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Guideline for Facilitators

Climate Change Assessment & Adaption Pattern Selection

Plan

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Foreword

For Indonesia, impacts on climate change are devastating. Nowadays, interest on climate change impacts in relation with disaster risks, in terms of frequency and magnitude, is growing. Complexity in finding appropriate climate solution lies on how to create resilience and also targeting mitigation and adaptation action efforts towards the changing climate itself.

Plan Indonesia strives to give contribution to managing climate change risks, so it will not challenge child's rights compliance. Children as one vulnerable group, and in another hands, the heirs of this challenge, deserve to be involved in solution identification process and to have their capacity and security enhanced.

This guideline is developed to help facilitators* gain information and introduce climate change to the community and children. The development of this guideline involved a series of processes such as preliminary workshop for guideline development (November 30, 2012), guideline testing in Kefamenanu (January 10-11, 2012), Lembata (January 16-17, 2012) and final feedback phase by Plan Indonesia.

The key objective of this guideline is to help community to identify solutions any emerging climate change issues through adaptation options, particularly for children. Plan wishes to see this guideline also promote children participation in climate change risk management and adaptation, both now and in the future. Thus, a community with resilience and adaptive capacity to climate change can be realized.

The development of this guideline was conducted well, thanks to support from various parties. Our gratitude is expressed to the participants of workshop for guideline development, Plan Indonesia Programme Unit Kefamenanu and Lembata, the community of Kefamenanu and Lembata, and Plan Indonesia Disaster Risk Management unit.

Finally, Plan wishes to see this guideline enrich climate change knowledge in Indonesia and treated as one reference source in implementing climate change adaptation.

*Facilitator is a person who supports community in defining a way to reach common goals. This module can be used by facilitators in disaster or climate change sector.

Herlina,Plan Indonesia

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HOW TO USE THIS GUIDELINE

COMMON OBJECTIVES

The guideline is developed with the objectives to:

a. Help facilitators in exploring information from community and children
b. Introduce climate change adaptation in line with disaster risk management
c. Introduce and promote child participation in climate change adaptation efforts

- **HOW TO USE THIS GUIDELINE**

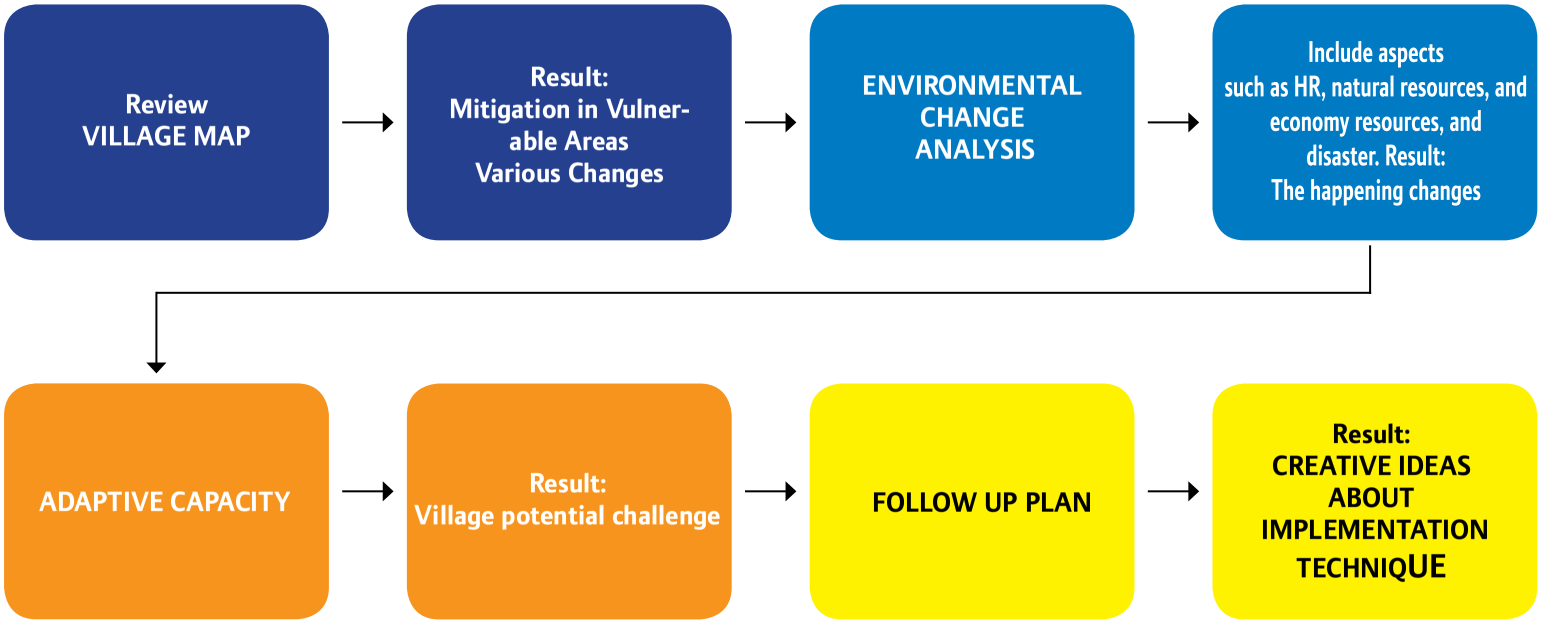
Climate Change Assessement Guideline is intended to analyze and explore some changes in community related to climate change. This guideline will help field facilitators ask and analyse changes and impacts.

