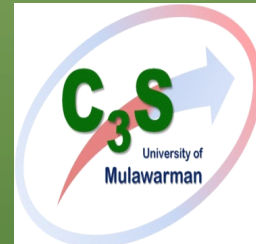


# Perspective of education and training institution:

## Taking stock of National Climate Change Priorities, Initiative and Capacity Development Challenges

*Deddy Hadriyanto  
Center for Climate Change Studies - University of  
Mulawarman  
Samarinda, Kalimantan Timur 75123*



*Lokakarya Nasional :  
Pengembangan Strategi Nasional untuk memperkuat  
Kapasitas Sumber Daya Manusia demi meningkatkan  
Pembangunan Rendah Emisi dan Ramah Lingkungan dan  
Ketahanan terhadap Perubahan Iklim*



# Introduction

- ❑ Climate change is affecting every issue linked to poverty and development today, from access to food, water to health and security,
- ❑ Climate change is fundamentally a development crisis: the central poverty issue of our time,
- ❑ Without immediate action 50 years of development gains in poor countries will be permanently vanished,
- ❑ Tropical Forest, as the best CO<sub>2</sub> sequester, has a significant and strategic role to combat climate change.,
- ❑ Green economy will only work with the support of forest and other green natural resources as fundamental capital.
- ❑ Need to support capacity building in human resources in the form of education, training and public awareness.





# Integrated Frame of Strategy in Combating

## Climate Change - an integrated framework

Mitigation and adaptation is two strategies that are co-exercises, and mutual support



Mitigation is global and future oriented, while adaptation is more local, regional, present or immediate and future oriented



The views and commitment to the adaptation has not been balanced with the mitigation



Climate change is not just an **environmental** issue but **development** one.

SYR FIGURE 1-1

# Land based Sector Mitigation Strategy

## • Forestry:

1. Reduce deforestation and degradation of tropical forests (REDD)
2. Promote Sustainable Forest Management (SFM)
3. Conduct Forest Restoration (FR), including Afforestation and Reforestation (A/R)

## • Agriculture:

1. Improve agroforestry practices
2. Promote spatial and temporal integration of crop and livestock (e.g. rotations of crops and corall)
3. Enhance soil carbon sequestration via soil biomass restoration and reduced tillage

# Sektor-sektor Potensial Terkena Dampak Perubahan Iklim → Adaptasi

N	Sektor	Karakteristik Dampak
0		
1		Sangat sensitif tetapi juga berkapasitas sangat adaptif. Penurunan produksi tanaman pangan.
2	<b>Sumber Air Tawar</b>	Sangat sensitif tetapi juga berkapasitas sangat adaptif, banyak rintangan dalam penanggulangan kekeringan.
3	<b>Kenaikan Air Laut</b>	Perubahan bersifat gradual tapi pasti., skalanya sangat mahal.
4	<b>Ekosistem Daratan</b>	Sangat sensitif dan rentan (vulnerable) thd perubahan iklim. KEHATI.
5	<b>Kehutanan</b>	Perubahan iklim cukup besar. Reforestasi dan konservasi lahan berpotensi adaptif tinggi.
6	<b>Kesehatan Masyarakat</b>	Perubahan iklim berdampak pada Kesehatan Masyarakat yang berhubungan dengan banjir dan perubahan iklim.
7	<b>Ekosistem Air Tawar</b>	Sangat sensitif dan rentan. Perikanan air tawar.
8	<b>Ekosistem Pantai &amp;</b>	Sangat sensitif dan rentan. Perikanan air tawar.











The island is divided among three countries: Brunei, Indonesia and Malaysia. Approximately **73% of the island is Indonesian territory**. The Borneo rainforest is 130 million years old, making it the oldest rainforest in the world and 70 million years older than the Amazon rainforest. Borneo is very rich in biodiversity compared to many other areas. There are about 15,000 species of flowering plants with 3,000 species of trees (267 species are dipterocarps), 221 species of terrestrial mammals and 420 species of resident birds in Borneo (MacKinnon et al. 1998).

