Baham di kabupaten Kaimana dan di wilayah Karas kabupaten Fakfak bersepakat untuk melakukan pengelolaan perlindungan, pelestarian dan pemanfaatan sumber daya pesisir, laut dan pulau-pulau kecil.
6. Dalam sistem pengelolaan KKP di wilayah suku Baham tetap menghargai dan menghormati hubungan kekerabatan dan kearifan lokal suku Kolway dan Madewana
7. Hal – hal yang belum diatur dalam kesepakatan adat ini, akan diatur kemudian.

Nusaulan, 25 April 2013

deklarasi adat sistem zonasi n.ulan.pdf Open with Adobe Acrobat Pro

1. Bapak Sir Zet Gwas Gwas (Kepala Suku Baham) 1. 
2. Bapak Abu Bakar Samay (Kapitan Kampung Nusaulan) 2. 
3. Bapak Waras Sininggirauw (Tokoh Adat Kampung Adijaya) 3. 
4. Bapak Haji Arsad Sardiki (Tokoh Adat Kampung Kambala) 4. 
5. Bapak Haji Nurdin Bay (Tokoh Adat Kampung Faur) 5. 
6. Bapak Soleman Fatur (Tokoh Adat Kampung Karas) 6. 
7. Bapak La Aga Samay (Tokoh Baham di Kaimana) 7. 
8. Bapak Senen Samay (Tokoh Adat Kampung Nusaulan) 8. 
9. Bapak Haji Jabar Sudak (Tokoh Adat Kampung Kirabisa) 9. 

Yang Mewakili Pemerintah Daerah :

1. Bapak Moses.D. Werinussa (Kabag. Perekonomian Setda Kaimana) 1. 
2. Audy Wakum (Kabid. Bina Usaha DKP Kaimana) 2. 
3. Habel Fenetiruma S.Sos (KaSub Seksi Pengendalian dan Pencemaran Lingkungan Hidup Bappeda – LH Kaimana) 3. 

