



**USAID**  
FROM THE AMERICAN PEOPLE

**IFACS**  
INDONESIA FOREST AND CLIMATE SUPPORT

INDONESIA FOREST AND CLIMATE SUPPORT

# KNOWLEDGE, ATTITUDES AND PRACTICES (KAP) 2014 ENDLINE STUDY

APRIL 2015



This publication was prepared by Tetra Tech ARD for review by the United States Agency for International Development

This report has been prepared for the United States Agency for International Development, under USAID Contract Number EPP-I-00-06-0008, Order Number AID-497-TO-11-00002.

This publication is made possible by the support of the American People through the United States Agency for International Development (USAID). The contents of this document are the sole responsibility of Tetra Tech ARD and do not necessarily reflect the views of USAID or the United States Government.

Tetra Tech ARD  
159 Bank Street, Suite 300  
Burlington, VT 05401  
Tel: (802) 658-3890

INDONESIA FOREST AND CLIMATE SUPPORT

**KNOWLEDGE,  
ATTITUDES AND  
PRACTICES (KAP)  
2014 ENDLINE  
STUDY**

APRIL 2015



# TABLE OF CONTENTS

<b>TABLE OF CONTENTS</b> .....	<b>1</b>
<b>TABLES</b> .....	<b>2</b>
<b>FIGURES</b> .....	<b>3</b>
<b>ACRONYMS</b> .....	<b>4</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>5</b>
Methodology .....	6
Results.....	6
Findings Related to Indicator #8: Recognition and Understanding .....	6
Findings Related to Forest Conservation, Climate Change Adaptation, and Best Management Practices .....	7
Findings Related to District Spatial Planning and Strategic Environmental Assessment (SEA) .....	8
Findings Related to Multi-Stakeholder Forums .....	9
Group Discussion Results .....	9
<b>RINGKASAN EKSEKUTIF</b> .....	<b>12</b>
<b>1. INTRODUCTION</b> .....	<b>20</b>
<b>2. METHODOLOGY</b> .....	<b>24</b>
2.1 Rationale for the 2014 Knowledge, Attitude and Practice (KAP) survey .....	24
2.2 Research Design.....	24
Quantitative Survey .....	25
Qualitative Group Discussions .....	30
Constraints and Limitations .....	32
<b>3. RESULTS</b> .....	<b>33</b>
3.1 Quantitative Survey Results.....	33
Demographic Description .....	33
Findings Related to Indicator #8: Recognition and Understanding .....	34
Findings Related to Forest Conservation, Climate Change Adaptation, and Best Management Practices .....	38
Findings Related to District Spatial Planning and Strategic Environmental Assessments (SEA) .....	46
Findings Related to Multi-Stakeholder Forums .....	48
3.2 Qualitative Group Discussion Results.....	49
Aceh Selatan .....	49
Gayo Lues .....	51
Palangka Raya .....	52
Kayong Utara.....	54
Mimika .....	56
Sarmi .....	58
<b>4. CONCLUSION</b> .....	<b>60</b>

# TABLES

Table 1: Provinces And Target Districts .....	25
Table 2: Sample Size Per District.....	28
Table 3: Group Discussions According To District, Date And Number Of Participants .....	30
Table 4: Six Geographic Areas Of Analysis For Indicator #8.....	34
Table 5: Indicator #8: “Recognition And Understanding” .....	36
Table 6: Relationship Between Education Level And Hearing The Term “Climate Change” Among Community Members .....	41
Table 7: Relationship Between Gender And Hearing The Term “Climate Change” Among Community Members .....	42
Table 8: Respondents Who Agree Or Strongly Agree With Statements About Natural Resources And The Environment.....	45

# FIGURES

Figure 1: IFACS Landscapes .....	21
Figure 2: IFACS Result Framework.....	23
Figure 3: Anova Test Used To Compare Baseline And Endline Data .....	36
Figure 4: Box Plot Test For Baseline And Endline Data .....	37
Figure 5: Community Member Attitudes And Practices In Natural Resource And Forest Management: Percent Of Respondents Who Agreed Or Strongly Agreed With The Statements .....	39
Figure 6: Perceptions Of Changing Environmental Conditions: Percent Of Respondents Who Agreed Or Strongly Agreed With The Statements .....	40
Figure 7: Perceptions Of Changing Environmental Conditions: Percent Of Respondents Who Agreed Or Strongly Agreed With The Statements .....	40
Figure 8: Differences In Self-Reported Versus Actual Understanding Of Climate Change: Percent Of Respondents Who Agreed Or Strongly Agreed With The Statements..	42
Figure 9: District Government Staff Attitudes And Perceptions About The Strategic Environmental Assessment .....	47
Figure 10: Opinions About The Adequacy Of Public Consultations On The District Spatial Plan.....	49

# ACRONYMS

BAPPEDA	Planning Agency
BMP	Best Management Practice
BPS	<i>Badan Pusat Statistik</i>
FGD	Focus Group Discussion
GHG	Greenhouse Gas
GOI	Government of Indonesia
KAP	Knowledge, Attitudes and Practices
LCP	Landscape Conservation Plan
LEDS	Low Emissions Development Strategies
M&E	Monitoring and Evaluation
MSF	Multi-Stakeholder Forum
NGO	Non-Governmental Organization
PMP	Performance Monitoring & Evaluation Plan
PPS	Probability Proportionate to Size
REDD	Reducing Emissions from Deforestation and Forest Degradation
Renstra	Strategic Planning
RPJMD	District Mid-Term Development Planning
SEA	Strategic Environmental Assessment
SKPD	Government Working Unit
USAID IFACS	United States Agency for International Development Indonesia Forest and Climate Support

# EXECUTIVE SUMMARY

This report summarizes the methodology, results and analysis, and conclusion associated with the 2014 Knowledge, Attitude and Practice (KAP) survey. This report is written in four main sections. Chapter 1 presents a background to the project and the rationale for undertaking a follow-on KAP survey. Chapter 2 presents the methodology applied to this follow-on KAP survey, describing both the quantitative survey as well as qualitative focus group discussion (FGD) processes. Chapter 3 provides the results of the surveys and FGDs, broken down to the thematic indicators and landscape level. Chapter 4, the Conclusion, presents an analysis of results with recommendations for future programming. The report's Annex includes survey instruments and data tables.

USAID IFACS supports the Government of Indonesia's commitment to lower greenhouse gas emissions through the conservation of high-value forests and peat lands. The period of performance is from November 5, 2010 to September 30, 2015. IFACS strives to reduce greenhouse gas (GHG) emissions in Indonesia's land-use sector through the integration of forest and peat land conservation with Low-Emission Development Strategies (LEDS). This is achieved by working with government and civil society to ensure effective preparation and enforcement of spatial plans that promote sustainable forest management. The Project also works with private sector partners in the forestry, plantation and mining sectors as well as local community organizations to balance LEDS with forest conservation.

IFACS activities are targeted in eight strategic landscapes on three of Indonesia's largest islands, where primary forest cover remains most intact and carbon stocks are greatest. In northern Sumatra, the Project landscapes – Aceh Selatan and Aceh Tenggara – comprise the focal districts of Aceh Selatan, Gayo Lues and Aceh Tenggara, located within the Leuser Ecosystem, which hosts a wide range of endemic wildlife species and the third largest tropical rainforest in the world. In Kalimantan, IFACS works in two landscapes: the West Kalimantan landscape of Ketapang, comprising the focal districts of Ketapang, Kayong Utara and Melawi; and the Central Kalimantan landscape of Katingan, comprising the focal districts of Katingan, Pulang Pisau and Palangkaraya. The Project also works in four Papua landscapes, Sarmi and Mamberamo in the north, and Mimika and Asmat in the south. IFACS provides limited support for collaborative conservation management of Cyclops Nature Reserve, near Jayapura, Papua.

The Overall Results required by the end of the IFACS project are:

6 million tons CO<sub>2</sub> equivalent reduced or sequestered through improved natural resource governance and forest management leading to reductions in deforestation and degradation in IFACS landscapes (~11 Million hectares).

3.0 million hectares of natural tropical forest and peat land, at least 1.7 million of which is priority orangutan habitat, under improved management by the private sector, communities and government.

12 Districts with draft Spatial Plan incorporating SEA recommendations

12,000 forest dependent beneficiaries receiving economic benefits from low-emission development activities within IFACS landscapes.

The IFACS communication and outreach strategy was built with the hypotheses that policy makers and public should have sufficient recognition and understanding of major conservation, forestry and climate issues in their respective areas in order to effectively generate reforms in policies and programs. Given that human activity is the main cause of

climate change, any alteration of this kind of behavior necessitates insight into what people know, believe and do. A 2012 Knowledge, Attitude and Practice (KAP) study provided the baseline for designing an effective communications and outreach strategy. This report presents the findings of the end-line study conducted in November 2014. The objective of this 2014 end-line study was to measure changes in the knowledge, attitudes and practices (KAP) regarding climate change, forestry and other related concepts among IFACS stakeholders, against the 2012 baseline KAP study.

## Methodology

Similar to the baseline KAP survey, a combination of quantitative and qualitative methods was employed in this study. A survey was carried out to ascertain levels of knowledge, attitude and practices among community members, government staff and private sector representatives. The community member survey methodology was traditional door-to-door surveying with stratified sampling. Purposive sampling was used for the other two groups (government officials and the private sector). No effort was made to achieve statistical significance of these latter two groups; the strategy being simply to sample as many respondents as possible within the timeframe available. Importantly, questions for this 2014 follow-up survey were the same as those from the 2012 (baseline) KAP survey.

A total of 2,708 community members from 148 villages, 152 government staff and 57 private sector representatives were successfully interviewed during 20 November to 22 December 2014. Quality control was provided through witnessing and recalls, for which quality control of 39 percent was realized for the data collected in 2014.

The qualitative component utilized a total of six group discussions in 6 districts of Aceh Selatan, Gayo Lues, Palangka Raya, Kayong Utara, Sarmi and Mimika. A total of 89 members of the project's Multi Stakeholders Forums (MSFs) participated in these discussions.

## Results

To measure overall project effectiveness, IFACS assigned 16 indicators under its Performance Monitoring & Evaluation Plan (PMP). One indicator relies entirely on the KAP survey results (Indicator #8) and five other indicators<sup>1</sup> are supported by KAP survey results as supplementary information. Thus, the results of this overall survey are organized according to the related indicators. The survey results are followed by the focus group results.

### Findings Related to Indicator #8: Recognition and Understanding

Indicator #8 is intended to measure the “percentage increase in recognition and understanding of major conservation, forestry, and climate issues by governments, stakeholders, and local communities in targeted landscapes.” Twenty-four KAP questions were selected to gauge the recognition and understanding. Thirteen (13) of the questions were common to all three respondent groups. An additional 11 questions were included from government staff and private sector representatives that required a broader and deeper knowledge –especially in important areas of intervention for IFACS, such as low emission development strategies.

To satisfy indicator requirement, the data were dis-aggregated into six geographic areas. The survey results show 46 percent overall increase in recognition and understanding of

---

<sup>1</sup> These are indicator numbers 3, 6, 9, 15 and 16 (USAID IFACS PMP, 2013).

climate change and forest conservation issues across the IFACS project, with 71 percent increase in Southern Papua and 58-59 percent increase in Kalimantan landscapes. It was these area which identified during the 2011-2012 KAP study as needed more project attention due to low level of knowledge and attitudes regarding climate change and forest conservation. While IFACS monitoring data show that outreach activities within these area have reached more than 300,000 people, the impact was clearly demonstrated by the KAP results.

Geographic Area	Target Districts	Indicator #8			% Increase
		2011, 2012 Baseline	End-of-Project (2014) Target	End-of-Project (2014) Actual	
Aceh Selatan	Aceh Selatan	58%	≥ 87%	82%	41%
Aceh Tenggara	Aceh Tenggara, Gayo Lues	75%	100%	84%	12%
Central Kalimantan	Katingan, Pulau Pisau	53%	≥ 79%	84%	59%
West Kalimantan	Ketapang, Kayong Utara	54%	≥ 80%	85%	58%
North Papua	Mamberamo Raya, Sarmi	64%	≥ 97%	79%	24%
South Papua	Asmat, Mimika	48%	≥ 71%	82%	71%
<b>All Landscapes</b>	<b>All Districts</b>	<b>57%</b>	<b>≥ 85%</b>	<b>83%</b>	<b>46%</b>

## Findings Related to Forest Conservation, Climate Change Adaptation, and Best Management Practices

Two inter-related indicators measure progress in forest conservation, climate change adaptation, and the adaptation of Best Management Practices (BMPs). Indicator #6 measures the number of villages with increased capacity to adapt to the impacts of climate variability and change while the related indicator #16 measures the number of people receiving training in natural resources management and/or biodiversity conservation. Respondents were asked a series of questions about their knowledge, attitudes, and behaviors regarding good practices in natural resource forest management, as well as questions about their community's use of management practices such as selective tree cutting and reducing the use of fire for land clearing.