The **World Wildlife Fund** divides the island into seven distinct **ecoregions**

- 1) **Borneo lowland rain forests** (cover most of the island, approx. 427,500 Km<sup>2</sup>)
- 2) **Borneo mountain rain forests**
- 3) **Alpine Meadow in Mount Kinabalu**
- 4) **Borneo peat swamp forests,**
- 5) **Kerangas or Sundaland heath forests,**
- 6) **Southwest Borneo freshwater swamp forest**
- 7) **Sunda Shelf mangroves**



















# Strategic Planning

- A. Strategic Planning is process to establish priorities on what we will accomplish in the future
- B. A Good Strategic Plan should ..
  - Address critical performance issues
  - Create the right balance between what the organization is capable of doing vs. what the organization would like to do
  - Cover a sufficient time period to close the performance gap
  - Visionary – convey a desired future end state
  - Flexible – allow and accommodate change
  - Guide decision making at lower levels – operational, tactical, individual

# National Strategy on Education and Training on Climate Change

- National education strategy must be driven by national ideology rather than temporary political interest;
- Following and synergic to the existing National Education Strategic on Education and Training;
- Cover comprehensively all strata education level (pre-school, primary, secondary and university level);

# PROGRAM PENKUATAN KEBIJAKAN DEPDIKNAS DENGAN RENCANA PEMBANGUNAN JANGKA MENENGAH BAPPENAS

Program Bappenas	Kegiatan Pokok Pemerintah
1. Pendidikan Anak Usia Dini (PAUD) – TK, RA, KB, TPA	8. Perluasan akses PAUD
2. Wajib Belajar Pendidikan Dasar 9 Tahun – SD, MI, SMP, MTs	1. Pendanaan biaya operasi wajar 2. Penyediaan sarana dan prasarana pendidikan wajar 3. Rekrutmen pendidik dan tenaga kependidikan (program wajar) 4. Perluasan akses pendidikan wajar pada jalur nonformal 6. Perluasan akses SLB dan sekolah inklusif 7. Pengembangan sekolah wajar layanan khusus bagi daerah terpencil/kepulauan yang berpenduduk jarang dan terpencar.
3. Pendidikan Menengah	10. Perluasan akses SMA/SMK dan SMA terpadu 21. Pengembangan sekolah berbasis keunggulan lokal di setiap Kab/Kota 22. Pembangunan sekolah bertaraf internasional di setiap propinsi dan/atau kabupaten/kota
4. Pendidikan Tinggi	11. Perluasan akses PT 23. Mendorong jumlah jurusan di PT yang masuk dalam 100 besar Asia 24. Akselerasi jumlah program studi kejuruan, vokasi, dan profesi 25. Peningkatan jumlah dan mutu publikasi ilmiah dan HAKI
5. Pendidikan Non Formal	5. Perluasan akses pendidikan keaksaraan bagi penduduk usia >15 tahun 9. Pendidikan Keterampilan Hidup 20. Perluasan pendidikan kecakapan hidup
6. Peningkatan Mutu Pendidik dan Tenaga Kependidikan	17. Pengembangan guru sebagai profesi 18. Pengembangan kompetensi pendidik dan tenaga kependidikan

