

KEMENTERIAN NEGARA
LINGKUNGAN HIDUP
REPUBLIK INDONESIA



Experiences in Mainstreaming CC into IWRM at CRB

Yuli Suharnoto

**Low Carbon Asia Research Network (LoCARNet) 3rd Annual Meeting
Bogor 25 November 2014**

Outline

- Introduction
- Citarum River Basin (CRB)
- TA ADB 7189 INO Package E
- Project Implementation
- Main activities
- Key Findings
- Trainings

Introduction

- Citarum River Basin (CRB) is one of the strategic area for the water resource of West Java Province and Jakarta, Capital City of Indonesia.
- Nowadays, CRB has facing multi threats due to increasing economic and industrial development that caused rapid urbanization, deforestation, and agriculture land conversion.

Introduction

- The burden of CRB is getting worse as the climate change is also one of the factor to be coped in water resource planning.
- However, traditional water resource planning may not be appropriate to future climatic conditions.
- Strengthening climate resilience of water resources is thus central to sustainable development agenda in CRB.

Strategic Role of CITARUM



The largest and the longest river in West Java

Total Catchment Area: 12.000 km square

Population along the river:
10 million (50% urban)

Population served: 25 million
(15 million Jawa Barat, 10 million DKI Jakarta)

Hydropower:
1.400 Mega Watt

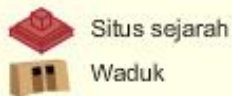
Irrigation Areal: 420.000 ha

Water resources for 80% Jakarta population 5
(16 m³/s)

Citarum

Sungai terpanjang dan terbesar di Provinsi Jawa Barat. Bersumber dari mata air Gunung Wayang di sebelah selatan kota Bandung, air Sungai Citarum mengalir ke utara melalui bagian tengah wilayah Provinsi Jawa Barat dan bermuara di Laut Jawa.

Selain dimanfaatkan untuk



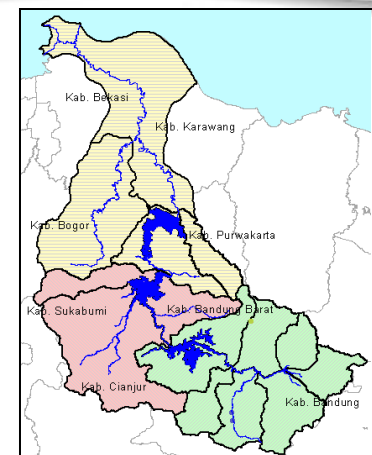
Situ Cisanti
Berada di desa Tarumajaya, Kec Kertasari, Kab Bandung. Luas: 6,5 hektar Kedalaman: 2,5 m Volume: 162.500 m³