Overall, community member respondents held higher knowledge and more positive attitudes than did respondents during baseline. Examples include:

- *Knowledge:* Compared to 74 percent responses in baseline, 85 percent endline respondents agreed or strongly agreed with the statement, "reducing the use of fire for land clearing is a best management practice".
- *Attitude:* Compared to 73 percent responses in baseline, 77 percent endline respondents agreed or strongly agreed with the statement, "every member of community should adapt best management practice."

- *Practice*: Compared to only 55 percent responses in baseline, 74 percent endline respondents agreed or strongly agreed with the statement, “our community has implemented selective tree harvesting practice”.

In addition, more than 40 percent of community members responded “yes” to the question, “Compared to a year ago, my community has adopted new practices to management natural resources.”

In regards with climate change and its cause, survey found that people were far more familiar with “climate change” term than they were with the term “greenhouse gas emissions.” Only 13 percent respondents in 2014 study compared to 10 percent respondents in 2011-2012 study said they had heard the term greenhouse gas emissions. Meanwhile about four times people from both survey periods had heard the term climate change. A cross-tabulation between community respondents’ education levels and gender, and their hearing the term “climate change” revealed that, persons who had completed secondary level education (senior high school) were more likely to report that they have heard the term climate change compared to persons educated at the primary levels (elementary and junior high school). The term was also more likely to be heard among male than female respondents. This suggests that education levels and gender should be considered a key segmentation variable when planning any communication-based intervention in any future project.

While only a fraction of community members reported that they had heard the term “greenhouse gas emissions,” the recognition rate among government staff and private sector representatives was much higher. Fully 91 percent of government staff and 75 percent of private sector representatives responded affirmatively to this question.

A majority (95 percent) government staff agreed that it is important to implement measures to adapt with climate change, and 60 percent reported that, “The district government is already implementing measures that will help citizens adapt to the effects of climate change.” While baseline found only 49 percent of government staff agreed with the latter statement, the recent finding provides indication of reducing the gap between attitudes and practices. Likewise, two-thirds (60 percent) of private sector respondents agreed with the statement, “My company is already implementing measures that will help people like me adapt to the effects of climate change.”

There is certainly a higher level of support found in the 2014 study for actions on which future project can build: 94 percent of government staff agreed with the statement, “It is important for district government to help communities adapt to the impacts of climate change.” With more than half of private sector respondents saying that their companies are already taking steps to help adapt to the effects of climate change, the door is already open to support further progress in this area.

## **Findings Related to District Spatial Planning and Strategic Environmental Assessment (SEA)**

Indicator #3 monitors percentage of people with increase capacity to apply spatial planning. While the percentage is measured through other means, the KAP survey looks at perception and knowledge about the practices, revealing how extensively they are being adopted thus provides a picture about ‘increased capacity’.

Overall, there were more positive responses gained in 2014 study when communities were asked about the district spatial plans. More than half (54 percent) of respondents from recent study agreed or strongly agreed with a statement that their village or community supported district spatial planning. A higher response rate compared to 44 percent responses gleaned

in 2011-2012 study. Likewise, more than one-third of endline respondents agreed with a statement that their village or community had adequate information about district spatial planning, or that their village or community was invited to participate in the consultative process of district spatial planning. While baseline showed lower responses rate. However, the challenge remains due to highest response to these two questions was “don’t know”.

Government staff members were asked a number of questions that directly addressed the government's capacity for completing or updating district spatial plans. In addition, the questions were also linked to utilization of SEA in supporting or improving district spatial plans. Eighty-two percent respondents in 2014 study agreed with the statement, “The district government has the information necessary to complete or update the district spatial plan.” More than two-thirds (69 percent) agreed that “District government has adequate resources (personnel, equipment, budget)” and 71 percent agreed that “Staff have adequate expertise and skills” to complete or update the district spatial plan. All responses rate have increased compared to those found in 2011-2012 survey.

Government staff members were also asked a series of questions on SEAs not asked of the other two groups. The main difference from baseline is the fact that more people agreed to the idea of “The district government should incorporate best management practices into Strategic Environmental Assessments (SEAs).” IFACS initiation to synchronize Landscape Conservation Plans (LCP) –which contained BMP principles –with SEAs seems to work effectively, in particular in changing people perceptions on the importance of BMP.

## **Findings Related to Multi-Stakeholder Forums**

Indicator #9 counts the number of MSFs operational. The MSFs are a primary tool for facilitating USAID IFACS goals, as the MSFs contain key decision makers and stakeholders from the public, private, and civil societies. One of the key roles of the MSFs is ensuring adequate stakeholder inputs into the development of the spatial plans. One KAP question in particular addresses this point. Community members and private sector representatives were asked whether or not they felt that they had been adequately consulted on the district spatial plan, and whether or not they had sufficient information about the district spatial plan. Although not dramatic, there is improvement in the involvement of public into spatial plans development. Compared to only 24 percent baseline response, more than one-third (35 percent) respondents in 2014 study reported that their community has been adequately consulted on the district spatial plan. Also, 49 percent of private sector respondents from the recent study agreed that their companies have been adequately consulted on the district spatial plan; compared to 36 percent baseline responses.

## **Group Discussion Results**

Group discussion serves two main purposes. First, to obtain more detailed information about the current state of people’s knowledge, attitudes and practices regarding climate change, forestry and other related issues. The second purpose was to identify potential impact of IFACS interventions.

Findings from each district were summarized as follow:

### **Aceh Selatan**

- ✓ Strong grasp of climate change, causes and impacts.
- ✓ Formation of the MSF, FORLAST, is a respected forum that enables people from different backgrounds to sit together and discuss important issues.

- ✓ The creation of Community Conservation and Livelihood Agreements (CCLAs) and SEA-LEDS were important learning processes; people are more confident in their ability to analyze issues strategically.
- ✓ Farmers appreciated practical training to increase cocoa production, and note that their success has attracted interest from farmers in neighboring villages.
- ✓ IFACS is a respected project, considered to be like a doctor consultation. IFACS forces discussion of tough, serious issues that cause partners to better understand their problems while providing them solutions and insights to take care of things they previously took for granted.

### **Gayo Lues**

- ✓ Strong grasp and concern about impacts of climate change, with an appreciation of the interconnectedness of climate change, risk and actions.
- ✓ IFACS is respected for playing a significant role for changing perspectives and attitudes about climate change.
- ✓ IFACS CCLA and LEDES livelihoods development work is appreciated especially for its role in emphasizing and preserving local wisdom.
- ✓ Through the Cocobest (cacao) program, IFACS catalyzed a trend toward organic farming. Many farmers and entire villages are now practicing organic farming.
- ✓ IFACS is considered a strong partner by local government.
- ✓ The IFACS MSF has become an important resource for the district government, and has provided a bridge to the provincial government. Partners wish IFACS worked in village and sub-district.

### **Palangka Raya**

- ✓ Participants understand climate change, its causes, and steps necessary to prevent climate change from getting worse. Perceptions on climate change risks differ by age group and sex.
- ✓ By facilitating the MSF, IFACS has filled an important gap in stakeholder coordination. The MSF has an increasingly significant role as policy influencer. Participants have important knowledge and a sense of confidence by working as part of a team.
- ✓ The MSF is somewhat constrained as a policy maker because policies are associated with controlling applicable government budgets. MSFs can influence but not rally control the government policy agenda.
- ✓ IFACS training in improved rubber production has improved farmers' rubber quality and resulted in increased incomes.
- ✓ IFACS facilitated recognition and support for the city's Hutan Pendidikan (Forest for Education). This is a valued and respected asset among city stakeholders.

### **Kayong Utara**

- ✓ While stakeholder understanding of climate change causes and impacts are weak, practices to mitigate impacts of climate change are appreciated. This includes prevention of slash and burn agriculture and slowing down land conversion.
- ✓ Farmers expressed significant concern about climate change and want to learn more about its impacts and steps to mitigate these impacts.

- ✓ The greatest impact of IFACS is preparation of the SEA-LEDS as this catalyzed the fast-track preparation of the district spatial plan.
- ✓ IFACS is respected for bridging communication between government and community, increasing the level of community participation in the development process, and improving the image of NGOs with government and community stakeholders.

### **Mimika**

- ✓ Because of IFACS, climate change is a priority focus for Mimika district. Government seems more concerned than communities (farmers), as demonstrated by the high priority the government has given to its climate change mitigation program.
- ✓ Local indigenous groups are concerned about nature conservation impacts of development, though, as demonstrated by the recent case closing an oil palm plantation, this is perceived more in terms of a livelihoods-justice issue.
- ✓ IFACS efforts to map important sites is perceived as important by communities as this will enhance their ability and legal basis to protect existing forests and demand access for more forest lands.
- ✓ Local government and private sector stakeholders see IFACS as a good partner, and look forward to fund additional programs to amplify cooperation with IFACS for more climate change programs.

### **Sarmi**

- ✓ Sarmi stakeholders are aware there is something different going on in the nature, but they clearly understood that as the side impact of development – the result of current development paradigm to the destruction of their environment and thus livelihood. It is yet to say that they know what climate change is.
- ✓ IFACS support for the SEA-LEDS is appreciated. It is the basis for the district spatial plan and *RenStra* (Strategic Plan). The Public Works office has synchronized bridge construction and other environmentally-friendly infrastructure with the SEA-LEDS.
- ✓ IFACS is respected for facilitating integration and synergy among various government offices and their programs.
- ✓ Government officials now incorporate nature conservation and environmental awareness into their community development programs as a result of IFACS.
- ✓ IFACS is perceived as a bridge between government and communities for climate change issues.

# RINGKASAN EKSEKUTIF

Laporan ini merangkum metodologi, hasil dan analisis, serta kesimpulan yang terkait dengan survei Pengetahuan, Sikap dan Praktik (KAP) tahun 2014. Laporan ini disusun menjadi empat bagian. Bab 1 menyajikan latar belakang proyek dan alasan dilakukan survei lanjutan KAP. Bab 2 menyajikan metodologi yang digunakan dalam survei lanjutan KAP ini, yang menjelaskan baik metode survei kuantitatif maupun kualitatif menggunakan diskusi kelompok terfokus (FGD). Bab 3 menyajikan hasil survei dan FGD yang dirinci berdasarkan indikator-indikator tematik di masing-masing bentang alam proyek. Bab 4, Kesimpulan, menyajikan analisis temuan disertai rekomendasi untuk program kedepan. Lampiran dari laporan ini mencakup instrumen survei dan tabel-tabel data.

Proyek USAID IFACS mendukung komitmen Pemerintah Indonesia untuk mengurangi emisi gas rumah kaca melalui konservasi hutan dan lahan gambut bernilai konservasi tinggi. Periode proyek dimulai dari 5 November 2010 sampai 30 September 2015. IFACS berupaya mengurangi emisi gas rumah kaca (GRK) di sektor tata guna lahan di Indonesia melalui integrasi antara konservasi hutan dan lahan gambut dengan Strategi Pembangunan Rendah Emisi (SPRE). Hal ini dapat dicapai melalui kerja sama dengan pemerintah dan masyarakat sipil untuk memastikan penyusunan dan penerapan yang efektif dari rencana tata ruang, guna mendorong pengelolaan hutan yang berkelanjutan. Proyek ini juga bekerja dengan pihak swasta di sektor kehutan, perkebunan dan pertambangan dan juga dengan organisasi kemasyarakatan di tingkat lokal, dalam upaya menyeimbangkan SPRE dengan konservasi hutan.

Kegiatan IFACS ditargetkan di delapan bentang alam strategis di tiga pulau terbesar di Indonesia, dimana tutupan hutan primer masih utuh dan memiliki kandungan karbon terbesar. Di Sumatra bagian utara, bentang alam proyek yakni – Aceh Selatan dan Aceh Tenggara – meliputi beberapa kabupaten fokus Aceh Selatan, Gayo Lues dan Aceh Tenggara, berada di dalam kawasan ekosistem Leuser, yang menjadi rumah bagi beragam spesies satwa liar dan merupakan hutan hujan tropis ketiga terbesar di dunia. Di Kalimantan, IFACS bekerja di dua bentang alam: bentang alam Ketapang di Kalimantan Barat, mencakup kabupaten fokus Ketapang, Kayong Utara dan Melawi; dan bentang alam Katingan di Kalimantan Tengah, terdiri dari kabupaten fokus Katingan, Pulang Pisau dan Palangkaraya. Proyek ini juga bekerja di empat bentang alam di Papua, Sarmi dan Mamberamo di bagian utara, serta Mimika dan Asmat di bagian selatan. IFACS menyediakan dukungan secara terbatas untuk upaya manajemen konservasi kolaboratif untuk Cagar Alam Cyclops, yang berada dekat Jayapura, Papua.