# PROGRAM PENKUATAN KEBIJAKAN DEPDIKNAS DENGAN RENCANA PEMBANGUNAN JANGKA MENENGAH BAPPENAS

Program Bappenas	Kegiatan Pokok Pemerintah
<b>7. Penelitian dan Pengembangan Pendidikan</b>	13. Peningkatan peran serta masyarakat dalam perluasan akses SMA/SMK/SM Terpadu, SLB, dan PT 14. Implementasi dan penyempurnaan SNP oleh BSNP 15. Penjaminan mutu secara terprogram dengan mengacu kepada SNP 16. Perluasan dan peningkatan mutu akreditasi
<b>8. Manajemen Pelayanan Pendidikan</b>	19. Perbaikan sarana dan prasarana 28. Penataan regulasi pengelolaan pendidikan 32. Peningkatan kapasitas dan kompetensi pengelola pendidikan
<b>Program-program lainnya</b> 1. Pengembangan Budaya Baca dan Pembinaan Perpustakaan 2. Program Penelitian dan Pengembangan Iptek 3. Program Penguatan Kelembagaan Pengarus-utamaan Gender dan Anak 4. Peningkatan Pengawasan dan Akuntabilitas Aparatur Negara 5. Program Penyelenggaraan Pimpinan Kenegaraan dan Pemerintahan 6. Program Pengelolaan Sumberdaya Manusia Aparatur 7. Program Peningkatan Sarana dan Prasarana Aparatur Negara	12. Pemanfaatan ICT sebagai media pembelajaran jarak jauh 26. Penerapan teknologi informasi dan komunikasi dalam pendidikan 27. Peningkatan SPI berkoordinasi dengan BPKP dan BPK 29. Peningkatan kapasitas dan kompetensi aparat dalam perencanaan dan penganggaran 30. Peningkatan kapasitas dan kompetensi managerial aparat 31. Peningkatan ketaatan aparat pada peraturan perundang-undangan 33. Peningkatan pencitraan publik 34. Peningkatan kapasitas dan kompetensi pemeriksaan aparat Itjen 35. Pelaksanaan Inpres No.5 Tahun 2004 tentang percepatan pemberantasan KKN 36. Intensifikasi tindakan-tindakan preventif oleh Itjen 37. Intensifikasi dan ekstensifikasi pemeriksaan oleh Itjen, BPKP, dan BPK 38. Penyelesaian tindak lanjut temuan-temuan pemeriksaan Itjen, BPKP, dan BPK 39. Pengembangan aplikasi SIM secara terintegrasi (Keuangan, Aset, Kepegawaian, dan data lainnya)