Infografis kompas lipsus citarum

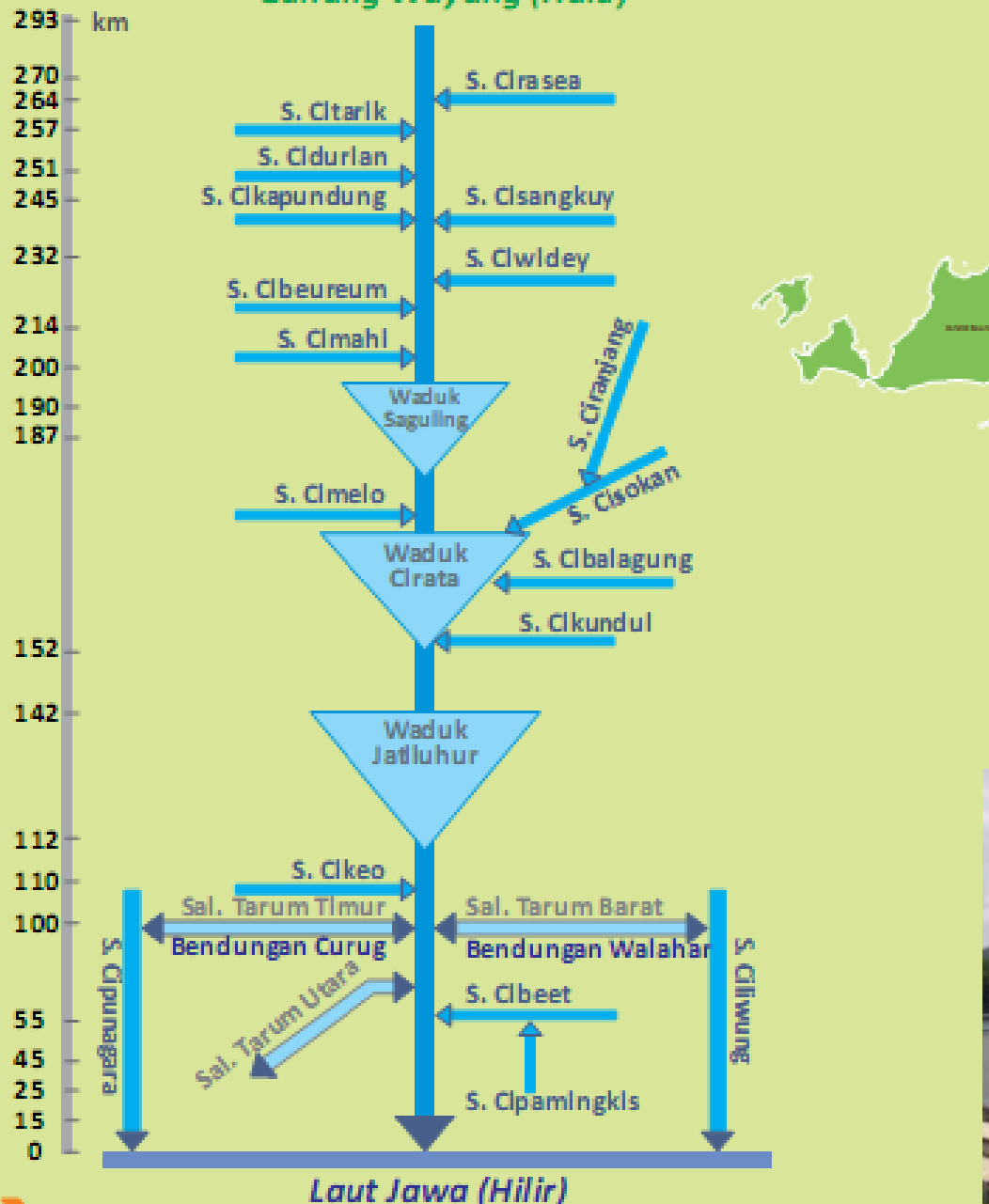
Citarum crossing 9 District and 3 Cities

- (1) KAB. BANDUNG
- (2) KAB. BANDUNG BARAT
- (3) KAB. CIANJUR
- (4) KAB. PURWAKARTA
- (5) KAB. KARAWANG
- (6) KAB. BEKASI
- (7) KAB. SUBANG
- (8) KAB. INDRAMAYU
- (9) KAB. SUMEDANG
- (10) KOTA BEKASI
- (11) KOTA BANDUNG
- (12) KOTA CIMAHI



SUNGAI CITARUM DALAM WILAYAH ADMINISTRATIF

Gunung Wayang (Hulu)



Laut Jawa (Hilir)

SKEMA ALIRAN SUNGAI CITARUM DARI HULU KE HILIR

Reservoir capacities and Hydropower

Jatiluhur (1963):
3,000 million m³ –187.5 MW

Saguling (1986):
982 million m³ - 700 MW

Cirata (1988):
2,165 million m³ -1,000 MW



Jatiluhur (above) and Saguling (below)



Existing Water Infrastructure in CRB



Source: Department of Public Works (2009)

TA ADB 7189 INO Package E

- Program at CRB for climate change in water resource is implemented by TA ADB 7189 Package E.
- The expected impact of package E will be low-carbon climate-resilient development in CRB and reduced vulnerability to climate change.
- The expected outcome will be an improved enabling environment to mainstream climate change concerns into Citarum water resources development planning at both policy and operational levels.

Project Implementation

- This project is designed to be implemented in two overlapping phases:
 - Phase 1: Mainstreaming Climate Change Concerns into Citarum Water Resource Management
 - Phase 2: Design and Implementation of Climate Change Mitigation and Adaptation Pilot Activities