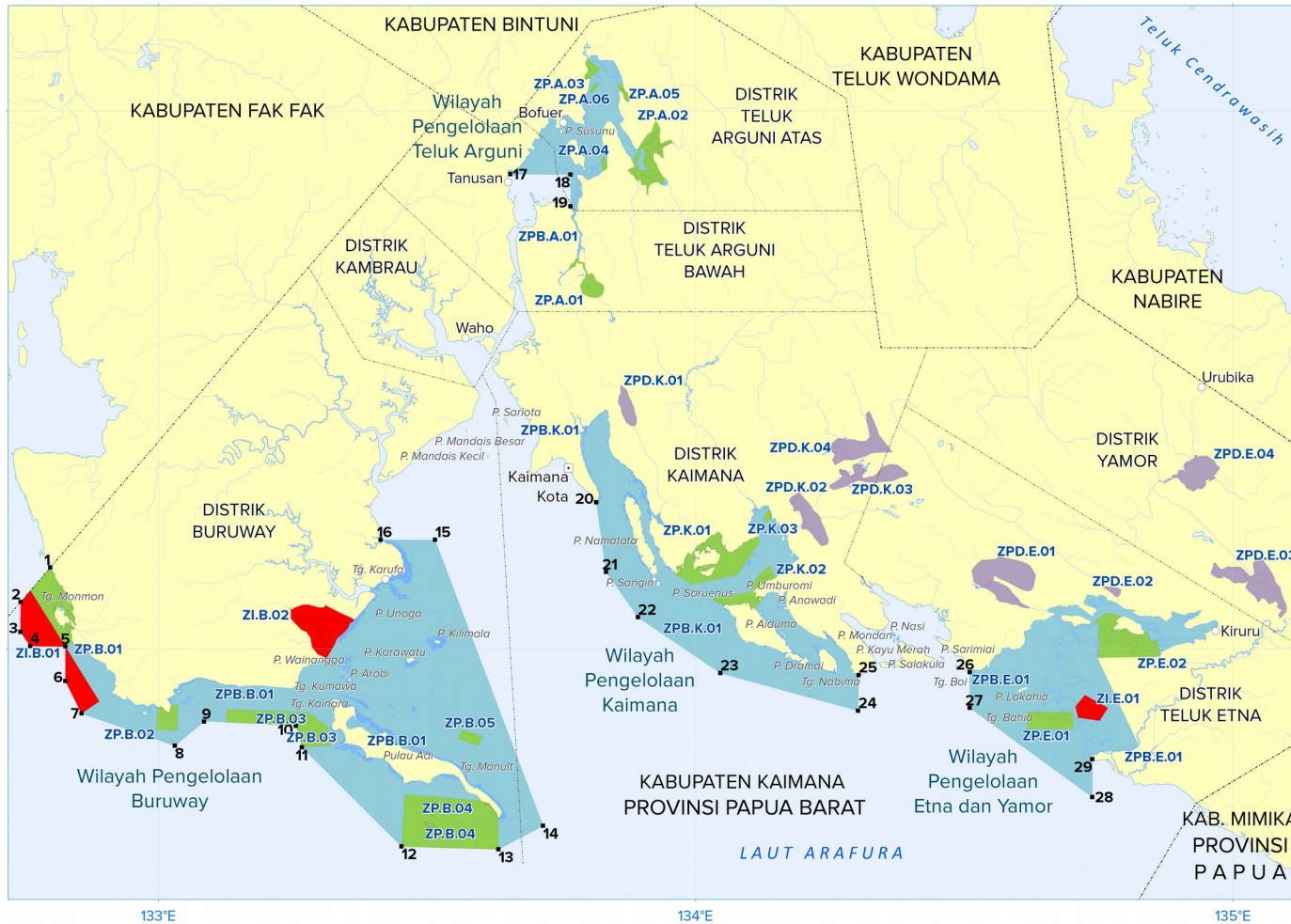


Local Regulations

- Perbup No. 4/2012 about Kaimana
- 4 areas : Arguni, Buruway, Etna Yamor, and Kaimana

Kawasan	Luas (Ha)
Arguni	35,726
Buruway	240,493
Etna Yamor	115,481
Kaimana	122,586
Total	514,285

MPA zonation in Kaimana



PETA PENETAPAN KAWASAN KONSERVASI PERAIRAN DAERAH KABUPATEN KAIMANA DI PROVINSI PAPUA BARAT

Luas Kawasan : 508.324 ha



0 3 6 12 18 24 KM

Proyeksi : Transverse Mercator
Grid : Grid Geografi
Datum : DGN 1995
Zona : UTM 53 S

DIAGRAM LOKASI



KETERANGAN

- Batas Provinsi
- Batas Kabupaten
- Batas Distrik
- Sungai
- Ibukota Kabupaten
- Ibukota Distrik
- Batas KKPD
- Kawasan Konservasi Perairan Daerah (KKPD)
- Darat/Pulau
- Perairan

SISTEM ZONASI

- Zona Inti (Sasi Tetap)
- Zona Pemanfaatan (Terbatas untuk Pariwisata)
- Zona Perikanan Berkelanjutan
- Zona Lainnya (Perlindungan Danau)

Batas administrasi di peta adalah batas sementara dan tidak dapat dipergunakan sebagai referensi resmi.

SINGKATAN
P. : Pulau
Tg. : Tanjung
TI. : Teluk
S. : Sungai

KETERANGAN RIWAYAT/SUMBER DATA

1. Perda Kaimana No 11 Tahun 2014
2. Perbup Kaimana No 4 Tahun 2012
3. Peta RBI Skala 1:50.000 Tahun 2009
4. Landsat Tahun 1991 - 2003
5. Survei Lapangan Tahun 2010 - 2014