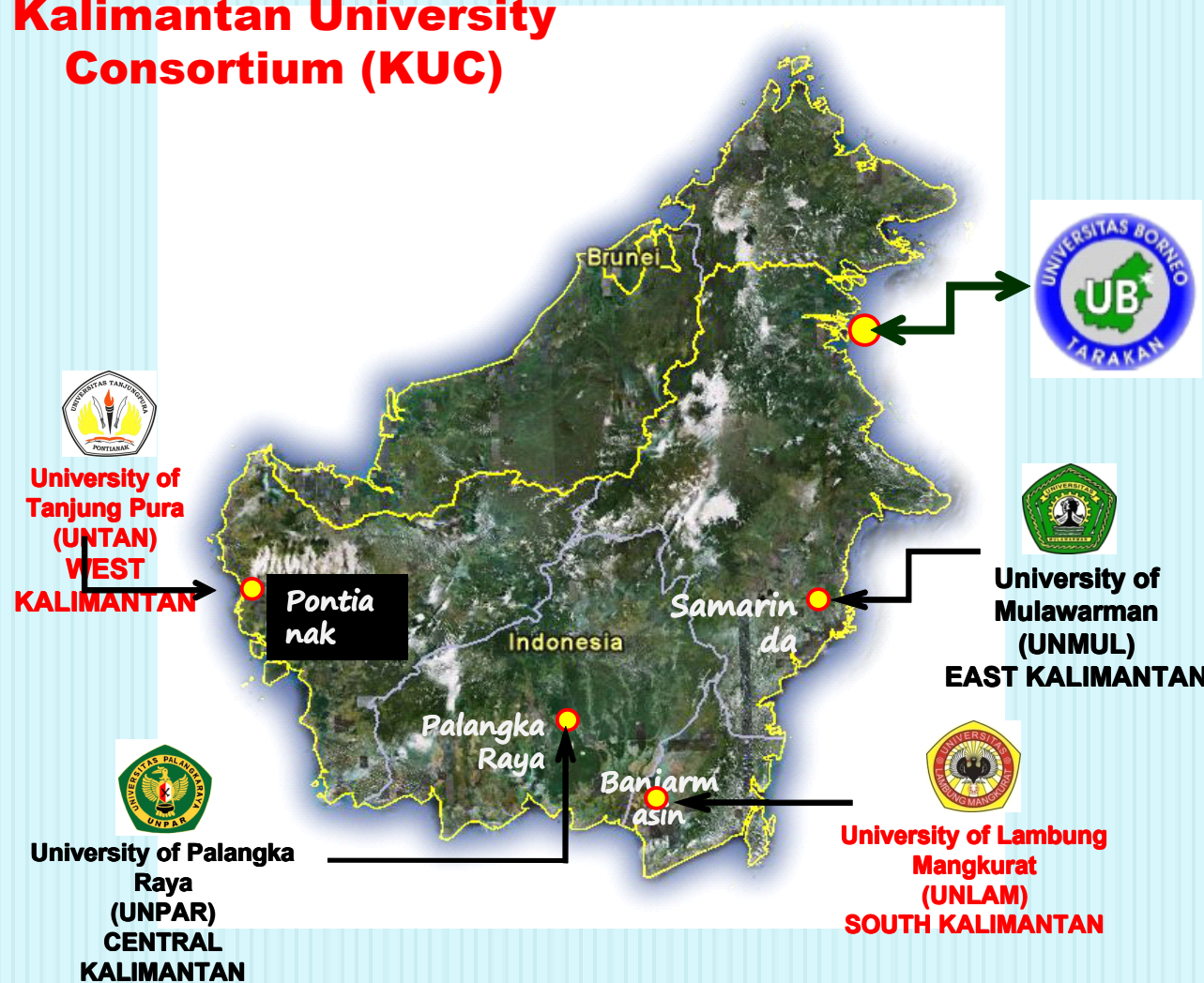


# National Strategy on Climate Change Education and Training SHOULD:

- Provide formal education, training and long term public awareness on climate change program through the education system;
- Synergic to the local specific ecological condition (tropical rain forest, monsoon forest, wetland);
- Improve appreciation to local ecological richness, Agric Beyond Food (ABF, biofuel, bio medicine, handicraft etc.)
- Considering the specific environment and for strengthening regional institutional building, develop regional network;
- Organized national Networking on research centers to support education and training.