This guideline is also aimed at examining challenges and potential in community to find common solutions. The referred solutions will come forward through creative ideas exploration which eventually can be interpreted and implemented by the community in micro activities.

This guideline helps facilitators to examine some changes which intervene in the community related to climate change. In this guideline, facilitators are encouraged to motivate participants, especially children in analyzing changes until they come up with adaptation effort options. This guideline has been tested to children aged 10-13 years old and adults. The guideline comes complete with method options choice for children and adults,that it is applicable in various condition

Herlina, Plan Indonesia

APPLICATION SYSTEMATICS



Climate Change

Naturally, the earth has its own system to keep the convenient temperature for lving creatures

1

Weather adjustment is the function of atmosphere. Atmosphere acts as a kind of cover for earth to stand the heat from the sun

2

Atmosphere consists of various gases, such as CO2, CH4, N20 which are called the green house gases.

3

The green house gases work by absorbing the heat from the sun

4

The process of absorbing and storing the heat of the sun to maintain earth's safe temperature for human is called green house effect

5

It is called green house effect because the process is similar to the green house effect in agriculture. The heat entering green house will be trapped and make the weather inside the green house hotter compared to its surroundings.

6

Each day, Green House Gases increase together with the growing use of fossil fuel, such as oil and coal, industry, or deforestation. The rise of green house effect will elevate the temperature.

7

The phenomenon of temperature elevation is often referred as Global Warming

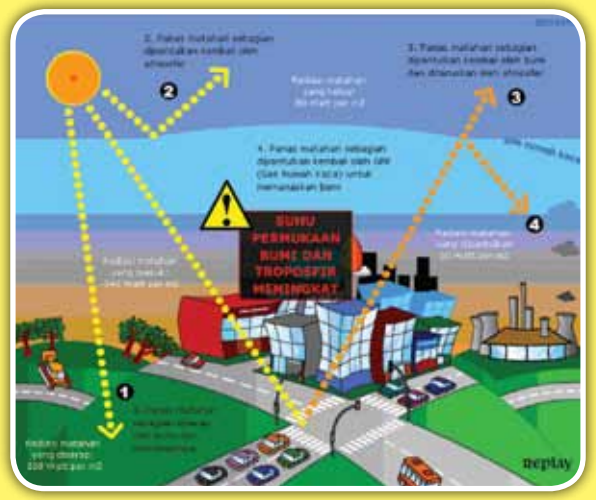
8

Global Warming will lead to temperature changes and can trigger other climate factor changes such as the wind and rainfall