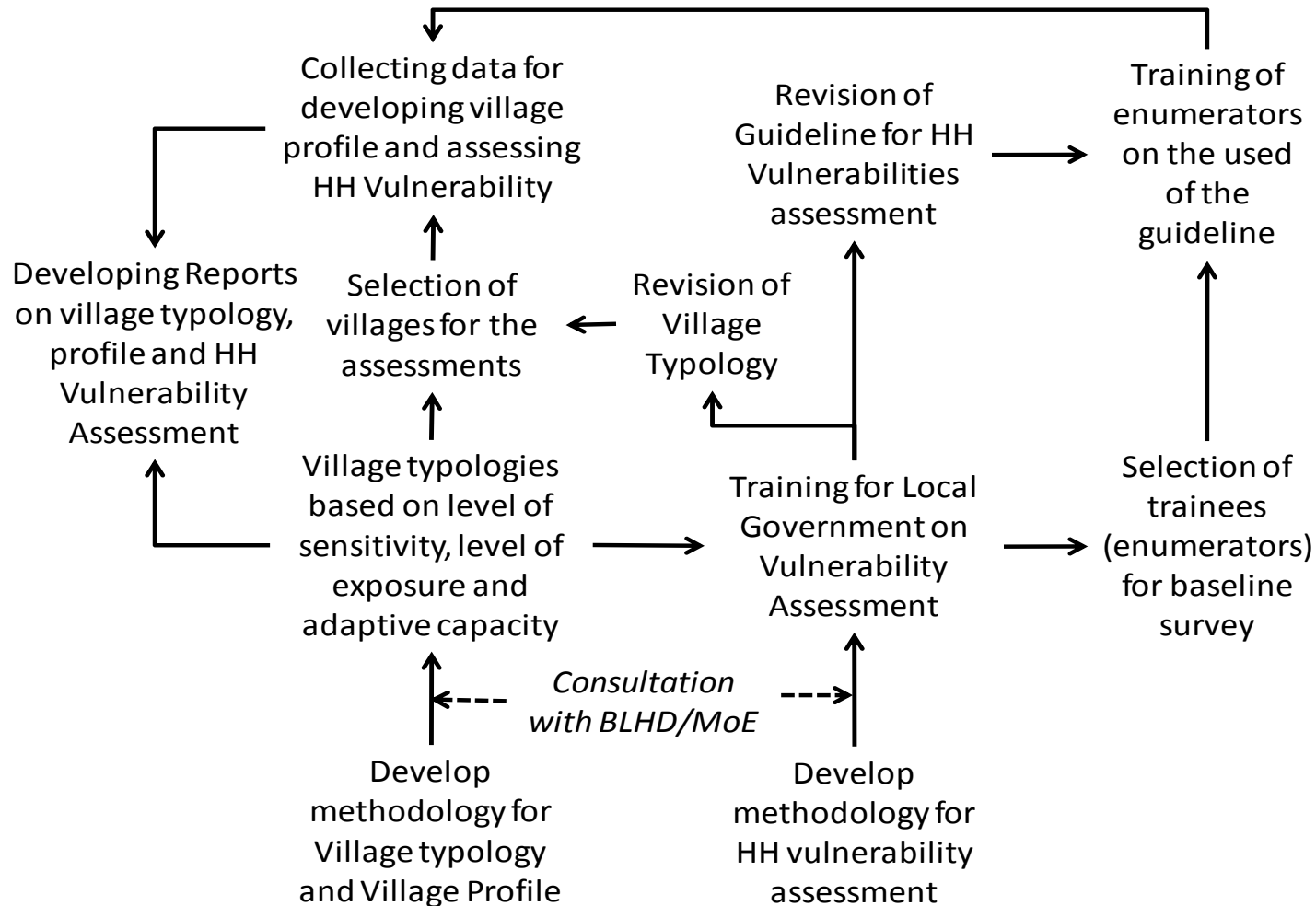
Outputs of Mainstreaming CC

- Reports on vulnerability, impacts and adaptation assessments, and mitigation measures in the CRB
- Operational Guidelines for mainstreaming climate change concerns in IWRM
- Action Plans on mitigation and adaptation, and capacity development

Key Findings:

- CRB has vulnerable spots to climate change impact
- Multi Stakeholder consultation indicate various climate change mitigation and adaptation has been conducted at CRB but the implementation is not coordinated and synergized.
- The same perception and understanding for climate change are required by local government officers in supporting climate change mainstreaming into development plan