# National Strategy on Climate Change Education and Training

## Kalimantan University Consortium (KUC)



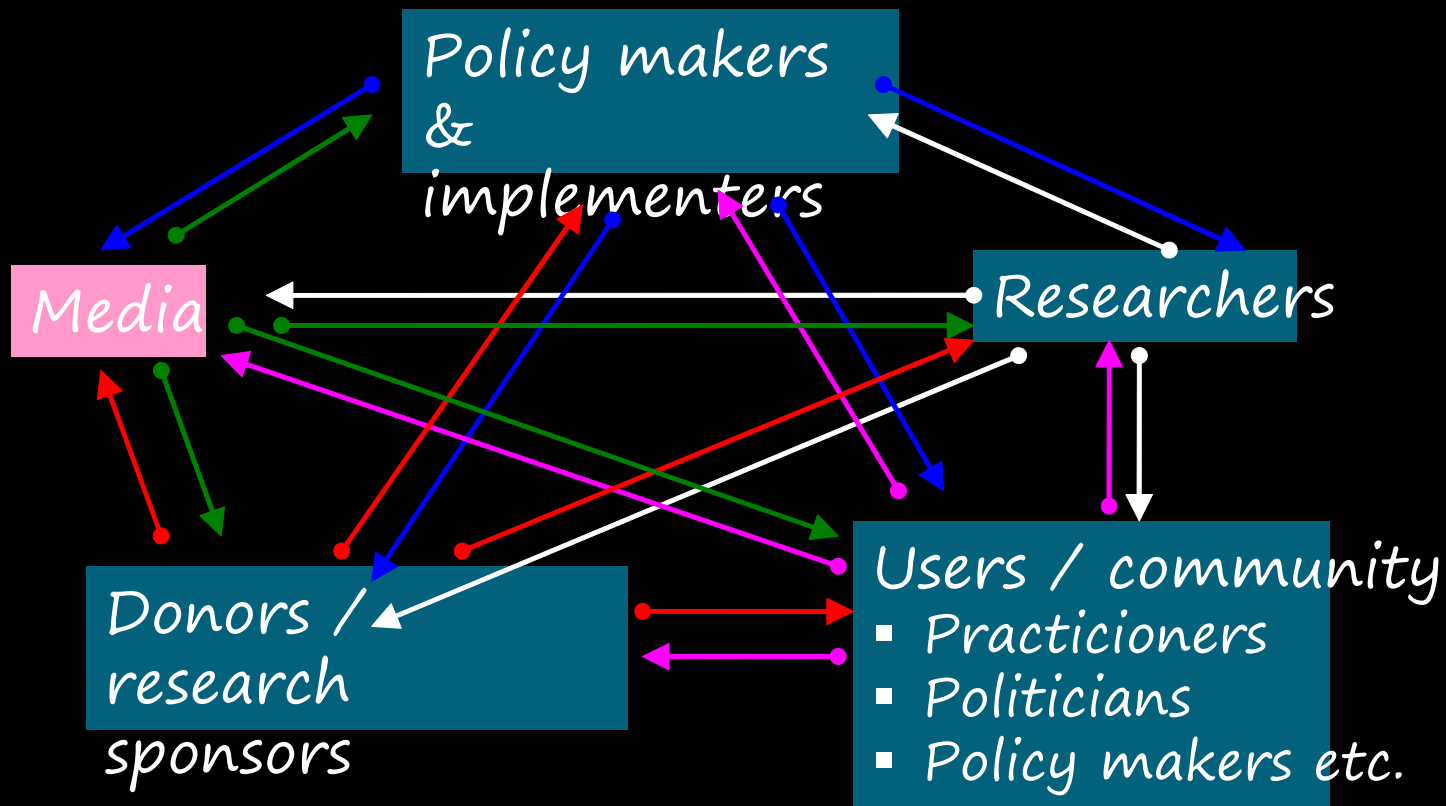
- Considering the specific local/regional environment and for strengthening regional institutional building, need to develop regional network;