9

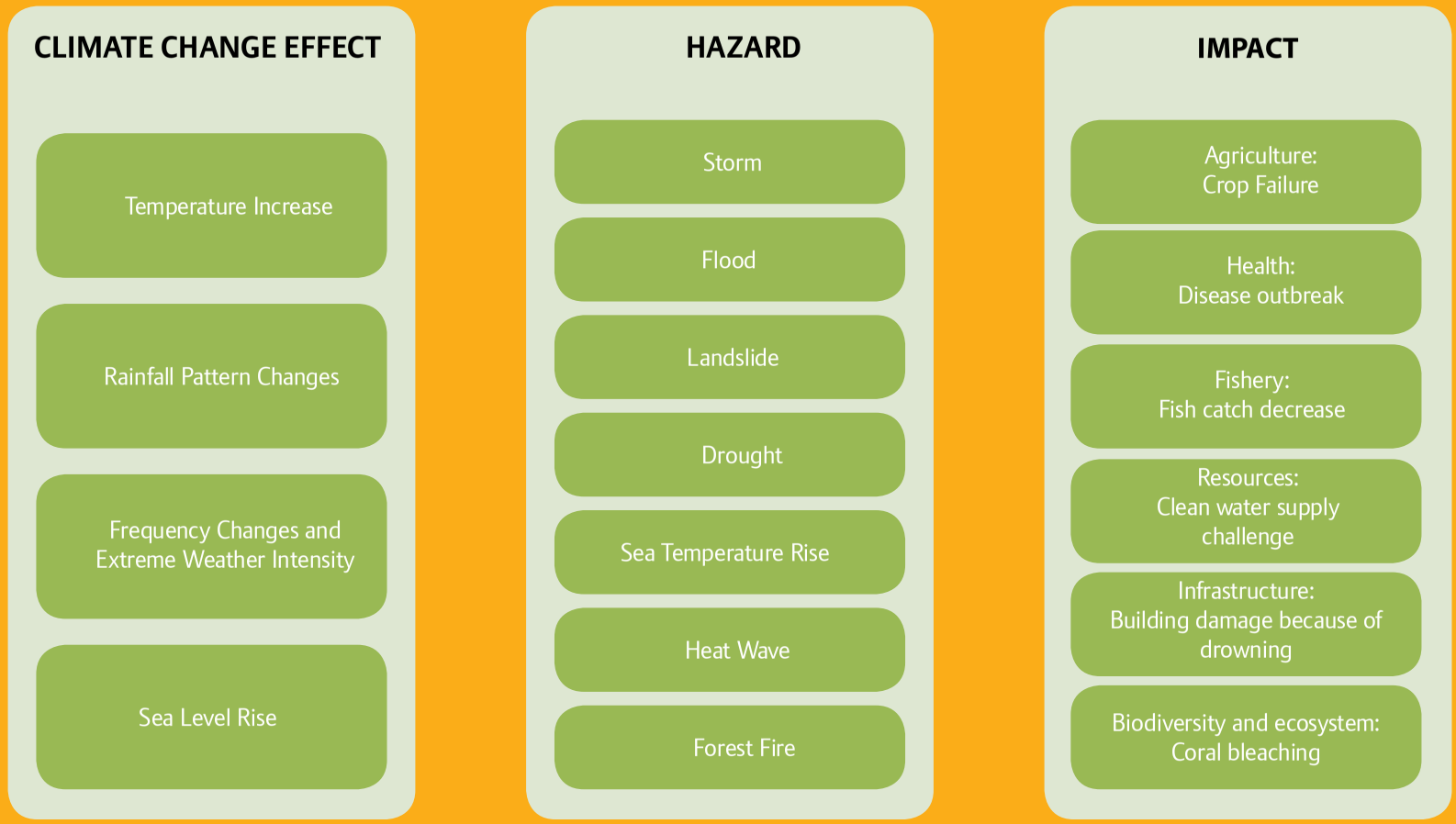
A significant value changes in climate factors such as air temperature or rainfall in a relatively vast area, and compare to the past (for about 50 years) is called climate change (Ministry of Environment)

10



Source:
http://mbojo.wordpress.com/2008/07/17/hubungan-efek-rumah-kaca-pemanasan-global-dan-perubahan-iklim/

Climate Change Impact



Chrisandini, 2011

MITIGATION

Prevention efforts to reduce and minimize green house gas emission directly from its sources

ADAPTATION

Nature or human adaptation in responding climate phenomenon or its impact which already or will take place, with the objective to reduce its harm or to use the possible positive effect.