Disiapkan oleh nhidayat@conservation.org

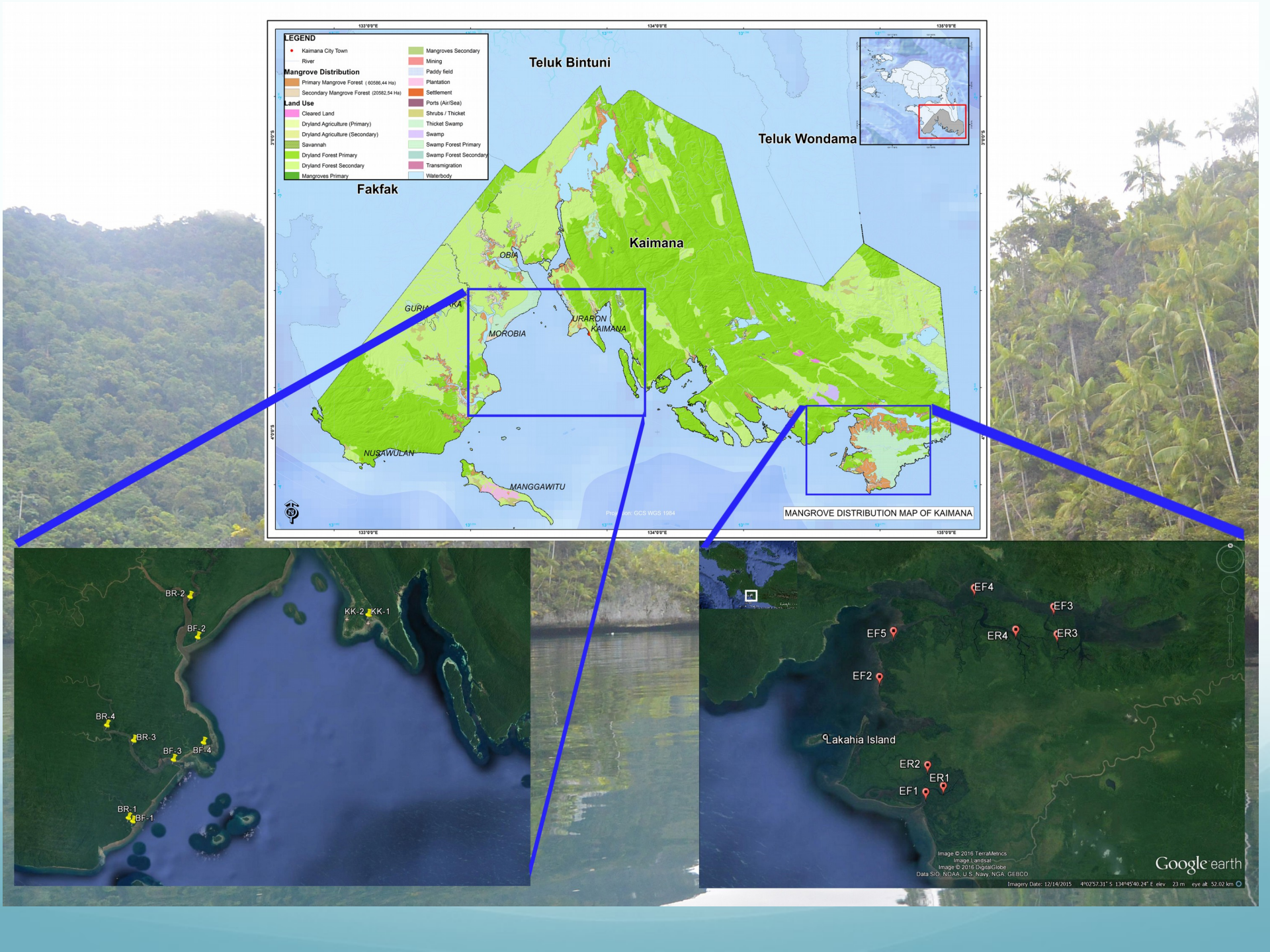