Hasil Utama yang diharapkan pada akhir proyek IFACS adalah:

6 juta ton CO<sub>2</sub> ekuivalen dikurangi atau diserap melalui perbaikan tata kelola sumber daya alam dan pengelolaan hutan yang berdampak pada pengurangan laju deforestasi dan degradasi pada bentang alam IFACS (~11 juta hektar).

3.0 juta hektar hutan alam tropis dan lahan gambut, dimana 1.7 hektar diantaranya merupakan habitat prioritas orangutan, berada di bawah pengelolaan yang lebih baik oleh pihak swasta, masyarakat dan pemerintah.

12 kabupaten dengan rancangan Tata Ruang yang memasukkan rekomendasi KLHS.

12.000 masyarakat yang bergantung pada hutan mendapatkan manfaat ekonomi dari kegiatan-kegiatan pembangunan rendah emisi di dalam wilayah bentang alam IFACS.

Strategi komunikasi dan *outreach* IFACS dibangun dengan hipotesa bahwa para pembuat kebijakan dan publik secara luas harus terlebih dahulu memiliki kesadaran dan pemahaman yang memadai mengenai masalah-masalah utama terkait konservasi, kehutanan dan iklim di wilayahnya masing-masing, sebelum dapat melakukan reformasi kebijakan dan program secara efektif. Mengingat bahwa aktivitas manusia merupakan penyebab utama perubahan iklim, maka perubahan apapun dari perilaku manusia perlu mempertimbangkan apa yang mereka ketahui, apa yang mereka percayai dan apa yang mereka lakukan. Studi tentang Pengetahuan, Sikap dan Praktik (KAP) yang dilakukan pada tahun 2012 menyediakan data *baseline* guna merancang strategi komunikasi dan *outreach* yang efektif. Laporan ini menyajikan temuan dari studi *endline* yang dilakukan pada bulan November 2014. Tujuan dari studi tahun 2014 adalah untuk mengukur perubahan tingkat pengetahuan, sikap dan praktik (KAP) para mitra IFACS mengenai perubahan iklim, kehutanan dan konsep terkait lainnya, yang dibandingkan dengan data studi KAP *baseline* tahun 2012.

## Metodologi

Serupa dengan survei KAP terdahulu, kombinasi metode kuantitatif dan kualitatif juga digunakan dalam studi kali ini. Survei dilaksanakan untuk menilai tingkat pengetahuan, sikap dan praktik dari anggota masyarakat, staf pemerintah dan perwakilan pihak swasta. Metodologi yang digunakan untuk survei masyarakat adalah metode tradisional melalui survei dari rumah-ke-rumah dengan pengambilan sampel berjenjang (*stratified sampling*). Sedangkan *purposive sampling* diterapkan bagi kedua kelompok sampel lainnya (staf pemerintah dan pihak swasta). Pada dua kelompok ini, tidak dilakukan upaya untuk memperoleh nilai statistik yang berbeda nyata; strategi yang digunakan hanyalah mendapatkan sampel sebanyak mungkin dalam kurun waktu yang tersedia. Perlu dikemukakan bahwa pertanyaan-pertanyaan yang diajukan pada studi lanjutan tahun 2014 ini adalah sama dengan yang digunakan pada survei KAP 2012.

Sebanyak 2.708 anggota masyarakat dari 148 desa, 152 staf pemerintah dan 57 perwakilan pihak swasta berhasil diwawancarai dalam kurun waktu 20 November sampai 22 Desember 2014. Kontrol atas kualitas berhasil dilakukan terhadap 39 persen dari keseluruhan kuesioner yang terkumpul pada survei tahun 2014, melalui penyaksian (*witnessing*) dan menghubungi kembali responden bersangkutan (*recalls*).

Komponen kualitatif digunakan pada enam diskusi kelompok di 6 kabupaten yakni Aceh Selatan, Gayo Lues, Palangka Raya, Kayong Utara, Sarmi dan Mimika. Sebanyak 89 anggota Forum Multi Pihak (MSF) berpartisipasi dalam diskusi ini.

## Hasil

Untuk menilai efektivitas proyek, IFACS menetapkan 16 indikator kinerja yang dimuat dalam dokumen Rencana Monitoring & Evaluasi Kinerja (PMP). Satu indikator bergantung sepenuhnya pada hasil survei KAP (Indikator #8) dan lima indikator<sup>2</sup> lainnya didukung oleh hasil survei KAP sebagai informasi tambahan. Dengan demikian, hasil keseluruhan dari survei ini disusun berdasarkan indikator-indikator tersebut. Kemudian diikuti dengan hasil diskusi kelompok terfokus.

---

<sup>2</sup> These are indicator numbers 3, 6, 9, 15 and 16 (USAID IFACS PMP, 2013).

## Temuan terkait Indikator #8: Kesadaran dan Pemahaman

Indikator #8 dimaksudkan untuk menilai “peningkatan persentase kesadaran dan pemahaman dari aparat pemerintah, pemangku kepentingan lain dan masyarakat lokal mengenai masalah konservasi, kehutanan dan iklim di berbagai bentang alam yang menjadi target proyek.” Dua puluh empat pertanyaan KAP dipilih untuk mengetahui tingkat kesadaran dan pemahaman. Tiga belas (13) pertanyaan merupakan pertanyaan yang umum bagi ketiga kelompok responden. Selanjutnya terdapat 11 pertanyaan tambahan bagi staf pemerintah dan perwakilan pihak swasta, yang memerlukan pengetahuan yang lebih luas dan mendalam –khususnya menyangkut bidang intervensi yang penting bagi IFACS, seperti strategi pembangunan rendah emisi.

Untuk memenuhi persyaratan indikator, data yang dihasilkan dibagi kedalam enam wilayah geografis. Hasil survei menunjukkan bahwa terdapat peningkatan sebesar 46 persen pada tingkat kesadaran dan pemahaman atas isu perubahan iklim dan konservasi hutan di seluruh wilayah proyek IFACS, dengan peningkatan sebesar 71 persen terjadi di Papua bagian selatan dan 58-59 persen peningkatan terjadi di bentang alam Kalimantan. Pada studi KAP tahun 2011-2012, wilayah-wilayah ini teridentifikasi sebagai wilayah yang memerlukan lebih banyak perhatian dari proyek karena rendahnya tingkat pengetahuan dan sikap para pemangku kepentingan mengenai perubahan iklim dan konservasi hutan. Sementara data monitoring IFACS menunjukkan luas jangkauan dari program *outreach* yang mencakup lebih dari 300.000 orang di wilayah-wilayah tersebut, dampak dari jangkauan ini ditunjukkan dengan jelas oleh hasil studi akhir KAP.

Wilayah Geografis	Kabupaten Target	Indikator #8			% Peningkatan
		2011, 2012 Data Awal	Target Akhir Proyek (2014)	Realisasi Target Akhir Proyek (2014)	
Aceh Selatan	Aceh Selatan	58%	≥ 87%	82%	41%
Aceh Tenggara	Aceh Tenggara, Gayo Lues	75%	100%	84%	12%
Central Kalimantan	Katingan, Pulau Pisau	53%	≥ 79%	84%	59%
West Kalimantan	Ketapang, Kayong Utara	54%	≥ 80%	85%	58%
North Papua	Mamberamo Raya, Sarmi	64%	≥ 97%	79%	24%
South Papua	Asmat, Mimika	48%	≥ 71%	82%	71%
<b>All Landscapes</b>	<b>All Districts</b>	<b>57%</b>	<b>≥ 85%</b>	<b>83%</b>	<b>46%</b>

## Temuan terkait Konservasi Hutan, Adaptasi Perubahan Iklim, dan Praktik-Praktik Pengelolaan Terbaik

Terdapat dua indikator yang saling terkait yang mengukur kemajuan dari program-program konservasi hutan, adaptasi perubahan iklim, dan penerapan Praktik Pengelolaan Terbaik (BMP). Indikator #6 mengukur jumlah desa yang telah meningkat kemampuannya untuk beradaptasi dengan variabilitas iklim dan perubahannya, sedangkan indikator terkait yakni

indikator #16 mengukur jumlah orang yang mengikuti pelatihan manajemen sumber daya alam dan/atau konservasi keanekaragaman hayati. Responden ditanyai sederet pertanyaan terkait pengetahuan, sikap dan perilaku mereka dalam hal praktik-praktik terbaik pengelolaan sumber daya hutan, serta pertanyaan tentang bagaimana masyarakat menerapkan praktik-praktik pengelolaan tersebut, seperti penerapan tebang pilih dan mengurangi penggunaan api untuk pembersihan lahan.

Secara keseluruhan, responden masyarakat pada studi ini menunjukkan tingkat pengetahuan yang lebih tinggi dan sikap yang lebih positif dibandingkan responden pada studi *baseline*. Beberapa contoh termasuk:

- *Pengetahuan*: Dibandingkan dengan 74 persen respon pada *baseline*, terdapat 85 persen responden *endline* yang menyatakan setuju atau sangat setuju atas pernyataan, “mengurangi penggunaan api untuk pembersihan lahan adalah praktik pengelolaan terbaik”.
- *Sikap*: Dibandingkan dengan 73 persen respon pada *baseline*, terdapat 77 persen responden *endline* yang menyatakan setuju atau sangat setuju atas pernyataan, “setiap anggota masyarakat harus menerapkan praktik pengelolaan terbaik.”
- *Praktik*: Dibandingkan dengan hanya 55 persen respon pada *baseline*, terdapat 74 persen responden *endline* yang menyatakan setuju atau sangat setuju atas pernyataan, “masyarakat kami telah menerapkan praktik tebang pilih”.

Selain itu, lebih dari 40 persen anggota masyarakat menjawab “ya” atas pertanyaan, “Dibandingkan setahun yang lalu, masyarakat kami telah menerapkan praktik-praktik baru untuk mengelola sumber daya alam.”

Terkait dengan perubahan iklim dan penyebabnya, hasil survei menunjukkan bahwa responden jauh lebih mengenal istilah “perubahan iklim” dibandingkan istilah “gas rumah kaca.” Hanya terdapat 13 persen responden pada studi tahun 2014 dibandingkan dengan 10 persen responden pada studi tahun 2011-2012, yang menyatakan bahwa mereka pernah mendengar istilah gas rumah kaca. Sementara itu, terdapat sekitar empat kali lipat dari jumlah tersebut pada kedua periode survei yang menyatakan pernah mendengar istilah perubahan iklim. Tabulasi silang antara tingkat pendidikan dan jenis kelamin, dan laporan bahwa mereka pernah mendengar istilah “perubahan iklim”, menunjukkan bahwa mereka yang menyelesaikan tingkat pendidikan menengah (SMA) akan lebih mungkin mendengar istilah perubahan iklim dibandingkan mereka yang berpendidikan dasar (SD dan SMP). Istilah tersebut juga lebih mungkin didengar oleh responden laki-laki daripada responden perempuan. Hal ini menunjukkan bahwa tingkat pendidikan dan jenis kelamin perlu dipertimbangkan sebagai variabel penting ketika merencanakan suatu program komunikasi berbasis masyarakat pada proyek-proyek yang akan datang.

Meskipun hanya sedikit anggota masyarakat yang menyatakan pernah mendengar istilah “gas rumah kaca,” tingkat kesadaran dari pemerintah dan pihak swasta jauh lebih tinggi. Sebanyak 91 persen staf pemerintah dan 75 persen perwakilan pihak swasta memberikan respon positif terhadap pertanyaan tersebut.

Sebagian besar (95 persen) responden pemerintah setuju akan pentingnya menerapkan strategi adaptasi terhadap perubahan iklim dan 60 persen responden melaporkan bahwa, “Pemerintah kabupaten telah menerapkan strategi yang dapat membantu masyarakat beradaptasi dengan dampak perubahan iklim.” Sementara studi *baseline* menunjukkan hanya terdapat 49 persen responden pemerintah yang setuju dengan pernyataan tersebut, temuan pada studi terbaru mengindikasikan adanya penurunan kesenjangan antara sikap dan praktik. Sejalan dengan hal tersebut, dua-pertiga (60 persen) responden swasta setuju dengan pernyataan, “Perusahaan saya telah menerapkan strategi yang akan membantu orang seperti saya untuk beradaptasi dengan dampak perubahan iklim.”

Terlihat jelas bahwa ada dukungan yang lebih tinggi dari hasil studi tahun 2014 yang dapat diandalkan oleh proyek di masa datang untuk melakukan aksi-aksi lanjutan: 94 persen responden pemerintah setuju dengan pernyataan, “Adalah penting bagi pemerintah kabupaten untuk membantu masyarakat beradaptasi dengan dampak perubahan iklim.” Dengan lebih dari separuh responden swasta yang menyatakan bahwa perusahaan mereka telah mengambil langkah-langkah tertentu untuk membantu adaptasi terhadap perubahan iklim, maka pintu telah terbuka untuk dukungan yang lebih besar bagi kemajuan di area intervensi ini.