# Curricula Content

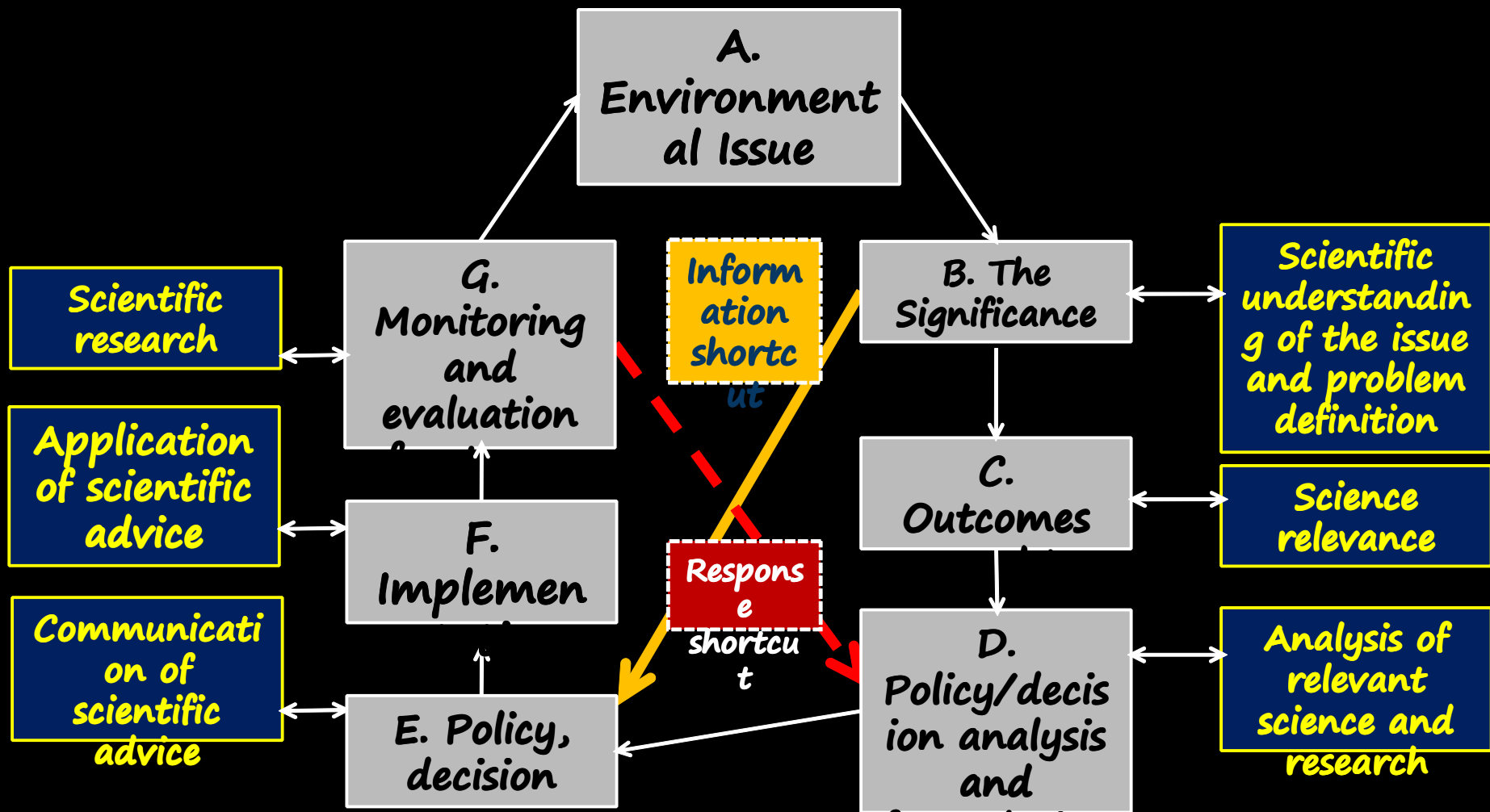
- *Describes the biogeochemical cycle and its dynamic, particularly carbon and water cycle*
- *Describes comprehensively all climatic change strategy: mitigation, adaptation, funding mechanism and technological transfer*
- *Describes Biodiversity Conservation as a means to combat CC, consider the biodiversity richness in the tropic*
- *Relates to social, economy and ecological aspect*
- *Describes human as an agent of the CC and human as a victim. Balance benefit and risk analysis*
- *Includes practical guidance in daily live in combating the climatic change. This particularly important for public awareness*

LINK BETWEEN  
RESEARCH, EDUCATION,  
TRAINING AND POLICY  
MAKERS

# Research Communication



Modified from: Carel Ijsselmuiden, Annual Meeting of the African Science Academy Development Initiative (ASADI), London, 4-5 November 2008



## Science and policy maker decision

Sources: Gord Miller (2005)

# Link Education , Research, and Policy Makers

31

- ✓ Education must also provide scientific data and information, → need inter universities and research institutes networking
- ✓ Improve capacity building and strengthening national and international collaboration
- ✓ Need education and research priority addressing climatic change
- ✓ Link to and communication with policy maker