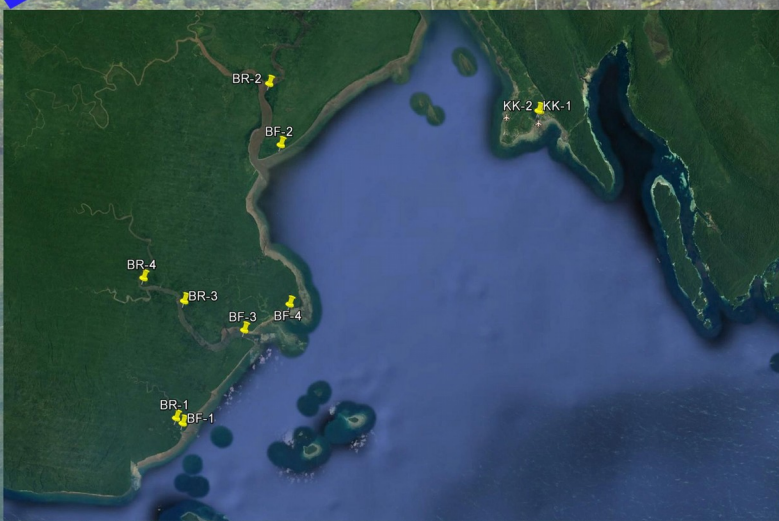
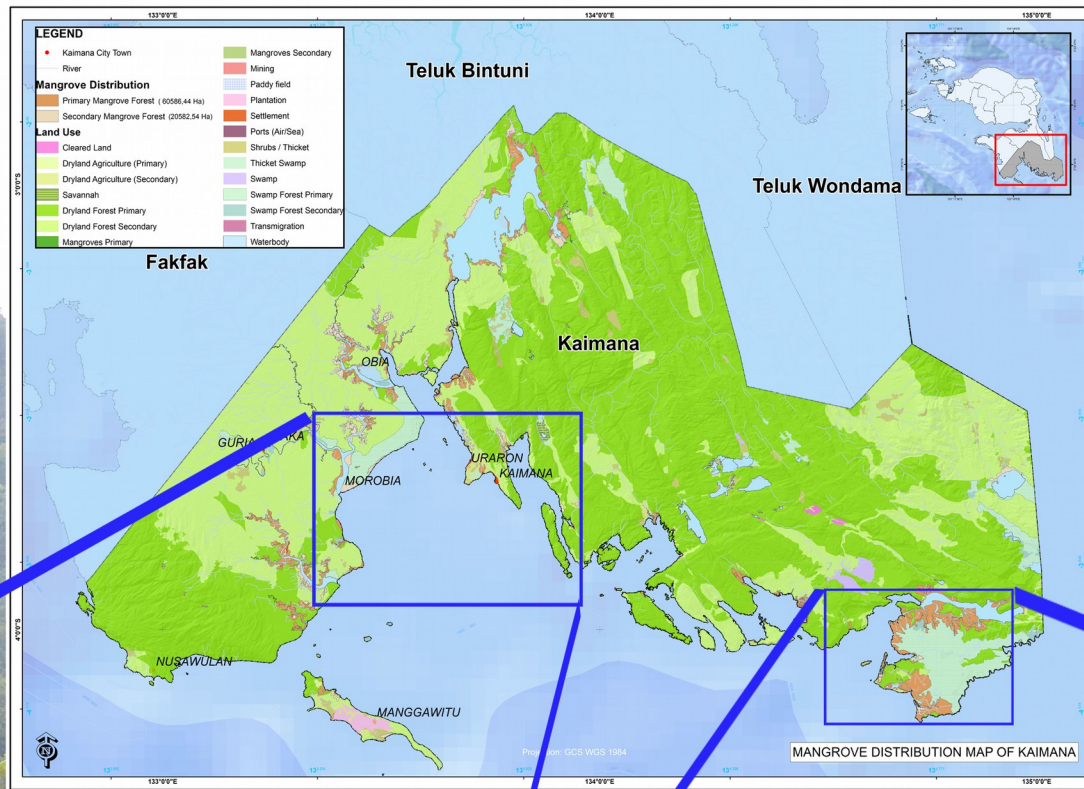
Fisheries Improvement Program