Process for vulnerability assessment to climate variability and climate change



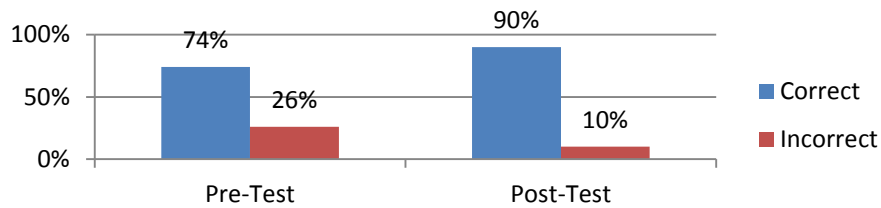




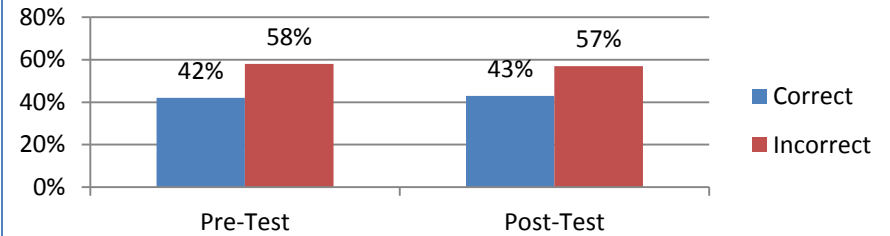


Knowledge of Enumerators

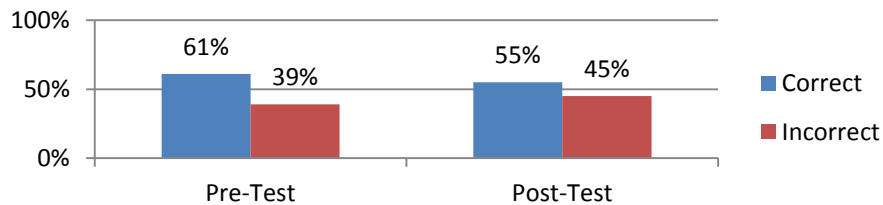
Country that Contribute The Largest Amount of Carbon Emission