CLIMATE CHANGE ADAPTATION ALTERNATIVE ACTIVITY

Infrastructure preparation (such as long dike)
(Plan Indonesia Programme Unit Lembata)

Local food development
(Plan Indonesia Programme Unit Kefamenanu)

Reforestation
(Plan Indonesia Programme Unit Kefamenanu)

Information sharing related to climate
(Plan Indonesia Programme Unit Lembata)

Review: Village Map

DESCRIPTION OF ACTIVITY:
Participants are encouraged to review the village map they already have

OBJECTIVES:
1. To analyze changes hich have taken place in villages related to the information included in the village map (vulnerable area, facilities, evacuation route, etc.)
2. To update the already-developed village map:
   a. **TOOLS AND MATERIALS**
      Village map, meta plans, stationery
   b. **PROCEDURES**
      - If the map is unavailable, follow the steps in the instruction box.
        If it is available, use the village and disaster proneness map, analyze and update the map according to the changes which have taken place in the village (example: additional village facilities, new disaster points, etc.)
      - Some examples of questions to examine the changes
        - Is there any new building/house/area which has not been recorded in The map?
        - Does the number of disaster vulnerable locations changes?
        - Is there any mitigation action in the areas vulnerable to disaster?
      - Write any information in the meta plan, and stick it to the map
      - Ask for any opinion or feed back from tparticipants
      - After it is done, say thank you and continue to the next activity

Printed Village Map
(Plan Indonesia Programme Unit Kefamenanu)

VILLAGE MAP is an image/map of a village which shows a situation or surroundings as close as possible to the real condition.

STEPS TO DEVELOP VILLAGE MAP

1. Develop the village basic map (complete with information about village border and a compass which points north)
2. Draw the areas, roads, and rivers in the village
3. Add information about buildings/important places (such as village office, schools, community health centres, fields)
4. Define areas which are vulnerable to or have disaster potential
5. Define housing location
6. Mark safe areas for evacuation and provide evacuation routes

Source: Idep Foundation, Public Perspective on Community Based Disaster Management, Bali, 2005.

Village map as the result of community discussion

(Plan Indonesia Programme Unit Kefamenanu)

Environmental Change Analysis

To conduct environmental change analysis, different methods are applied to facilitate adults and children.

DESCRIPTION OF ACTIVITY:
Participants are encouraged to see, note, and analyze changes which happen in their surroundings.

OBJECTIVES:
1. To conduct deeper analysis on changes in the village related to nature, human, economy resources, and disaster
2. To see changes visually in format of graphic
3. To understand connection between changes which take place and the surrounding

TOOLS AND MATERIALS
Flip chart, meta plan, stationery

METHODS FOR ADULTS

- Participants are divided into 4 groups
- Share papers which contain questions and tables about human resources, nature resources, economy resources, and disaster (table example can be seen as below)
- Participants are asked to fill in the tables
- It data available, information can be in form of precise number. Data should be taken from village number.
- After complete, share the paper to develop graphics (example can be seen below)
- Discuss the changes and the connection among the changes
- Some examples of questions to explore the analysis about environmental changes:
    1. Has there been any changes in the past 10 years?
    2. Are the changes related to one another?
    3. What caused the changes?
    4. What changes will happen in the next 5, 10, and 20 years?
    5. Will it increase or decrease? Why?
    6. Will those changes happen for sure?
- Once it is done, say thank you and continue to the next activity

EXAMPLE OF TABLE FILLING IN ENVIRONMENTAL CHANGES ANALYSIS

(Example of Plan Programme Unit Kefamenanu assisted village)

1. Human Resource Aspects

Human Resources	2000 - 2005	2006 - 2011	Impact of changes	Remarks
Formal education level (the number of students in school)	<113	>126	1. Raised of formal education level is due to emerging community awareness 2. Education facility availability 3. Community facility availbility 4. Village government support is available	
Number of farmer group	4 groups (12 people)	17 groups	1. Infrastructure development 2. The community obtain direct benefit	
Number of productive labores	>320 people	358 persons	Change in lifestyle	
Type of jobs	Farmers and builders	Farmers, builders, service providers, moto-taxi driver	Increased income	
Health level	1 outbreak of diarrrhea	No outbreak events	1. Medical service improvement 2. The community obtain access to medical service 3. Health facility availability 4. Medical workers reside in the location 5. Community awareness about the importance of health	
Number of community	500 persons	659 persons	Increase of number population in comunity relate with early marriage condition.	