- Stock assessment with *Fishing and Living*.
- Supply chain management – margin settlement for local communities and market expansion (Bali) with *Fishing and Living* (still need further improvement on mortality rates)
- Further research with *IMRO* on commodity species quantification with mangrove ecosystem health





- The community has been encouraged to participate in the management at Arguni through the formation of a voluntary patrol group (POKMASWAS).
- CI has created 4 groups (2 at Tugarni village, 2 at Sawi) with 5 members each.









Feasibility for Mangrove-based carbon crediting mechanism for sustainable financing for projects and local livelihood

CCB_Standards_FactSheet.pdf Open with Adobe Acrobat Pro



CCB Standards™
The Climate, Community & Biodiversity Alliance

THE LEADING SOCIAL AND ENVIRONMENTAL STANDARDS FOR LAND-BASED CARBON PROJECTS



Over 1.3 billion indigenous peoples and local communities depend on forests to survive. In some cases, carbon projects may restrict their access to traditional land and resources, degrade traditions and cause conflicts, or damage native ecosystems. On the other hand, when carefully designed, carbon projects can improve livelihoods, create employment, protect traditional cultures and endangered species, and help secure tenure to lands and resources, as well as making a key contribution to combating climate change.

Comprehensive and Objective Criteria
The Climate, Community & Biodiversity (CCB) Standards provide comprehensive and objective criteria to assess and identify agriculture, forestry and other land use projects that effectively address social and environmental risks and deliver significant benefits to local communities, biodiversity and the global climate. The criteria ensure that projects:

- Identify all stakeholders and ensure their full and effective participation
- Recognize and respect customary and statutory rights
- Obtain free, prior and informed consent
- Assess and monitor direct and indirect costs, benefits and risks
- Identify and maintain high conservation values
- Demonstrate net positive climate, community and biodiversity benefits

Independent Validation and Verification
Projects are assessed against the CCB Standards through a rigorous and transparent process conducted by an independent auditor starting with validation of project design followed by verification of project implementation and delivery of benefits. Project design documentation, project implementation reports and full audit reports are published on the CCB website. During each audit, comments are invited from the public before the auditor conducts a site visit to investigate the project, address comments and meet with local communities.

Look for the CCB label
A CCB label may be added to carbon credits listed on a registry from projects successfully verified (not just validated) to both the CCB Standards and a carbon accounting standard. The CCB label is a permanent marker added to each credit's unique carbon registry identification code.


The CCB label enables investors and offset buyers to identify credits from a project that:

- Has holistic and integrated design
- Screens our reputational risks
- Ensures participation and support of local people
- Implements effective activities that deliver sustainable results
- Achieves multiple climate, social and biodiversity objectives

Preferential Market Access and Price Premiums
The CCB Standards have become a requirement for many investors, brokers and offset buyers and are helping to attract new financing to qualifying projects. Many studies have shown that offset buyers are willing to pay a premium for offsets from projects using the CCB Standards. The first hard evidence of a premium was reported in the Ecosystem Marketplace's State of the Forest Carbon Market 2012¹ VCS projects that were also certified to the CCB saw an additional average \$0.5/tCO₂e over [the average] price.²¹


¹Leveraging the Landscape: State of the Forest Carbon Market 2012. Ecosystem Marketplace, p.32.

Guidance_for_the_Use_of_the_CCB_Standards_May_... Open with Adobe Acrobat Pro



CCB Standards™
The Climate, Community & Biodiversity Alliance
May 2014

Guidance for the Use of the CCB Standards



Guidance for the Use of the CCB Standards

Table of Contents

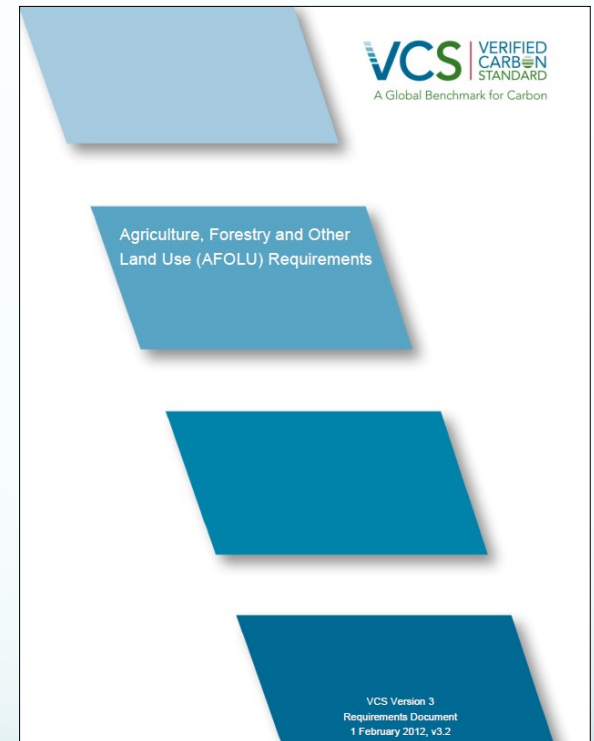
- 1. Introduction
- 2. Purpose and Scope
- 3. Key Definitions
- 4. Key Principles
- 5. Key Requirements
- 6. Key Processes
- 7. Key Roles and Responsibilities
- 8. Key Documents
- 9. Key Metrics
- 10. Key Indicators
- 11. Key Risks
- 12. Key Opportunities
- 13. Key Challenges
- 14. Key Lessons Learned
- 15. Key Conclusions
- 16. Key Recommendations
- 17. Key References
- 18. Key Appendices
- 19. Key Glossary
- 20. Key Index