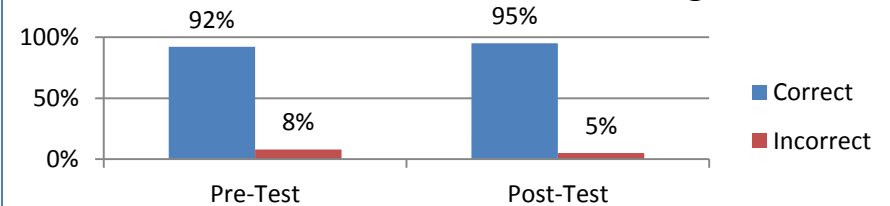
Definition of Climate Change



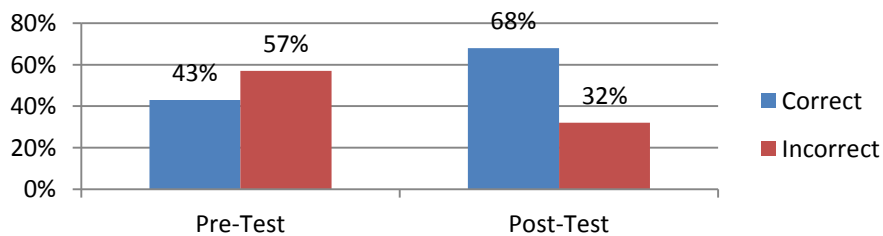
Definition of Global Warming



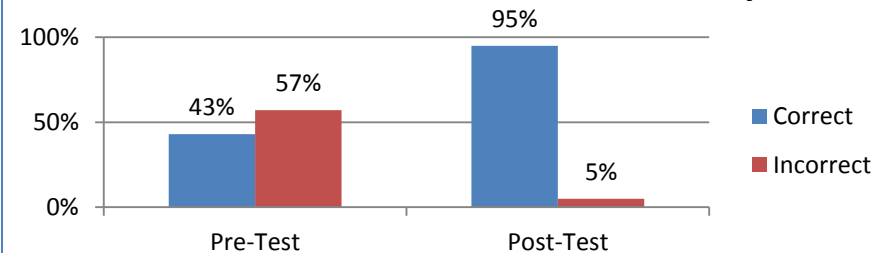
Effort to Reduce Global Warming



Vulnerability to Climate Change

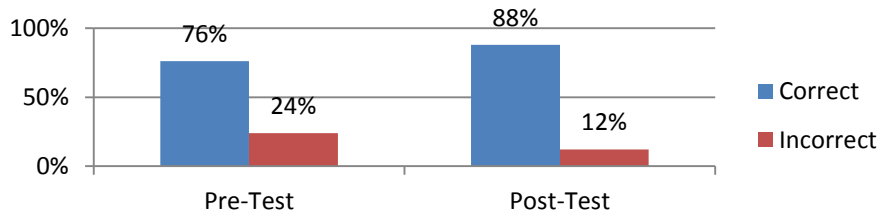


Factors that Affect Level of Vulnerability

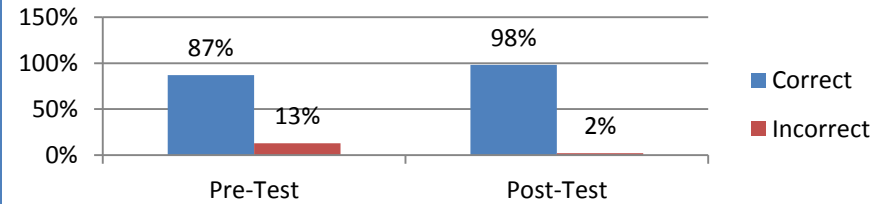


Knowledge of Enumerators

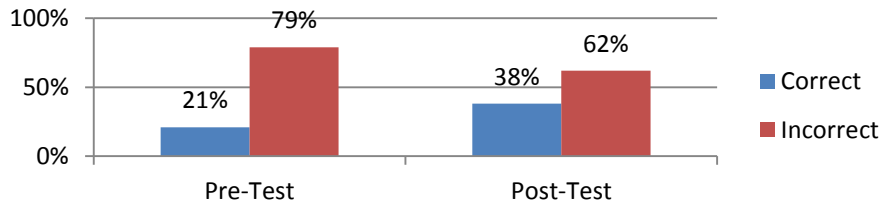
Explanation of Greenhouse Gasses



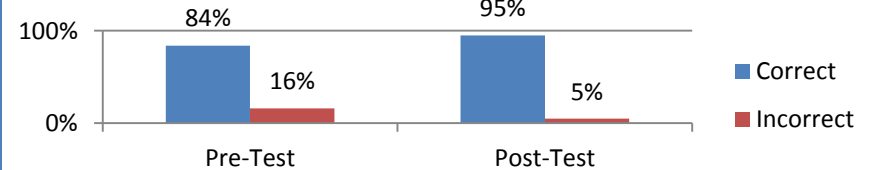
Sources of Greenhouse Gasses



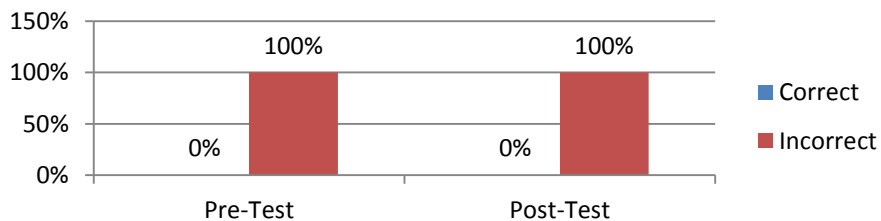
Process of The Greenhouse Effect



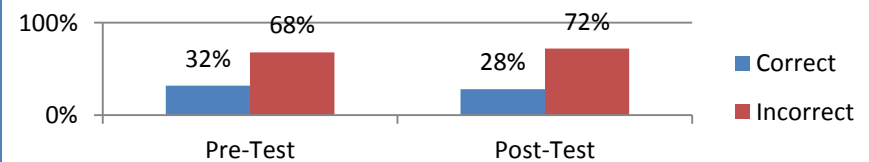
Sources of Carbon Dioxide Gasses Production