2. Nature Resource Aspects

Nature Resource Aspect	2000 - 2005	2006 - 2011	Impact of changes	Remarks
Farm field	7000 acres	5000 acre	Decreased income (-)	Decrease is due to expansion of habitation, roads, construction facility, education facility, village clinic
Water (rain/soil water)	2	10	Increased (+)	Supply increase due to additional 8 rain water tank.
Forest	Vast enough	Decreased (-)	Decreased (-)	Forest land is decreased due to expansion of housing roads, construction facility, education facility.
Soil	Fertile	Decreased (-)	Decreased (-)	Transferred fields, slash and burn
Land use change	Not many	Decreased	Decrease (-)	Increase population means increase daily need, such as food and shelter. Therefore, land use change is happened to fulfil the needs.

Farm Lands
Plan Indonesia

Water
Plan Indonesia

3. Economy Resources Aspects

Ecomomy resources	2000 - 2005	2006 - 2011	Impact of changes	Remarks
Stocks ownership (big, medium, small)	Few	Increased	Family economy, education, and health improvement. Available transportation and communication access	Programme intervention from the government and other institutions. Human resources also improve.
Home industry	Few	Increased	Community skill facility improvement	Ikat training from local organisations
Productive plants	Few	Increased	Increased community awareness to scale up plant production	Environment reservation improvement
Savings	No	Available	Emerging thrifty lifestyle	Moneylenders practice is diminished in villages
Valuable possession	Plenty	Grow less	Local wisdom is extinct (heirlooms), hiking price of heirlooms, (heirlooms) save habit is decreasing	Valuable possessions ownership should be maintained for the purpose of savings and local wisdom
Manganese mine	No	Available	Family economy improvement	Tax payment for the community

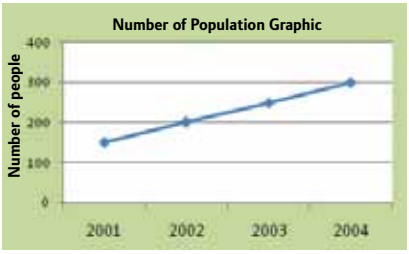
4. Disaster Aspects

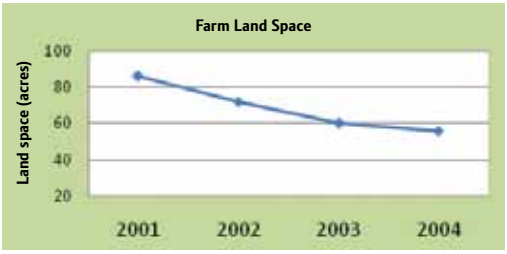
Types of disaster	2000 - 2005	2006 - 2011	Impact of changes
Drought	July-November	September-November	Drought impact decreased because of rain water tank cathment is available.
Land slide	Neofmuti, Tuasene, Besnanu area	Neofmuti, Tuasene, Besnanu, Naibokos, Naijasuti, Baupai, Katio, Naisae	Increased (area, degrading farming/stockbreeding) Terracing Greening or reforestation
Hurricane	2004 (happened once)	No event	Starting to decrease
Rats	2005 (happened once)	2008-2011 (happened 4 times)	Crop failure (corns, rice, beans, and tubers)
Locusts	2004 (happened once)	No event	Starting to decrease
Coconut pests	Many coconut died	Ruin the (dry) leaves	Starting to decrease
Stock thievery, Conflicts in the border, Farmer huts burning	14 stocks (happened 3 times), 2000 (happened once)	8 stocks (happened 8 times) No events	Starting to decrease There has been an agreement amongst Banain and Naimeko village with the custom agreement