# Climate Change

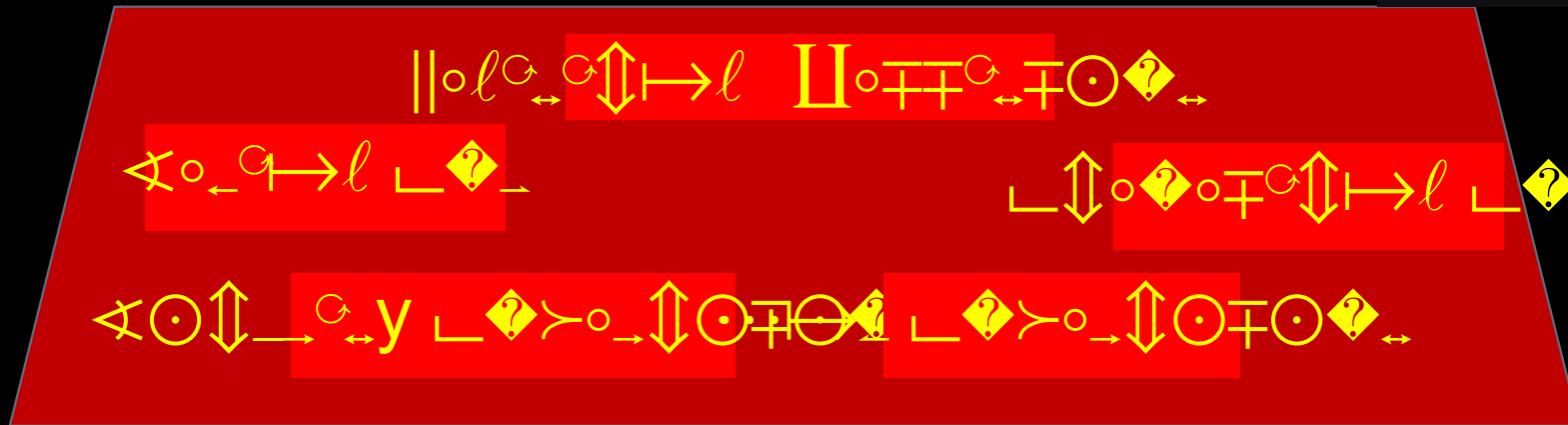
Adaptation Mitigation Funding Support and Mechanism Technological Share

- MRV
- Safeguard

## REDD

- + Carbon Conservation
- + Sustainable Forest Management
- + Carbon Enhancement

- Fair Risk & Benefit Distribution,
- Better /Green Environment





# Pembangunan Kapasitas *(Capacity Building)*

# Definisi:

1. **Pembangunan Kapasitas adalah: Proses multidisiplin yang bertujuan untuk memperbaiki/meningkatkan kemampuan internal dalam memahami dan menghadapi suatu tantangan dengan baik (efektif dan efisien).**

*Capacity Building is: Multidimensional process that improves the in-house "ability" to understand & face challenges successfully (effectively and efficiently).*

Cont

2. Pembangunan kapasitas adalah: aktivitas yang mendorong pembangunan infrastruktur organisasional yang membawa kepada perbaikan pelayanan.

*Capacity building is defined as activities that promote organizational infrastructure development that lead to the delivery or improvement of services*

# Komponen Pembangunan Kapabilitas:

**A. Kapabilitas Kelembagaan**

**A. Kapabilitas Manajemen**

# *Kapasitas Kelembagaan*

- 1. Organisasi**
- 2. Sumber daya manusia**
- 3. Fasilitas dan Logistik**
- 4. Keuangan**
- 5. Regulasi atau Tata Mekanisme**

# *Kapasitas Manajemen:*

- 1. Administrasi**
- 2. Perencanaan**
- 3. Kapasitas Tekhnis**
- 4. Operasional**
- 5. Pelayanan & Produk yg ditargetkan**
- 6. Komunikasi & Pendidikan**
- 7. Riset**

## Tahapan

- **Pembangunan Kapasitas (*capacity building*)**, bila elemen dan kegiatan merupakan titik awal dan belum ada sebelumnya
- **Penguatan kapasitas (*capacity strengthening*)**, bila sebagian sudah ada elemen dan aktivitas awal dan perlu ditingkatkan
- **Perbaikan penampilan (*performance enhancement*)**, aktivitas yang bersifat untuk menjaga dan memperbaiki kinerja

# Summary

- ❖ Strategic Planning on CC need to be develop in accordance with nation ideology and national interest in support to the global effort to combat various global environment issue
- ❖ Comprehensive view need to be continuously observed in response to the characteristic of CC issue
- ❖ Specific program of education associated with the local ecological condition, social and economy must be referred and appreciated
- ❖ Need capacity building in all level of education and training, including **public awareness** with regard of CC and other global environment problems
- ❖ Need further capacity building in institutional, regulation, program, financial, facilities and human resource.
- ❖ Strengthen an international collaboration in developing programs and other purposes



# Thank you for your attention

*"Better an approximate answer to the right question than a precise answer to the wrong question" (A. Einstein).*