Efforts to Reduce Greenhouse Gasses

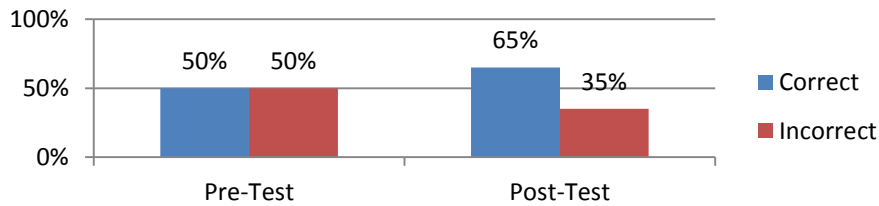


Countries That Contribute a Large Number of Carbon Emission

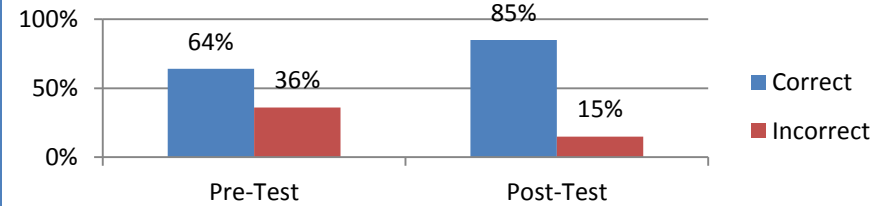


Knowledge of Enumerators

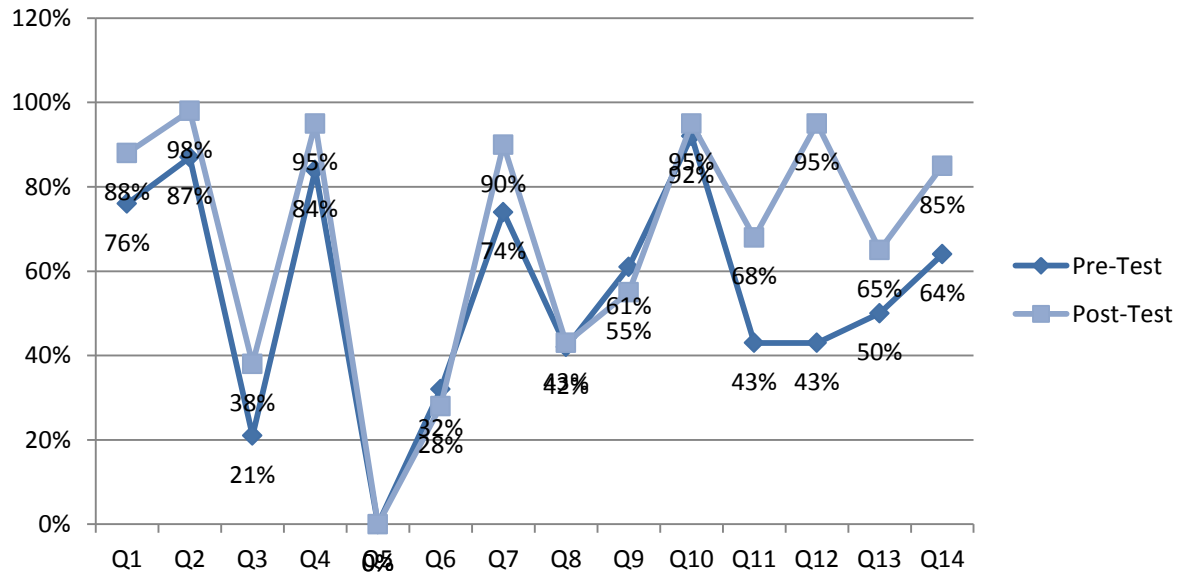
Definition of Climate Change



Adaptation Efforts to Reduce Climate Risk



Knowledge of Enumerators Before and After The Training

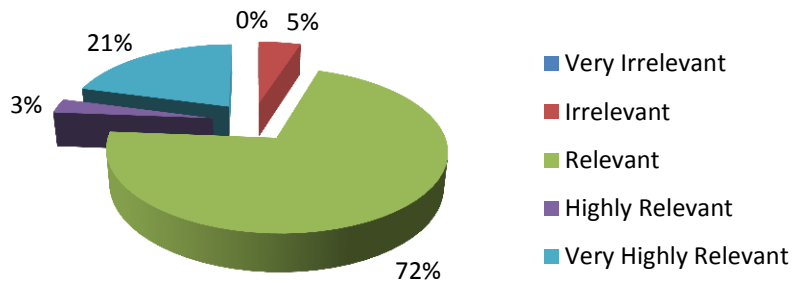


Profile of Enumerators

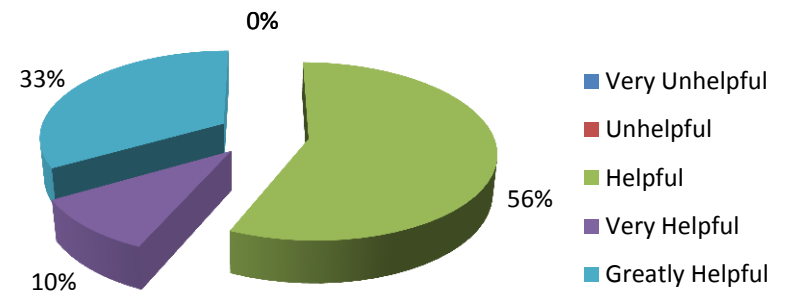
- Gender: 12 female and 28 Male
- Education:
 - High school: 22
 - Academy/Univ.: 17
 - Master degree: 1