Landslide
(personal documentation

Flood
(personal documentation)

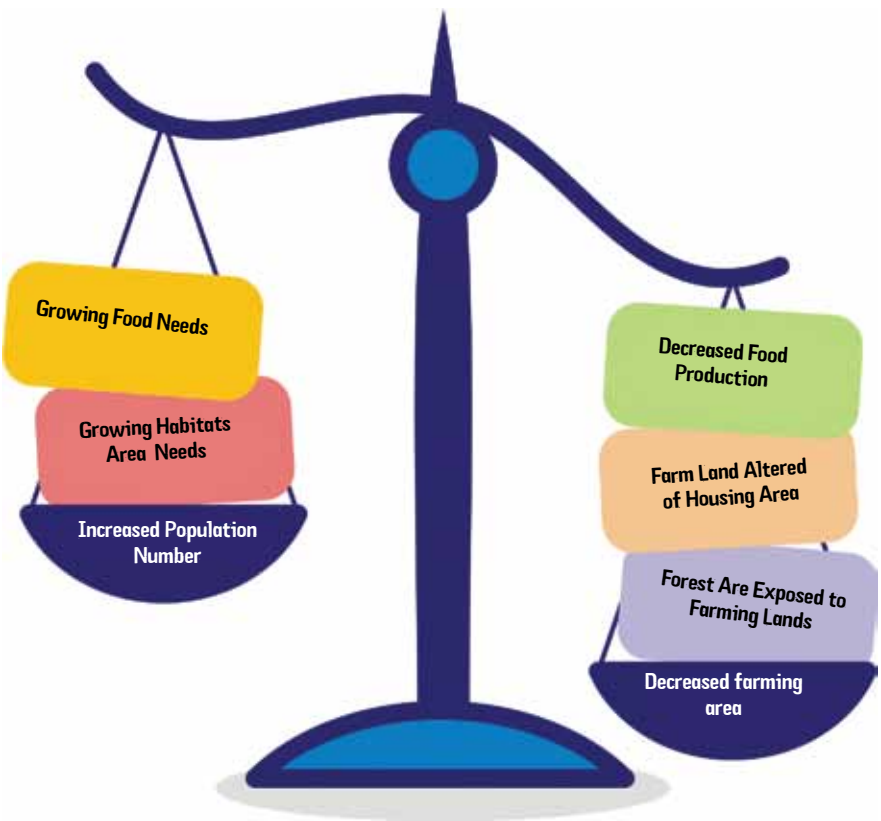
EXAMPLE FOR GRAPHIC FILLING IN ENVIROMENTAL CHANGES ANALYSIS





From the above graphics, we can see how the community growth increases each year. On the other side, the farming land space is not expanding. The impact can be seen in scale illustration below.

EXAMPLE OF STUDY ABOUT CORRELATION AMONG CHANGES IN THE ENVIRONMENTAL CHANGE ANALYSIS



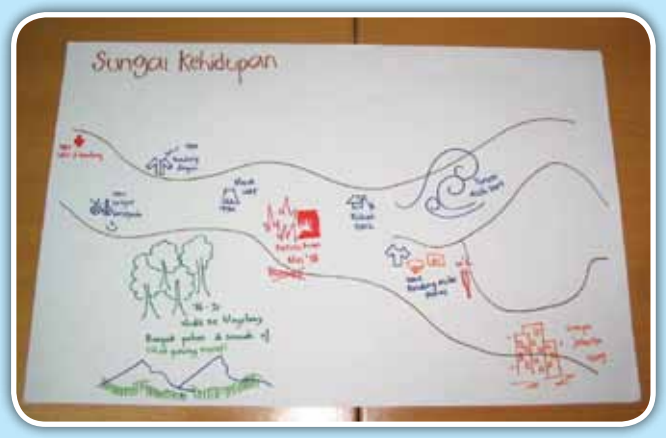
ENVIRONMENTAL CHANGE ANALYSIS

METHOD FOR CHILDREN

- Participants get blank paper
- Explain that river is considered as a symbol which projects live route
- Participants are asked to recall their life journey and memorable events. Positive events are marked by calm water. Negative ones are marked by rushing water.
- If time is a constraint, it can be limited to events related to disasters or things that have changed the lives of the participants
- Questions to ask:
    1. When were you born?
    2. What event made you really happy? When did it happen (mention the year)?
    3. What has been changing in your village? Do you remember what year that was?
    4. Have you ever experienced any disaster, What kind of disaster and in what year?
    5. After it is done, say thank you and continue to the next activity