## **Temuan terkait dengan Rencana Tata Ruang Kabupaten dan Kajian Lingkungan Hidup Strategis (KLHS)**

Indikator #3 memonitor persentase orang yang meningkat kapasitasnya untuk menerapkan rencana tata ruang. Sementara persentase tersebut diukur dengan metode lain, survei KAP melakukan penilaian atas persepsi dan pengetahuan tentang praktik, yang akan mengungkapkan seberapa ekstensif praktik-praktik tersebut dilakukan sehingga dapat memberikan gambaran mengenai ‘peningkatan kapasitas’.

Secara keseluruhan, terdapat respon yang lebih positif yang diperoleh pada studi tahun 2014 ketika masyarakat ditanya tentang rencana tata ruang kabupaten. Lebih dari separuh (54 persen) responden dari studi terkini menyatakan setuju atau sangat setuju dengan pernyataan bahwa desa atau masyarakat mereka mendukung rencana tata ruang kabupaten. Respon tersebut lebih tinggi dibandingkan 44 persen respon yang diperoleh pada studi tahun 2011-2012. Sejalan dengan hal tersebut, terdapat lebih dari sepertiga responden *endline* yang menyatakan setuju dengan pernyataan bahwa desa atau masyarakat mereka memiliki informasi yang memadai tentang rencana tata ruang kabupaten, atau bahwa desa atau masyarakat mereka diajak berpartisipasi dalam proses konsultasi perencanaan tata ruang kabupaten. Sedangkan *baseline* menunjukkan persentase yang lebih rendah. Meskipun demikian, tantangan yang ditemui masih tetap sama mengingat tingginya respon “tidak tahu” untuk kedua pertanyaan tersebut.

Responden pemerintah ditanya sejumlah pertanyaan yang langsung terkait dengan kapasitas pemerintah untuk menyelesaikan atau memperbaharui rencana tata ruang kabupaten. Selain itu, pertanyaan-pertanyaan ini juga terkait dengan penggunaan KLHS untuk mendukung atau memperbaiki rencana tata ruang kabupaten. Delapan puluh dua persen responden pada studi tahun 2014 setuju dengan pernyataan, “Pemerintah kabupaten telah memiliki informasi yang diperlukan untuk menyelesaikan atau memperbaharui rencana tata ruang kabupaten.” Lebih dari dua-pertiga (69 persen) setuju bahwa “Pemerintah kabupaten telah memiliki sumber daya (personil, peralatan, anggaran) yang memadai” dan 71 persen setuju bahwa “Staf memiliki keahlian dan keterampilan yang memadai” untuk menyelesaikan atau memperbaharui rencana tata ruang kabupaten. Seluruh respon meningkat dibandingkan temuan pada survei tahun 2011-2012.

Staf pemerintah juga ditanya sederet pertanyaan mengenai KLHS yang tidak ditanyakan kepada dua kelompok responden lainnya. Perbedaan utama yang ditemukan dibandingkan dengan hasil *baseline* adalah kenyataan bahwa ada lebih banyak orang yang setuju dengan ide “Pemerintah kabupaten harus memasukkan prinsip-prinsip praktik pengelolaan terbaik kedalam Kajian Lingkungan Hidup Strategis (KLHS).” Inisiasi IFACS untuk mensinergikan Rencana Konservasi Bentang Alam (RKBA) –yang memuat prinsip-prinsip BMP– dengan KLHS kelihatannya berjalan dengan efektif, khususnya dalam hal mengubah persepsi orang tentang arti penting BMP.

## Temuan terkait Forum Multi Pihak

Indikator #9 menghitung jumlah MSF yang berfungsi dan beroperasi. MSF merupakan perangkat utama untuk mencapai tujuan-tujuan USAID IFACS, mengingat MSF terdiri dari para pengambil kebijakan dan pemangku kepentingan kunci yang berasal dari pemerintah, swasta dan masyarakat sipil. Salah satu peran kunci MSF adalah memastikan adanya input yang memadai dari para pemangku kepentingan untuk penyusunan rencana tata ruang. Satu pertanyaan KAP secara khusus mencermati poin ini. Anggota masyarakat dan pihak swasta ditanya apakah mereka merasa telah diajak berkonsultasi secara memadai dalam penyusunan rencana tata ruang kabupaten, dan apakah mereka memiliki informasi yang mencukupi tentang rencana tata ruang kabupaten. Meskipun tidak dramatis, terdapat perbaikan dalam pelibatan publik kedalam penyusunan rencana tata ruang. Dibandingkan dengan hanya 24 persen respon *baseline*, terdapat lebih dari sepertiga (35 persen) responden pada studi tahun 2014 yang melaporkan bahwa masyarakat mereka telah diajak berkonsultasi secara memadai dalam penyusunan rencana tata ruang kabupaten. Selain itu, terdapat 49 persen responden swasta pada studi terkini setuju bahwa perusahaan mereka telah diajak berkonsultasi secara memadai dalam penyusunan rencana tata ruang kabupaten; dibandingkan 36 persen respon *baseline*.

## Hasil Diskusi Kelompok

Diskusi kelompok memiliki dua tujuan. Pertama, untuk memperoleh informasi yang lebih rinci tentang kondisi terkini dari pengetahuan, sikap dan praktik masyarakat mengenai perubahan iklim. Tujuan kedua adalah untuk mengidentifikasi dampak potensial dari program IFACS.

Temuan dari setiap kabupaten dirangkum sebagai berikut:

### Aceh Selatan

- ✓ Ada pemahaman yang kuat mengenai perubahan iklim, penyebab dan dampaknya.
- ✓ Pembentukan MSF, FORLAST, dihargai sebagai forum yang memungkinkan orang dari berbagai latar belakang untuk duduk bersama mendiskusikan isu-isu penting.
- ✓ Pembuatan Kesepakatan Konservasi dan Pengembangan Penghidupan Masyarakat (CCLAs) dan KLHS-SPRE dipandang sebagai proses pembelajaran yang penting; orang-orang merasa lebih percaya diri akan kemampuan mereka untuk menganalisa isu secara strategis.
- ✓ Para petani sangat menghargai pelatihan praktis yang diberikan untuk meningkatkan produksi kakao, dan mencatat bahwa kesuksesan mereka telah menarik minat dari petani-petani lain di desa tetangga.
- ✓ IFACS merupakan proyek yang dihargai, bekerja dengan IFACS dianggap sebagai suatu proses konsultasi dengan dokter. IFACS mendorong diskusi mengenai hal-hal yang sulit dan serius sehingga para mitra memiliki pemahaman yang lebih baik atas masalah mereka, sambil memberikan solusi dan pandangan untuk mengatasi isu-isu yang sebelumnya mereka anggap remeh.

### Gayo Lues

- ✓ Pemahaman dan perhatian yang kuat atas dampak perubahan iklim, disertai dengan pengertian akan keterkaitan antara perubahan iklim, risiko dan aksi.
- ✓ IFACS dianggap memiliki peran yang signifikan dalam mengubah persepsi dan sikap terkait perubahan iklim.

- ✓ IFACS CCLA dan pengembangan mata pencaharian rendah emisi sangat dihargai khususnya karena peranannya dalam mengangkat dan melestarikan kearifan lokal.
- ✓ Melalui program Cocobest (kakao), IFACS menjadi katalisator untuk mendorong pertanian organik. Banyak petani dan desa-desa yang saat ini mempraktikkan pertanian organik.
- ✓ IFACS dianggap sebagai mitra pemerintah daerah yang kuat.
- ✓ IFACS MSF menjadi nara sumber penting bagi pemerintah kabupaten, dan menjadi jembatan penghubung dengan pemerintah propinsi. Para mitra berharap IFACS dapat bekerja di seluruh desa dan kecamatan.

### **Palangka Raya**

- ✓ Para peserta memahami perubahan iklim, penyebabnya, dan langkah-langkah yang diperlukan untuk mencegah perubahan iklim memburuk. Persepsi mengenai risiko perubahan iklim dibedakan atas umur dan jenis kelamin.
- ✓ Dengan memfasilitasi MSF, IFACS telah mengisi kesenjangan yang penting dalam koordinasi antar pemangku kepentingan. MSF memainkan peran yang signifikan untuk memengaruhi kebijakan. Para peserta memiliki pengetahuan yang penting dan rasa percaya diri dengan bekerja sebagai anggota tim.
- ✓ MSF seringkali mengalami hambatan dalam mendorong atau menerapkan suatu kebijakan karena penerapan kebijakan terkait dengan ketersediaan anggaran pemerintah. MSF dapat memengaruhi kebijakan tetapi tidak dapat mengendalikan agenda kebijakan pemerintah.
- ✓ Pelatihan IFACS tentang perbaikan produksi karet telah berhasil meningkatkan kualitas karet petani dan berdampak pada peningkatan pendapatan.
- ✓ IFACS memfasilitasi dukungan untuk Hutan Pendidikan. Ini merupakan aset yang bernilai dan dihargai diantara para pemangku kepentingan di tingkat kota.

### **Kayong Utara**

- ✓ Meskipun pemahaman para pemangku kepentingan mengenai penyebab dan dampak perubahan iklim adalah rendah, praktik-praktik untuk memitigasi dampak perubahan iklim telah dilaksanakan. Ini termasuk pencegahan kebakaran hutan untuk pembukaan lahan pertanian dan pengurangan laju alih fungsi lahan.
- ✓ Para petani menyatakan keprihatinan mereka akan perubahan iklim dan ingin belajar lebih banyak tentang dampak serta langkah-langkah untuk memitigasi dampak perubahan iklim.
- ✓ Dampak terbesar dari keberadaan IFACS adalah penyusunan KLHS-SPRE yang mempercepat penyusunan rencana tata ruang kabupaten.
- ✓ IFACS dihargai atas upayanya menjembatani komunikasi antara pemerintah dengan masyarakat, meningkatkan partisipasi masyarakat dalam proses pembangunan dan memperbaiki citra LSM dihadapan pemerintah dan masyarakat.

### **Mimika**

- ✓ Karena peran IFACS, perubahan iklim menjadi fokus prioritas di Kabupaten Mimika. Pemerintah nampaknya memiliki keprihatinan yang lebih tinggi dibandingkan masyarakat (petani), sebagaimana terlihat dari prioritas tinggi yang diberikan oleh pemerintah terhadap program mitigasi perubahan iklim.

- ✓ Kelompok masyarakat adat prihatin atas dampak pembangunan terhadap konservasi alam, meskipun, sebagaimana ditunjukkan oleh penutupan perkebunan kelapa sawit baru-baru ini, keprihatinan masyarakat lebih dianggap sebagai isu keadilan dalam mata pencaharian.
- ✓ Upaya IFACS untuk memetakan situs-situs penting dianggap sebagai hal penting oleh masyarakat karena dapat meningkatkan kemampuan mereka dan menyediakan dasar hukum yang kuat untuk melindungi hutan yang ada dan menghadapi permintaan yang tinggi akan lahan hutan.
- ✓ Pemerintah daerah dan pihak swasta melihat IFACS sebagai mitra yang baik, dan bersedia mendanai program-program lanjutan untuk memperkuat kerja sama dengan IFACS dalam lebih banyak program perubahan iklim.

### **Sarmi**

- ✓ Para pemangku kepentingan di Sarmi menyadari bahwa ada sesuatu yang sedang terjadi di alam, tetapi mereka memahami hal ini lebih sebagai akibat dari pembangunan – paradigma pembangunan saat ini yang telah membawa kerusakan kepada alam dan mata pencaharian mereka. Untuk itu, masih belum dapat dikatakan bahwa mereka memahami apa itu perubahan iklim.
- ✓ Dukungan IFACS untuk KLHS-SPRE sangat dihargai. Dokumen tersebut menjadi dasar bagi rencana tata ruang kabupaten dan RenStra. Dinas Pekerjaan Umum juga telah mensinkronkan konstruksi jembatan dan infrastruktur ramah lingkungan lainnya dengan KLHS-SPRE.
- ✓ IFACS sangat dihargai atas upayanya memfasilitasi integrasi dan sinergi antar berbagai instansi pemerintah dan program-program mereka.
- ✓ Staf pemerintah sekarang memasukkan penyadaran mengenai konservasi alam dan lingkungan kedalam program pengembangan masyarakat sebagai hasil dari keberadaan IFACS.
- ✓ IFACS dianggap menjembatani hubungan antara pemerintah dan masyarakat untuk masalah perubahan iklim.