Evaluation of Enumerator Trainings

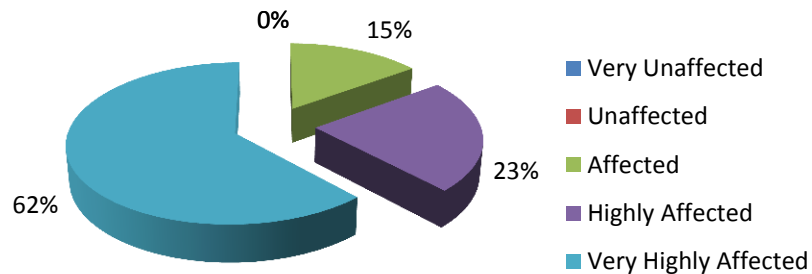
Relevancy of The Training Materials



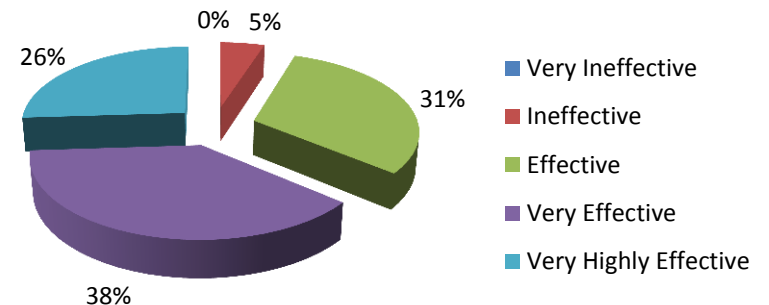
Benefit of The Training



Perceived Impact of The Training

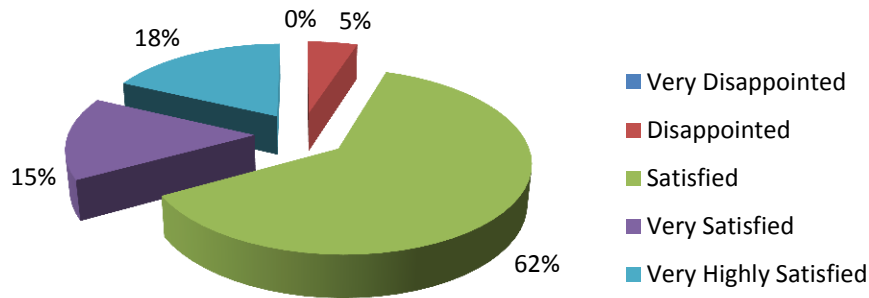


Effectiveness of The Training

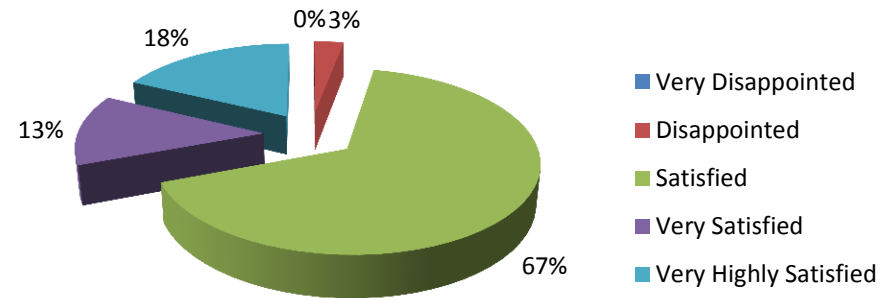


Evaluation of Enumerator Trainings

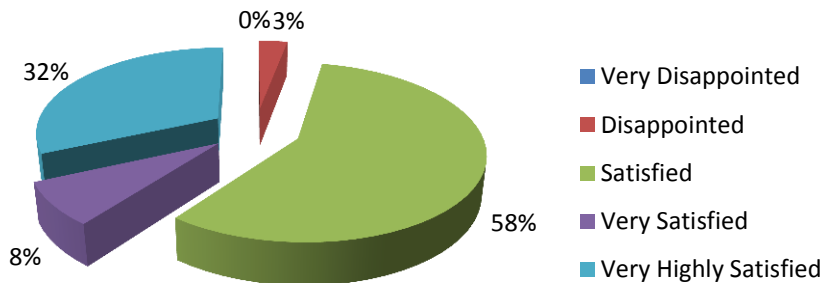
Satisfaction to The Service of The Committee