Children of Banain Village draw the village map
(Plan Indonesia Programme Unit Kefamenanu)

EXAMPLE OF RIVER FOR LIFE



Example of rifer of life
(Personal documentation)

Adaptive Capacity

DESCRIPTION OF ACTIVITY

Participants are encouraged to see the challenges and strengths they already posses

OBJECTIVES:

- To further study the impact (effect) of the changes taking place in the neighborhood
- To identify challenges and strengths to reduce impact/effect of the changes

TOOLS AND MATERIALS

Paper with drawn blank tables, meta plan, stationery

IMPLEMENTATION STEPS

- Share paper with drawn blank tables to participants.
- Remind the participants about the 4 aspects (human, nature, economy resources, and disaster) being studied, changes, and impacts
- Ask participants to choose 2 or 3 most significant changes and impacts that have long-term effects.
- Participants are asked to explore deeper about the challenges against the impacts and changes that they are facing
- After exploring the challenges, remind them that the community already have the particular power/potential to be analyzed in the next session
- After it is done, say thank you and move on to the next activity

ONE POTENTIAL: LOCAL WISDOM

The local wisdom to be considered in coastal resources management are Badu, Muro, Kolo Umen Bale Lamaq, Poan Kemer Puru Larang, Toto, Bito Berue, Lepa Nua Dewe, Bruhu Bito, and Leffa Nuang. The community devotion towards their local wisdom is considerably high because of their awareness and perception that their life existence is inseparable with the existence of other living creatures through harmony in this one and common earth.

One example of traditional ceremony is Bruhu Brito. It is organized by local fishermen before releasing new trawls to catch other fish than tembang fish. This practice can create community awareness to not catch or ignorantly and excessively exploit marine resources, and not to ruin the marine resources.

Source : Pengelola Sumberadaya pesisir dan Laut Melalui Pemberdayaan Kearifan Lokal di Kabupaten Lembata Provinsi Nusa Tenggara Timur

FOLLOW UP PLAN

DESCRIPTION OF ACTIVITY:

Participants are encouraged to answer the challenges in small projects planning and implementation

OBJECTIVES:

- To link ideas, challenges, and power in the community (in independent form) to create the dream of adapting to changes (both in climate and disaster).
- To plan and implement ideas into small projects

TOOL AND MATERIALS

- Blank table, meta plan, and stationery

IMPLEMENTATION STEPS

- Participants are asked to see the relation between village potential and challenges
- After exploring the particular challenges and potential, start to choose some creative ideas to be developed into small activities
- Combine selected creative ideas from men and women, and children (re-write it in the table)
- Discuss which one to be developed by the community (with the help from Plan)

- SOME QUESTIONS TO ASK
  1. Challenges to tackle
  2. Alternative solutions
  3. Selected solution (explain about identification process, participation level, proposal budget)
  4. Has it been discussed in the community forum?
  5. Has future projection about changes been considered?
  6. Does the selected solution need particular capacity/knowledge?
  7. Is there any party/individual with the particular capacity/knowledge?
  8. When it comes to logistic of material/service, can it be provided locally?
  9. Can the selected solution create other work options?
  10. Does the solution bring impact to the environment?
- After exploring about challenges, remind the community that they already have the required power/potential (which will be explored in the next session)
- After it is done, say thank you and move on to the next activity

Small Activity in Banain

Through study about climate change, the Banain villagers identified some changes around them. The changing crop pattern, pests attack, and unpredictable rainfall, all have intervened the population's pattern of life. The community are also aware to the ever-growing forest clearing. Forest clearing is done for farming purposes and to provide food needs. Other threatening change is watershed erosion because of floods. Damage level caused by floods has been increasing in the past years because of rainfall rise and the threath it gives to the habitat around the river.