# 1. INTRODUCTION

This report summarizes the methodology, results and analysis, and conclusion associated with the 2014 Knowledge, Attitude and Practice (KAP) survey, using a KAP study done in 2012 as a basis for comparison to detect any changes over the years. A set of annexes regarding survey instruments, frequency tables of data collected and other relevant material is provided as an Annex to this report.

USAID IFACS (Contract No. AID-EPP-I-00-06-00008, TO No. AID-497-TO-11-00002) is funded by the United States Agency for International Development and is a task order under USAID's Prosperity, Livelihoods and Conserving Ecosystems (PLACE) IQC. The period of performance for the IFACS project, initially ran from November 5, 2010 to September 30, 2014. It was extended by an additional six months, to March 30, 2015, under Contract Modification #8. On December 31, 2014, it was extended by an additional six months, to September 30, 2015, under Contract Modification #13.

IFACS activities contribute to reduced carbon emissions in Indonesia's land-use sector by integrating the conservation of forests and peatlands with low-emission development strategies (LEDS). This has been achieved through partnerships with district governments, local communities and non-governmental organizations to promote conservation policies and livelihoods that reduce deforestation and ensure sustainable forest management. The project also works with private sector partners in the forestry, plantation and mining sectors to introduce best management practices to conserve high-conservation value (HCV) forests and integrate LEDS into their business operations.

IFACS activities are designed around two main pillars –environmental governance and improved forest management– and are implemented through four complementary components:

1. Land and Forest Resource Governance
2. Forest Management and Conservation
3. Private Sector, Local Enterprise and Market Linkages
4. Project Coordination and Management

Crosscutting activities dedicated to supporting these four components in the various landscapes include: Communication and Outreach; Grants; Training and Capacity Building; and Monitoring and Evaluation.

A team of about 100 IFACS staff and consultants in the project's Jakarta and regional offices have led activities in the IFACS Landscapes through a combination of direct implementation, subcontracts and grants. Technical guidance and oversight are provided by advisors and technical specialists in the Jakarta office, with day-to-day facilitation and coordination managed by regional field teams.

IFACS activities are implemented in eight strategic landscapes on three of Indonesia's largest islands, where primary forest cover remains mostly intact and carbon stocks are greatest. In Sumatra, the project landscapes – Aceh Selatan and Aceh Tenggara – includes the focal districts of Aceh Selatan, Gayo Lues and Aceh Tenggara, located within the Leuser Ecosystem, which hosts orangutan and other endangered wildlife species and the third largest tropical rainforest in the world. In Kalimantan, IFACS works in two landscapes: the West Kalimantan Landscape of Ketapang, comprises the focal districts of Ketapang, Kayong Utara and Melawi; and the Central Kalimantan Landscape of Katingan, comprises the focal

districts of Katingan, Pulang Pisau and Palangka Raya. IFACS also works in four Papua landscapes, Sarmi and Mamberamo in the north, and Mimika and Asmat in the south. Under guidance from USAID, IFACS has also commenced limited work in support of collaborative conservation management of the Cyclops Nature Reserve, managed from the IFACS office in Jayapura.

**FIGURE 1: IFACS LANDSCAPES**



The Overall Results required by the end of the IFACS project are:

- 6 million tons CO<sub>2</sub> equivalent reduced or sequestered through improved natural resource governance and forest management leading to reductions in deforestation and degradation in IFACS landscapes (~ 11 million hectares).

- 3.0 million hectares of natural tropical forest and peat land, at least 1.7 million of which is priority orangutan habitat, under improved management by the private sector, communities and government.

- 12 Districts with draft Spatial Plan incorporating SEA recommendations.

- 12,000 forest dependent beneficiaries receiving economic benefits from low-emission development activities landscapes.

The attainment of the Overall Results is contingent on effective translation of IFACS information, concepts, tools or practices (innovations) regarding forest conservation, land-use planning, adaptation and mitigation of climate change to increased knowledge and attitudes, and, ultimately pro-active practices by project stakeholders. The majority of international scientists concur that human activity is the main cause of climate change. A modification of this kind of behavior necessitates insight into what people know, believe and do. Therefore, IFACS communication and outreach strategy built with hypotheses that the policy makers and public should have sufficient recognition and understanding of major conservation, forestry and climate issues in their respective areas in order to effectively generate reforms in policies and programs.

IFACS developed a Result Framework (see Figure 2) to illustrate how Communication and Outreach component underpins the attainment of project overall result. A Performance Monitoring & Evaluation Plan (PMP) was set up to measure project effectiveness comprising 16 performance indicators. One of the indicators directly measures changes in people

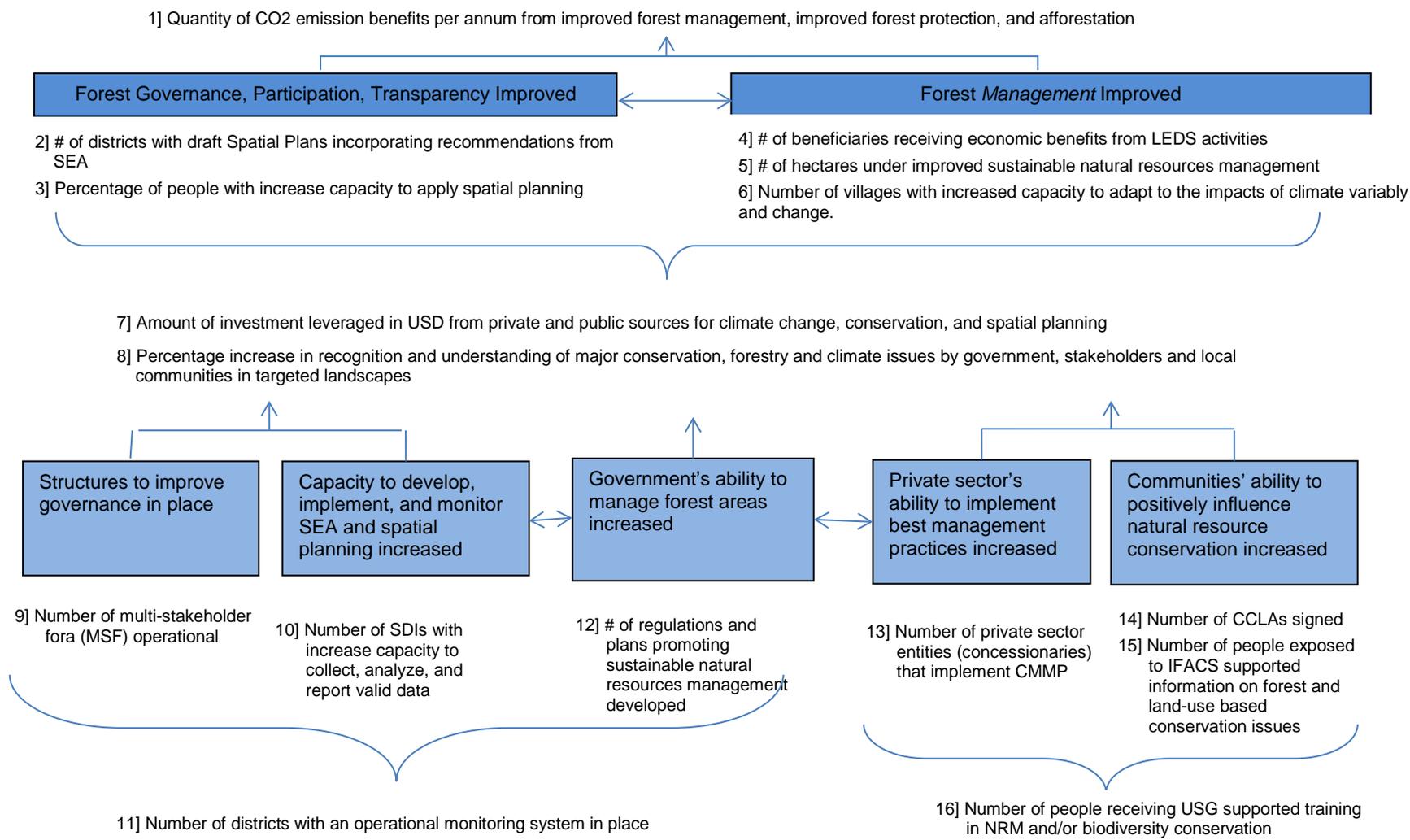
recognition and understanding with end of project target is 50 percent increase over the baseline. This is known as Indicator #8 – *Percentage increase in recognition and understanding of major conservation, forestry, and climate issues by governments, stakeholders and local communities in targeted landscapes*. Other five indicators<sup>3</sup> rely for KAP to provide supplementary information. A KAP study is for this reason importance because it evaluates and measures the knowledge, attitude and practice of people and in so doing helps to assess the impact of project intervention.

---

<sup>3</sup> These are indicator numbers 3, 6, 9, 15 and 16 (USAID IFACS PMP, 2013).

**FIGURE 2: IFACS RESULT FRAMEWORK**

Greenhouse Gas Emissions from Improved Land Use Practices (Forest Degradation and Loss) Within Targeted Landscapes Reduced



# 2. METHODOLOGY

This chapter outlines the rationale and purpose for the 2014 KAP survey and methodological approach used for the study. First, the rationale is briefly described. This is followed by a description of research design which includes the quantitative component of the study with a detailed account of the sample design. The chapter then describes the purpose of the qualitative component and outlines how the qualitative dimension of the survey was designed and conducted. Finally, constraints and limitations in executing the study are articulated.

## 2.1 Rationale for the 2014 Knowledge, Attitude and Practice (KAP) survey

In 2011-2012, IFACS conducted the baseline KAP survey in four provinces of Aceh, West Kalimantan, Central Kalimantan and Papua. The baseline survey covered 11 districts namely Aceh Selatan, Aceh Tenggara, Gayo Lues, Ketapang, Kayong Utara, Katingan, Pulang Pisau, Sarmi, Mamberamo Raya, Mimika and Asmat. The purpose of the baseline KAP survey was to collect baseline information on levels of knowledge, attitudes and practices of local stakeholders in the domain areas of forestry, environmental services, and climate change. The survey also collected information on perceptions about capacity, especially on the part of government staff, and on perceptions of impacts. The survey in 2011-2012 revealed that there were a high level of support for protecting the environment and a fair level of knowledge about the environment, forestry, climate change impacts, and related concepts. Yet the results showed significant gaps between support for an idea and actions actually taken to improve environmental and forest conditions.

Since early 2013, IFACS redeveloped its communication and outreach strategy. The project believed that informed, motivated and committed people can help the project to achieve the goals of reducing greenhouse gas emission through sustainable forest and land management. Communication and education have a key role to play in building this. In particular, IFACS developed some tools that will make the concept of forest and climate change and the importance to our lives understandable. These tools include media campaign, intensify dialogue among stakeholders, religious sermons, capacity building of local journalists, and establish media networks concern in climate change forest and issues. The tools have been developed in way that strategic, positive and tailored to different circumstances and cultural situations. Most important, project stakeholders were exposed to various capacity building programs such as spatial planning, Strategic Environmental Assessment (SEA), forest management and livelihood development. This following the assumption that knowledge alone does not typically change behavior.

Two years after baseline data collected, IFACS undertook another knowledge, attitude and practice survey late in 2014. The main purpose of this study was to measure changes on the knowledge, attitudes and practices (KAP) of IFACS stakeholders regarding climate change, forestry and other related concepts, against a baseline KAP study done in 2012. In so doing the study helps to assess the impact of project intervention.

## 2.2 Research Design

Similar to the initial study, the methodology employed for this endline study involved a mix of methods. Mixed methodology is generally preferable to any single method as the phenomenon being investigated can benefit from the strengths of both quantitative and qualitative research paradigms. Quantitative data alone may limit the ability to understand

why people do the things they do when it comes to climate change and forestry issues. The methodology, therefore, involved: 1) **Quantitative Survey** and 2) **Qualitative Group Discussion**. Each of these is described below.

## Quantitative Survey

The 2014 endline KAP study was conducted in seven project landscapes comprising 11 districts. Because analysis of baseline for PMP Indicator #8 was done in the level of geographical area, there is no requirement to roll out the survey in all districts. With the assumption that homogeneity exists within landscape, selection of districts for endline was based on the consideration of a number of factors, among others number of programs implemented in the area, accessibility and availability of resources. As a result, one district included in the baseline, i.e., Mamberamo Raya, was excluded from 2014 study because of technical reason (size of program implemented) and logistical limitation. While Palangka Raya was added to the list of target district for 2014 study, especially considering the scale of IFACS program implemented in the area. The final target districts can be seen in Table 1. Within those geographic areas, three separate groups were surveyed.