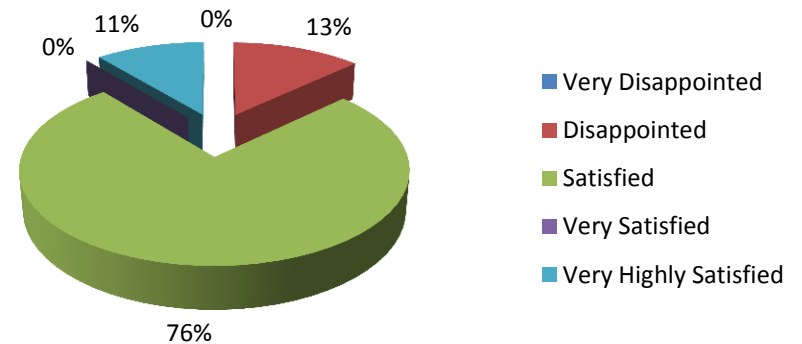
Satisfaction to The Presentation Methods



Satisfaction to The Facilitation of The Facilitator



Satisfaction to The Hotel Service



Training For Local Governments & Other Stakeholders

- Do you know policy/program at national or provincial level related to climate change?
 - Yes Answer: 17 (100%)
- Are there any programs or strategies or activities by local government to support National or provincial policy for climate change?
 - Yes Answer: 16 (94%)
- Are the members of Working Group or Task Force representing all sectors or involving multi-sectors?
 - Yes Answer: 9 (53%)

Training For Local Governments & Other Stakeholders (continued)

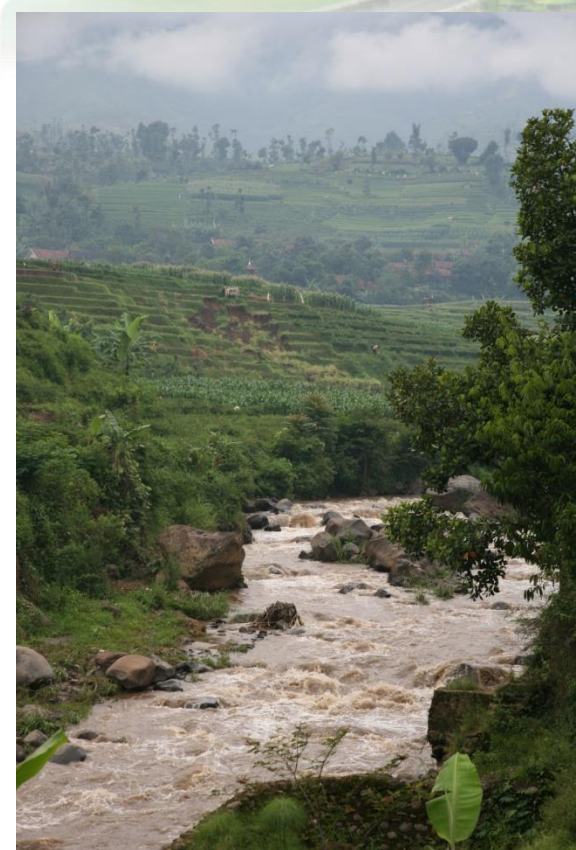
- Do you have plans to design activities or strategic plan related to climate change?
 - Yes Answer: 1 (6%)
- Are there any Working Group or Task Force or institutions that are created by local government to mainstreaming climate change into development plan in-line with national/provincial plan?
 - Yes Answer: 8 (47%)

Do you know the following things:

	Yes	%
REDD National Strategy	4	24%
National Action Plan for Climate Change Adaptation (RAN API)	10	59%
Sector Roadmap for Climate Change	5	29%
National Action Plan for reducing GHG emission (RAN GRK)	11	65%
Green Growth Strategic West Java Province	13	76%
Program Kampung Iklim (ProKlim)	14	82%

Do you know the following things:

	Yes	%
Green growth strategic Plan	6	35%
Program to reduce GHG emissions	9	53%
Community empowerment related to extreme climate events (floods or droughts)	8	47%
Activities to explain climate change for communities	11	65%
Others: (such as recharge well, re-vegetation, nature protection)	5	29%



THANK YOU