With the changes identified, Banain people now seek for creative ideas to handle these problems. The problems selected for solution is watershed erosion because of flood. The community agrees to plant the watershed area as a way to adapt with the changing climate.

Small activity at Banain Village Programme Unit Kefamenanu
(Plan Indonesia Programme Unit Kefamenanu)

EXAMPLE OF ADAPTIVE CAPACITY TABLE COMPILATION TABLE

NO	Changes	Impacts	Challenges	Village Potential			
				Cooperation	Local Wisdom	Village Success Story	Forum/Gathering
1	Human Resources. Growing number of diseases like • Malaria • Dengue fever • Diarrhea	• Increasing mortality number • Contagious to others • Distracted community activities • Education for children is challenged	• Poor knowledge about disease prevention • Health officers visit schedule is challenged by the weather	• Regular training class from the district health agency	• Knowledge about traditional medicines	• Less diarrhea cases recorded as the result of not defecating in open space	• Gathering with mothers from the Integrated Service Post/Early Childhood Education each month
2	Natural Resources (rainfall, drought, forest, water shortage, lands	• Crop failure • Water shortage • Many diseases occur • Erosion	• Food insecurity • Crop pattern socialization required to complement the seasonal changes	• Training class from the agriculture agency • Rain water tank development and Community Empowerment National Programme	• Local food as substitute to rice • Culture tradition/ traditional ceremony to repel pests	• Community Led Rain Water Tank • To use organic fertilizer which inspired by one community member	• Formation of farmer group
3	Economy Resources (stocks, productive crops	• Improved community resources • Agriculture support • Improved community productivity and income	• Food for stock are hard to provide in dry season	• Stocks nursery regular visit (engage with stock agency)	• Cultural fines for slash and burn to make sure the stock supply are secured	• Farm and stock waste use for biogas	• Cooperative for stocks
4	Disasters	• Infrastructure damage • Casualties and material loss • Sanitation and environment	• Poor community awareness in terms of mitigation actions	• There has been risk analysis conducted with Plan	• Knowledge about nature signs before a disaster hits	• Village map and evacuation route are available	• Monthly gathering for disaster management

EXAMPLE OF FOLLOW-UP PLAN TABLE

NO	Challenges	Strengths	Creative Ideas	Correlation with climate change adaptation effort		Implementation Techniques		
				Short-term result	Long-term result	Location	Persons in Charge	Budget
1	Required crop pattern adaptation socialization which suits weather changes	Collaborative work with related agencies with Plan support	Engage experts at provincial level, if possible	Community knowledge about crop pattern adaptation which needs improvements because of extreme weather	Crop patterns which complement weather and climate change can secure food availability	Village office	Village and community officers	Village cash fund (still lacking)
2	Floods which erode riverbanks	The established disaster forum	Bamboo Planting Reforestation	Threats of the flood resulted from rain pattern are resolved by securing the planted trees	Water flow and land water supply are secured by reforestation. The community is prevented from disaster risks following rain pattern changes	River	Village and community officers	No funding allocation

References

IDEP Foundation, Common Perspective on Community Based Disaster Management, Bali 2005

Plan indonesia, Risk Assessment: Guideline for Facilitator. Jakarta, 2011

Chrisandini, Presentation: Climate Change Adaptation: Steps and Its Correlation With Disaster Risk Reduction, Jakarta, 2011

IIED, 60 Participatory Learning and Action: Community Based Adaptation to Climate Change, UK, 2009

Feedback Sheet

1. How does this guidline benefit you?

.....
.....
.....

2. What are you sugestion to make this guedline better and more child-centred?

.....
.....
.....

3. Your suggestions to make this guideline better and more child-centred:

.....
.....
.....

4. Which one is an adaptation activity to climate change?
   a. Improvement in naval technology
   b. To increase local food production
   c. To learn about cropping period and pattern
   d. All are true

Send your feed back through email to
Indonesia.co@plan-international.org

NOTES