**TABLE 1: PROVINCES AND TARGET DISTRICTS**

Province	Target Districts
Aceh	Aceh Selatan, Aceh Tenggara, Gayo Lues
West Kalimantan	Ketapang, Kayong Utara
Central Kalimantan	Palangka Raya, Katingan, Pulang Pisau
Papua	Sarmi, Mimika, Asmat

The three target groups were:

- Group 1. Community members, especially those whose primary source of livelihoods are forest resources;<sup>4</sup>
- Group 2. Government officials from offices and levels who have responsibilities for forest management, with a focus on forestry-related personnel; and
- Group 3. Natural resource, agriculture and forest-related private sector such as mining, industrial plantation forest (HTI), Estate Plantation (oil palm plantation), logging concession (HPH) and relevant associations (e.g., HIPKAL, APHI), with a focus on forest concessions.

This survey was interviewer-administered. A survey team leader with strong statistical background was recruited from reputable university. Survey supervisors and fieldworkers were recruited from Statistical Bureau (BPS) local networks –known as *Mitra BPS* or BPS partners –whom experienced with conducting household survey as well as familiar with local cultures and languages. A training session was held in each geographical area for survey supervisors and fieldworkers during November 8-27, 2014. The training was commenced initially in Papua then rolled out to other area. It run simultaneously with field survey. That said, when trainers moved on to Kalimantan region for the subsequent training, survey team in Papua was initiating the survey. During training session, topics such as background of IFACS, basic knowledge of forest and climate change, interviewing techniques, quality control and selecting respondents for the study were discussed.

<sup>4</sup> Distinguishing community members whose primary source of livelihood is forest resources was done through self-reporting.

A total of 94 people involved in the survey team under direct supervision of IFACS Monitoring & Evaluation (M&E) Specialist.

The target sample size for this quantitative survey was 2,708 respondents from community members. The sample selected from 148 villages across 11 districts. The community member survey methodology was traditional door-to-door surveying with stratified sampling. Purposive sampling was used for the other two groups (government officials and private sector representatives). No effort was made to achieve statistical significance of these latter two groups; the strategy being simply to sample as many respondents as possible within the timeframe available.

In total 2,708 community respondents (64% male; 36% female), 152 government staff (84% male; 16% female) and 57 private sector representatives (79% male; 21% female) were successfully interviewed. The household survey fielded over one month period, during 20 November to 22 December 2014.

The instrument used for the study was three separate questionnaires, one for each target group. Baseline questionnaires were used with slight modifications such as refine the format and layout, improve questions flow, refine the language to ensure workability, and eliminate few irrelevant questions. As often as possible, the numbering of the questions was retained to facilitate integration of the baseline and endline data.

The questionnaire for community members consisted of more than 100 separate questions in 15 groups covering opinions and perceptions related to the natural environment; forestry, including forestry law and best management practices in the forestry sector; climate change; and related issues. The questionnaire for government staff consisted of a similar set of questions but had more emphasis on the capacity of local governments to support and implement measures to protect the environment and respond to the impacts of climate change. The questionnaire for private sector representatives consisted of many identical and similar questions and included additional questions about corporate responsibility. Both the government and the private sector questionnaires included questions in three additional areas not included in the questionnaire for community members: Payment for Environmental Services (PES), Low Emissions Development Strategy (LEDS), and Reducing Emissions from Deforestation and Forest Degradation (REDD) program. Additional demographic questions and questions related to energy use were asked of all three groups. Identical or similar questions were numbered the same in order to facilitate analysis. The table in Annex B provides a cross-reference to the questions in all three questionnaires. The final questionnaires can be found in Annex C and the questions which were modified or eliminated are footnoted in the response tables found in Annex F.

**Sample Design for Household Survey:** Stratified random sampling was used as the sampling method of choice. Stratification is the process of dividing members of population into subgroups that are considered homogeneous from the perspective of the survey's purpose. Stratification has several benefits. It can reduce sampling error (as compared to random sampling of an entire, un-stratified population), help to ensure inclusion of all strata of interest (i.e., not relying on chance), and permit analysis of each strata as a "population" in its own right.

It was assumed that heterogeneity exists between geographical area. Meanwhile, within each geographical area was considered homogeneous. This assumption underlying further stratification to get  $n$  sample.

The initial stratification was the three target groups described above. Within the community group stratum (Group 1), further stratification was used as described below.

For Group 1 (Community), all stratum was computed using the formula:

$$n = \frac{\sum_{i=1}^L N_i^2 \sigma_i^2 / w_i}{N^2 \frac{B^2}{z^2} + \sum_{i=1}^L N_i \sigma_i^2}$$

With :

n= number of sample for all of stratum

B=bound of error to estimate mean of population

Wi=sample proportion for each stratum

After  $n$  calculated, additional 10% of  $n$  was applied as buffer. To determine the sample size for each geographical area ( $n_i$ ) as well as each district ( $n_{ij}$ ), proportionate to size (PPS or probability proportionate to size sampling) method was used with the formula:

$$n_i = n \left[ \frac{N_i}{N} \right] \qquad n_{ij} = n_i \left[ \frac{N_{ij}}{N_i} \right]$$

Specifically, using 2010 BPS population data, an initial working sample size was determined to be 2,708 for the eleven districts targeted. This was the total sample size target for the community group. It was sufficient to maintain the required statistical significance. Table 2 presents sample size per district.

**TABLE 2: SAMPLE SIZE PER DISTRICT**

Geographical area	Population per Geographical area	Proportion per Geographical area	Sample Allocation per Geographical area	District	Population per District	Proportion per District	Sample per District
Aceh Selatan	202,251	10.32%	272	Aceh Selatan	202,251	100%	272
Aceh Tenggara	258,570	13.19%	348	Aceh Tenggara	179,010	69%	241
				Gayo Lues	79,560	31%	107
Ketapang	701,699	35.80%	944	Ketapang	427,460	82%	771
				Kayong Utara	95,594	18%	173
Katingan	487,463	24.87%	656	Katingan	146,439	30%	197
				Palangka Raya	220,962	45%	297
				Pulang Pisau	120,062	25%	162
North Papua	51,336	2.62%	70	Sarmi	32,971	100%	70
South Papua	258,578	13.19%	418	Mimika	182,001	70%	245
				Asmat	76,577	30%	173
	<b>1,959,897</b>		<b>2,708</b>		<b>1,959,897</b>		<b>2,708</b>

**Sample Frame:** Selection of villages within each district was done using random sampling method by taking into consideration list of all baseline and project intervention villages<sup>5</sup> as well as village data from BPS. Sample size at the village level was also computed using proportionate to size sampling method. See Annex A for the list of targeted villages and sample size per village. In total, 148 villages were targeted for the 2014 KAP study.

One point is important to note. Because IFACS communication and outreach strategy was carried out over the district level –not only in the intervention villages –**control villages** could not be employed in the 2014 KAP study as did in baseline study. In reality, it was impossible to isolate a village against information flow coming from outsiders e.g., radio, TV, newspapers, neighbourhood villagers.

<sup>5</sup> Over the period of project implementation, IFACS has delivered its program in more than 400 villages across eight landscapes.

**Household Selection:** Sample of household within village was selected using systematic interval sampling whereas the starting points were determined by the field supervisor. The length of interval was two households for the whole survey target area. The short interval was determined to anticipate the likelihood of finding villages with small number of households such as in Sarmi. However, it depends on the density of the area. When the survey team found a densely populated area then the length of interval could be four or six households.

**Respondent Selection:** A respondent was selected from a household in each of the village. The criteria used for selection include: 1) only persons meet 'adult' defined by BPS were eligible for interview (18 years above or married), and 2) the persons are decision maker in the household or have knowledge or responsibility to manage household budget. Such knowledge was important when the respondent had to deal with the questions regarding livelihood and income.

Since the target group included farmers and those who depend on forest resources (individuals who were expected to be in the field or the forest during the day) it was necessary to conduct some household visits during the evening. Several strategies were used to ensure a representative sample. Specifically, if an interviewer could not meet the targeted respondent after completing the respondent selection in the selected household, then they would, as appropriate, (i) return to the selected household at the mutually agreed future date or time (constrained by the survey's timeframe); (ii) visit the rice field, farm, river, or forest where the respondent was working (if accessible); or (iii) in cases in which the respondent was absent for a long period of time and it would have been impossible to wait for him/her to return, substitute a similarly profiled respondent from another household.

**Sample Design for Government and Private Sector Survey:** For government officials and private sector representatives, the strategy was simply to interview as many individuals as possible in the timeframe provided. Preliminary lists were drawn up by the IFACS Monitoring & Evaluation (M&E) team from the list of MSF members and trainings participants. IFACS M&E team identified government officials from the agencies most closely associated with environment, forestry, and climate change, and actively involved in IFACS activities. Likewise, private sector organizations that focused on natural resource-based businesses were identified. IFACS M&E regional worked with field supervisor to arrange interviews with these two groups as appointments were required in most cases.

**Anonymity:** Anonymity was ensured in all data analysis and reporting. Only aggregated data are reported and no information that could identify an individual respondent is included in the data set. During the introduction of each interview, the interviewer emphasized to the respondent that her/his confidentiality would be maintained and that at no time will the identity of a respondent be disclosed. Respondents were assured that, to protect confidentiality, only aggregate, anonymous data would be released. Interviewers clearly stated that participation in the survey was optional, and respondents were asked if they were willing to participate. Any respondent not comfortable with the confidentiality of the activity, or unwilling to take part for any other reason, was not required to participate in the survey. In such cases, the interviewer thanked the individual and terminated the interview, and immediately moved on to the next household according to the household selection guidelines.

**Quality Control:** For quality control purposes, one supervisor and one quality controller were assigned to each team of interviewers. These individuals carried out a series of witnessing and call-back interviews with a target of 20 percent. Quality control of 39 percent was realized in 2014. Data cleaning includes checking for missing data, verifying that the skipped responses were properly executed, and verifying that proper response coding was used.

**Data Analysis:** Data analysis was completed using SPSS by the survey team leader, in cooperation and coordination with the IFACS M&E Specialist. Given that endline survey provides information on changes over a certain period of time, data analysis involved the statistics parameter. The method includes data exploration, correlation analysis between the variables and Analysis of Variances (ANOVA). The latter was used to see if there is statistically significant different between baseline and endline results.

## Qualitative Group Discussions

Qualitative investigation allows for more detail than quantitative investigation alone can provide. The quantitative nature of the KAP provides details on exactly “what” people know, do or perceive about the concepts discussed, while qualitative investigation – precisely because it allows for open-ended discussion – is able to address the questions of “how” and “why” these practices and perceptions exist. Qualitative should capture more personal and anecdotal data that helps to round out the complete picture of the study.

For this KAP survey, group discussion sessions served two main purposes. First, was to obtain more detailed information about the current state of people’s knowledge, attitudes and practices regarding forestry and climate change issues in IFACS landscapes. The second purpose was to identify the differences IFACS has made over the life of the project. The latter information will be used as an input for final impact assessment that planned to be conducted by independent evaluators in 2015.

The qualitative component employed a total of six group discussions in 6 districts of Aceh Selatan, Gayo Lues, Palangka Raya, Kayong Utara, Sarmi and Mimika. The participants in this session were meant to be members of Multi Stakeholder Forum (MSF) established in each district. For IFACS, MSF is a working group of stakeholders with a vested interest in the future of forests, land use, Low Emission Development Strategies (LEDS), improving the livelihoods and future of their constituency, and mitigating and adapting to climate change in the district. MSF contain key decision makers and stakeholders from the public, private and civil societies. The composition of MSF members differs in each district. Some are dominated by government officials and others are dominated by civil society. A total of 89 members of MSF participated in these sessions. Table 3 summarized the information of group discussions in six districts.

**TABLE 3: GROUP DISCUSSIONS ACCORDING TO DISTRICT, DATE AND NUMBER OF PARTICIPANTS**

Region	District	Date	Number of participants
Aceh	Aceh Selatan	November 18 <sup>th</sup> , 2014	14 (2 female, 12 male): three persons of civil society, three persons of private sectors and eight persons of government officials.
	Gayo Lues	November 14 <sup>th</sup> , 2014	15 (all male): five persons of civil society, nine persons of government officials and one person of private sector.
Kalimantan	Palangka Raya	November 17 <sup>th</sup> , 2014	16 (5 female, 11 male): 12 persons of civil society and four persons of government officials.
	Kayong Utara	November 20 <sup>th</sup> , 2014	12 (all male): five persons of government officials and seven persons of civil society
Papua	Sarmi	November 20 <sup>th</sup> , 2014	10 (2 female, 8 male): two persons of civil society and eight persons of government officials.

Region	District	Date	Number of participants
	Mimika	November 24 <sup>th</sup> , 2014	22 (4 female, 18 male): one person of private sector, 14 persons of civil society and seven persons of government officials.