Connecting Blue Carbon to Carbon Markets

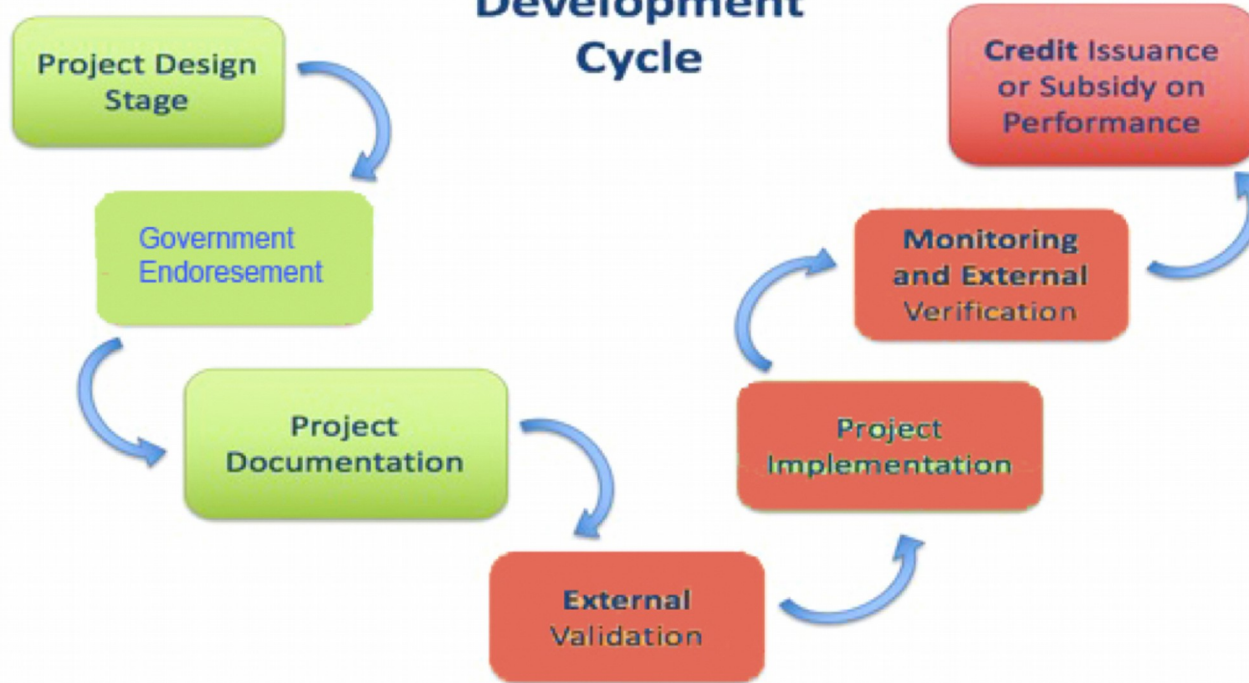
Wetlands Restoration and Conservation (WRC)

Adopted into Standard Oct 4, 2012

http://v-c-s.org/wetlands_restoration_conservation



Carbon Development Cycle



- Pre-feasibility assessment
 - Smart tools
 - Incomplete information - guestimates
- Feasibility assessment and documentation
 - Smart tools
 - Complete information

- Validation / registration
 - Proof of concept
- Verification / issuance of credits



Recommendations and Next steps



National level;

- **Alignment of the overlapping policies and regulation among ministries.**
- **Specific regulations on mangrove ecosystem, and its protection based on its environmental services assessment in each area.**
- **Agreeable source of data (eg. One Map) on mangrove ecosystem for further management.**
- **Endorsing and supporting mangrove-based carbon crediting opportunities that would have direct benefits to local communities as a part of the cost-benefit analysis esp. on alternating unsustainable aquaculture practices.**
- **Establishing mandatory mangrove management plans for private sector that have mangrove ecosystem within their concessions.**



Provincial level;

- **Making sure the implementation of the policy at the national level on mangrove ecosystem management.**
- **Support the local level government on implementations.**
- **Making sure that the mandatory mangrove management plans for private sector implemented.**



Local level;

- **Local government support on the mangrove management regulations.**
- **Local communities involvement in mangrove protection.**
- **Raise awareness in the local level through environmental educations.**
- **More research on mangrove ecosystem services (eg. blue carbon, fisheries, sedimentation rates, etc).**
- **Dig up opportunities for sustainable financing mechanism that would benefit both local communities as well as mangrove ecosystem protections (eg. fisheries improvement program)**

Acknowledgement



International Society for Mangrove Ecosystems



TERIMAKASIH