Note: civil society include community members, NGOs representatives and media staff. Three moderators were recruited to facilitate the group discussion. Each was responsible to guide the discussions in one region. The moderators used follow-up questions, picture drawing, statement writing and group sharing to glean insights from participants. A dedicated note taker was also employed for each session and audio recordings were used in each case to allow review and verification of results. The moderator guide is included in Annex C.

**Thrust of the Qualitative Group Discussions:** There were eight main thrusts or objectives to the discussion. The inquiry sought to learn:

1. Current perceptions and understandings of what climate change actually is and what impacts they believe it has brought (i.e., how climate change is defined in the minds of the participants after they are exposed to IFACS program).
2. The degree to which participants believe that climate change will impact them personally as well as their community, impact their district, and impact their business operational (i.e., for private sector).
3. The extent to which they perceive their *-personal, community, district, business-* level of risk to climate change impacts.
4. Steps and measures (changes in behaviour) that participants have taken to reduce their level of risk and why they are taking the steps they are and why they may not be taking other possible steps.
5. The extent to which participants are aware of what the district government is doing about climate change.
6. The extent to which participants are aware of what IFACS has done about climate change.
7. The degree to which participants believe that IFACS intervention has made a difference. What changes they considered the intervention has been made and what role they considered the intervention played.
8. Participants' perception of roles and responsibilities to enhance climate resilience.

Most of the sessions were conducted over a one and half hour period. In two or three instances, however, participants were so animated with the discussion that they continued for up to five hours.

**Data Analysis:** The first step to the analysis of focus group data was to have the entire interview transcribed. The amount of editing was done in careful manner to ensure that the character of the respondents' comments be maintained. Because the transcript did not reflect the entire character of discussion, moderators for the group discussions were asked to provide some additional observational data on nonverbal communication, gestures, and behavioral responses. Once the transcript was finished, IFACS M&E Specialist and survey team leader run the analysis used *the scissor-and-sort technique*, which is sometimes called the cut-and-paste method. It is a quick and cost-effective method for analyzing a transcript of a focus group discussion. The analysts determined which segments of the transcript were important, developed a categorization system for the topics discussed by the group, selected representative statements regarding these topics from the transcript, and developed an interpretation of what it all means.

## **Constraints and Limitations**

Substitutions were made to four villages due to accessibility and safety reasons. These include two villages in Aceh Selatan, one village in Mimika, and one village in Sarmi. But minimum sample was retained.

Difficulty was also encountered, especially in identifying suitable respondents for the private sector survey as well as obtaining interview permits within several corporations, often requiring permission from the central office in Jakarta. Because of technical reason there was a separate discussion session with private sector representatives in Mimika but similar thrusts were discussed in the session.

# 3. RESULTS

In this chapter the results of the quantitative survey and qualitative group discussions are presented. First, the results of quantitative survey are presented under specific headings: 1) Findings related to Indicator #8; 2) Findings related to forest conservation, climate change adaptation and best management practices; 3) Findings related to district spatial planning and Strategic Environmental Assessment (SEA); and 4) Findings related to multi stakeholder forums. At the start of survey results presentation, there is a description regarding the demographic composition of the respondents. Finally, the qualitative observations of the group discussions are presented. All results from 2014 KAP study are presented in a way that enables identification of any changes that had taken place since the conduct of the 2011-2012 KAP study.

## 3.1 Quantitative Survey Results

### Demographic Description

As previously described, control group was not established for the 2014 KAP study. Therefore, the results of 2011-2012 KAP study used as a base for comparison were drawn from 710 sample of community members from intervention villages only<sup>6</sup>. While 2014 KAP study successfully interviewed 2,708 sample of community members, comparison of results is statistically feasible.

Thirty-six percent (36 percent) of the endline household sample was female while 46 percent of the baseline sample comprised female.<sup>7</sup> The average age of endline respondents was 41 years (standard deviation +/- 13 years). For the baseline, the respondents were generally younger with the average age of respondents being 37 years (standard deviation +/- 13 years). About two-third of the endline respondents (86 percent) had ages within the 26 to 65 year-old age category or according to BPS definition, the majority of sample fell under productive age category.

The categories for occupation used in this study were based on 2011-2012 baseline study. Half of endline respondents cited “farmer” as their primary occupation. The second larger proportion or 28 percent cited “housewife” as their primary occupation. Entrepreneur only cited by 10 percent of respondents. Less than half (30 percent and 49 percent) of endline respondents strongly or somewhat agreed with statements that forest products were the primary source of livelihood for the family or the community.

The highest level of education completed by most household participants (36 percent) was the primary level (elementary school). The 2011-2012 KAP study also revealed the same phenomenon.

The mean duration of the interviews was about one hour or so (63-67 minutes). The majority of community member respondents (94 percent) were reported as being “very” or “somewhat interested” in the interview topics; and only 6 percent were reported as being “not interested”. The response rate increased significantly compare to the 2011-2012 KAP study

---

<sup>6</sup> Baseline study in 2011-2012 collected data from 2,550 sample of community members comprising 710 sample taken from intervention villages and 1,840 sample from control villages. For calculation of baseline for Indicator #8, the data were drawn from intervention villages respondents.

<sup>7</sup> There was no requirement to attempt to interview an equal portion of males and females.

whereas more than one-third of respondents (39 percent) were reported as being “not interested.”

Detailed responses for every question in all three surveys can be found in the annexes. Annex D provides a reference for all questions, in all three questionnaires, organized by indicator. Annex F provides detailed survey results, including additional demographic information.

## Findings Related to Indicator #8: Recognition and Understanding

Performance Indicator #8 is intended to measure the “percentage increase in recognition and understanding of major conservation, forestry, and climate issues by governments, stakeholders, and local communities in targeted landscapes.” In the 2011-2014 KAP study, **twenty-four** KAP questions were selected by the IFACS Jakarta-based team to gauge the recognition and understanding. Thirteen (13) of the questions were common to all three respondent groups. However, because of an already high level of recognition and understanding of the “common” questions among the government and private sector respondents, an additional 11 questions were included from those two groups that required a broader and deeper knowledge –especially in important areas of intervention for IFACS, such as low emission development strategies. To enable comparison from one period to another, the same type of questions were selected and calculated for the 2014 KAP study. The detail baseline versus endline results for all of these questions by region can be found in Annex E.

To satisfy indicator requirement, the data for Indicator #8 were dis-aggregated into six geographic areas as shown in Table 4. These areas were selected during the baseline study (rather than the program’s eight landscapes) because it was in these areas where the communications and outreach strategy was targeted. Specifically, because the program conveyed different messages in North Papua –where the program intended to increase knowledge and awareness concerning peatland and forest –than in South Papua –where the program focused on mangrove and forest -Indicator #8 was measured separately in these two geographic areas (rather than in their corresponding four landscapes.) The other four areas of Aceh Selatan and Aceh Tenggara, and Central and West Kalimantan, correspond to program landscapes.

The 2014 KAP study was aimed to achieve statistical significance at the level of geographic area. Therefore, stratified random sampling was applied base on geographic area as stratum. Total sample of community members, i.e. 2,708 respondents, has covered 10 percent of buffer from the minimum sample required. Confidence level of 95 percent with margin of error 2 percent was used to determine sample from each stratum.

**TABLE 4: SIX GEOGRAPHIC AREAS OF ANALYSIS FOR INDICATOR #8**

Geographic Area of Analysis	Target Districts	Population	Sample Size*	Statistical Significance Confidence Level/Margin of Error
Aceh Selatan	Aceh Selatan	202,251	272	95% / 2%
Aceh Tenggara	Aceh Tenggara, Gayo Lues	258,570	348	95% / 2%
Central Kalimantan	Katingan, Pulang Pisau	487,463	656	95% / 2%

Geographic Area of Analysis	Target Districts	Population	Sample Size*	Statistical Significance Confidence Level/Margin of Error
West Kalimantan	Ketapang, Kayong Utara	701,699	944	95% / 2%
North Papua	Mamberamo Raya, Sarmi	51,336	70	95% / 2%
South Papua	Asmat, Mimika	258,578	418	95% / 2%

\* Only community member respondents are included in the sample size. Sample size is actually larger than represented in the table, as the total sample size for the purposes of measuring Indicator #8 include government and private sector representatives.

IFACS' target for Indicator #8 is reported in terms of a single percentage increase. For this purpose, it was suggested in the 2012 KAP report that IFACS compute a weighted sum, which takes the positive response rates of the selected questions and weights them by the relative sample size of the response groups-specifically, for all respondents questions 3.h, 3.i, 4.c, 4.d, 4.e, 4.l, 7.a, 8.a, 9.e, 7.b, 7.c, 8.b and 8.e; and questions 4.i/4.m<sup>8</sup>, 4.j, 7.f, 10.a, 7.g, 7.m, 7.n, 7.o, 7.p, 10.b, 10.c for government and private sector respondents. The baseline response rate is therefore the number of positive responses divided by the total sample size for all questions used.

This method has the following benefits:

- It aggregates the responses from all three respondent groups which, if accounted for separately, would not have sufficiently large sample size to provide statistically meaningful results; and
- It provides proportional allocation based on sample size, providing a more robust measure of change.

Similar method of computation was employed to determine the 2014 KAP response rate.

The 2014 KAP study revealed that there was 46 percent overall increase in recognition and understanding of climate change and forest conservation issues among stakeholders across the IFACS project, with 71 percent increase in Southern Papua and 58-59 percent increase in Kalimantan landscapes. The results are presented in Table 5. South Papua, Central Kalimantan and West Kalimantan were the area identified in 2011-2012 KAP study as needed more project attention due to low level of knowledge and attitudes regarding climate change and forest conservation.

<sup>8</sup> These questions regarding United States Lacey Act were eliminated from 2014 KAP questionnaire. The main reason was because it was less covered in all IFACS communication and outreach materials, as well as capacity building materials.

**TABLE 5: INDICATOR #8: “RECOGNITION AND UNDERSTANDING”**

Geographic Area	Target Districts	Indicator #8			% Increase
		2011, 2012 Baseline	End-of-Project (2014) Target	End-of-Project (2014) Actual	
Aceh Selatan	Aceh Selatan	58%	≥ 87%	82%	41%
Aceh Tenggara	Aceh Tenggara, Gayo Lues	75%	100%	84%	12%
Central Kalimantan	Katingan, Pulang Pisau	53%	≥ 79%	84%	59%
West Kalimantan	Ketapang, Kayong Utara	54%	≥ 80%	85%	58%
North Papua	Mamberamo Raya, Sarmi	64%	≥ 97%	79%	24%
South Papua	Asmat, Mimika	48%	≥ 71%	82%	71%
<b>All Landscapes</b>	<b>All Districts</b>	<b>57%</b>	<b>≥ 85%</b>	<b>83%</b>	<b>46%</b>

Analysis of Variance or known as ANOVA was used to compare (test) baseline and endline results for statistical significance. The test revealed that increase in recognition and understanding was statistically significant or in other word, it was deemed unlikely to have occurred by chance as shown in Figure 3 whereas p-value = 0.000 less than  $\alpha=0.1$ .

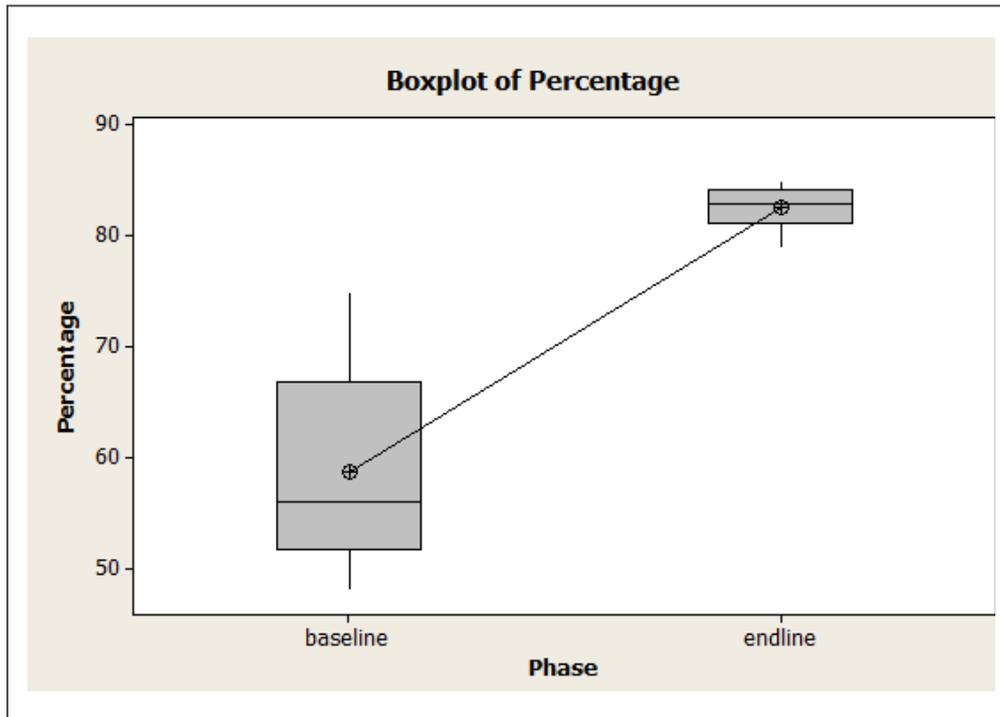
**FIGURE 3: ANOVA TEST USED TO COMPARE BASELINE AND ENDLINE DATA**

ANOVA					
Dependent Variable:indicator					
Source	Type III Sum of Squares	df	Mean Square	F	Sig (p-value)
Intercept	5,995	1	5,995	1227,769	,000
Phase (baseline, endline)	,173	1	,173	35,485	,000
Error	,049	10	,005		
Total	6,217	12			
Corrected Total	,222	11			

R Squared = ,780 (Adjusted R Squared = ,758)

Further statistical analysis was employed using a box plot (or known as a box and whisker plot). A box plot is a graph that displays a summary of a large amount of data in five numbers. These numbers include the median, upper quartile, lower quartile, minimum data value and maximum data value. The purpose was to analyze the distribution of results and provide indications of symmetry within the data. The test is also useful to check if outliers exist. A box plot test is presented in Figure 4.

**FIGURE 4. BOX PLOT TEST FOR BASELINE AND ENDLINE DATA**



Three main conclusions can be drawn from box plot test:

- 1) Outliers do not exist both in 2011-2012 and 2014 KAP study results;
- 2) The percentage of increase in recognition and understanding is higher for all geographical area;
- 3) The difference size of the boxes and length of the lines between baseline and endline results revealed that baseline results have larger variance than endline results. That said, people recognition and understanding of climate change and forest conservation issues was highly varied among geographical area before project was implemented. But over the year, people recognition and understanding of such issues became uniform.

Due to the absence of control group, the results of 2014 KAP study should be interpreted with caution especially in the matter of attribution. Although it is impossible to unambiguously attribute the changes in people recognition and understanding to the program's activities, but IFACS monitoring data and anecdotal evidences provide indication of IFACS contribution over these changes.

Indicator #15 is intended to measure number of people reached via project communication and outreach campaign, such as printed climate change and forest conservation materials, workshops with community and traditional leaders, radio campaigns, influential religious leader raising climate change and forest conservation issues to their congregations, social media, video and exhibitions. IFACS monitoring data for this indicator show that a total nearly 300,000 people exposed to IFACS supported information on forest and climate change in Kalimantan and Southern Papua. In these area, IFACS has intensively working with journalists and local activists to provide accurate information, in accessible language easily understood by target groups. Local journalists in Kalimantan, for example, have been very active in promoting conservation actions through electronic and print media, as well as internet/social media. In Mimika, radio campaigns used to disseminate information to those living in remote area. IFACS is also known as the only donor project working in Mimika to address issues of forest and climate change. In addition, the 2014 KAP study also revealed

that electronic media and community leaders as the two most effective sources of information reported by respondents (55 percent).

Taken together, the quantitative survey results and IFACS monitoring data tend to point to interesting observation. Two inter-related indicators indicated the role of IFACS behind significant increase in people recognition and understanding of climate change and forest conservation issues in Central Kalimantan, West Kalimantan and Southern Papua.

## **Findings Related to Forest Conservation, Climate Change Adaptation, and Best Management Practices**

Two inter-related indicators measure progress in forest conservation, climate change adaptation, and the adaptation of best management practices. Indicator #6 measures “the number of villages with increased capacity to adapt to the impacts of climate variability and change” while the related indicator #16 measures the number of people receiving training in natural resources management and/or biodiversity conservation.” The intent is that training and increased capacity will lead to improved land use management which will in turn strengthen mitigation and adaptation strategies for overall ecosystem management. IFACS is targeting the use of best management practices as a key tool for improving natural resources management and adapting to climate change. While increased capacity cannot be directly measured through a KAP survey, changes in practices and the effects of those changes can be assessed through a KAP survey, as can perceptions about capacity. Similarly, a KAP survey can demonstrates trends in increased use of BMPs.

Respondents were asked a series of questions about their knowledge, attitudes and behaviors regarding good practices in natural resource forest management, as well as questions about their community’s use of management practices such as selective tree cutting and reducing the use of fire for land clearing. Overall, the 2014 KAP study revealed more positive attitudes among community respondents than the responses gained in 2011-2012. Examples include:

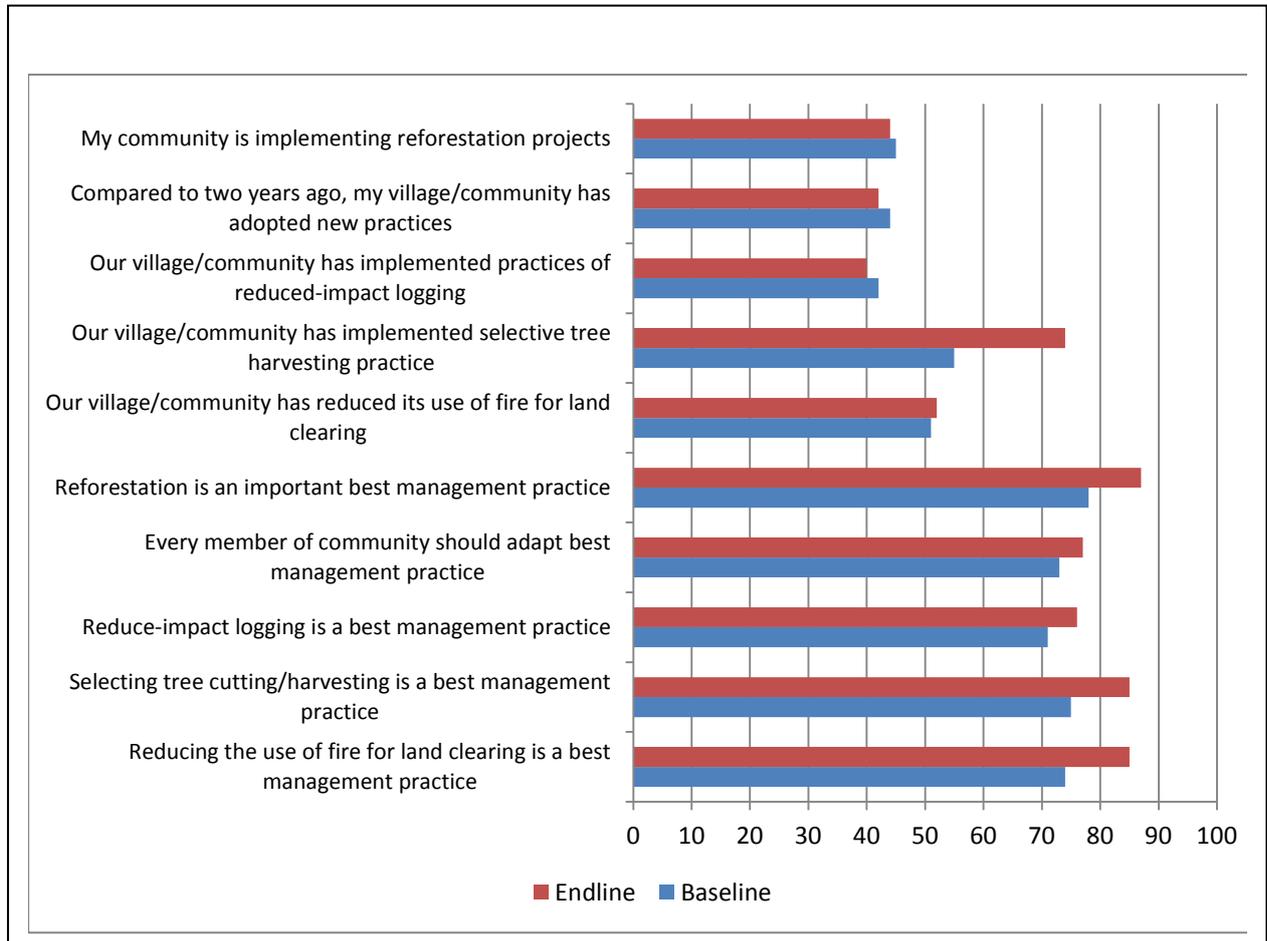
- *Knowledge:* Compared to 74 percent responses in baseline, 85 percent endline respondents agreed or strongly agree with the statement, “reducing the use of fire for land clearing is a best management practice.”
- *Attitude:* Compared to 73 percent responses in baseline, 77 percent endline respondents agreed or strongly agreed with the statement, “every member of community should adapt best management practice.”
- *Practice:* Compared to only 55 percent responses in baseline, 74 percent endline respondents agreed or strongly agreed with the statement, “our community has implemented selective tree harvesting practice.”

Early study found that an expressed understanding and support for best management practices do not necessarily translate into adaptation of these practices. In comparison to the 2011-2012 KAP study, there has definitely been a reduction in the gap between attitude and practice. In regards with the findings, IFACS contribution can be explained as below.

IFACS monitoring data for Indicator #16 record more than 8,000 people in IFACS landscapes received trainings in natural resources management. The topics include Good Agricultural Practice (GAP) and Good Environmental Management (GEP). The principles of GEP then translated into the creation of Community Conservation and Livelihood Agreements or CCLAs which contained prevention of slash and burn agriculture and support for using already degraded lands for farming. Anecdotal evidences gleaned from group discussions also revealed that the success of targeted farmers in applying GAP and GEP – thus increasing production –has attracted interest from farmers in neighboring villages (non program villages) to employ the strategy.

Other questions regarding natural resource management and their responses are presented in Figure 5.

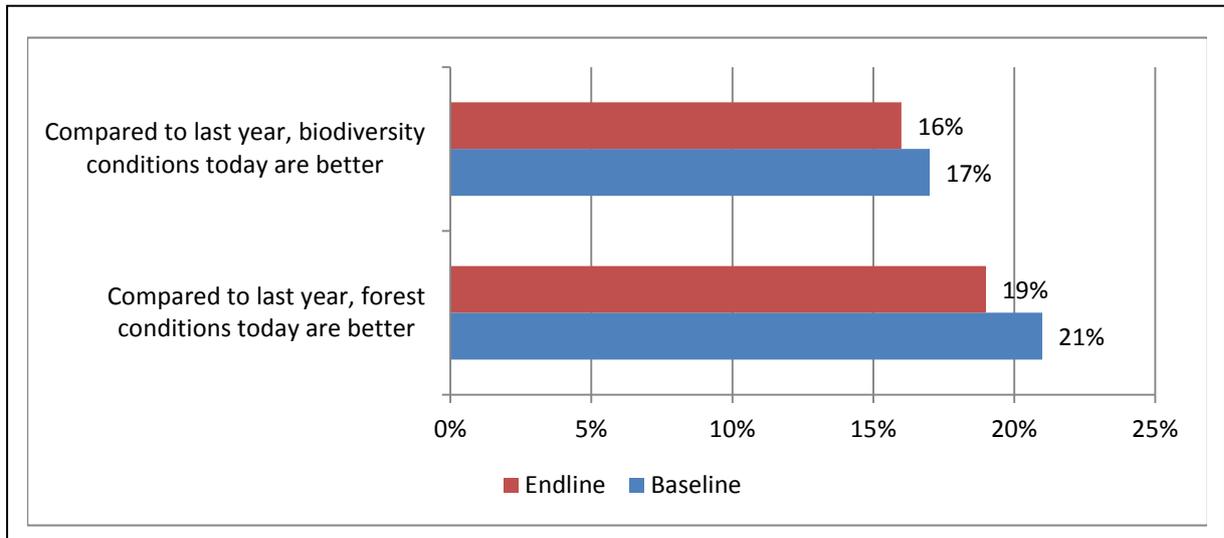
**FIGURE 5: COMMUNITY MEMBER ATTITUDES AND PRACTICES IN NATURAL RESOURCE AND FOREST MANAGEMENT: PERCENT OF RESPONDENTS WHO AGREED OR STRONGLY AGREED WITH THE STATEMENTS**



Two questions were also asked about the actual state of the environment: whether forest and biodiversity conditions had improved compared to last year<sup>9</sup>. Compared to 2011-2012 survey, the responses rate against these questions was slightly lower as shown in Figure 6. Explanation around the findings could be made as 1) environmental impacts take a long time and 2) increase awareness leads to increase people ability to identify problem. The latter was echoed in the group discussion whereas IFACS is considered to be like a doctor consultation. IFACS forces discussion of tough, serious issues that cause partners to better understand their problems while providing them solutions and insights to take care of things they previously took for granted.

<sup>9</sup> During the endline, the period was changed into 'two years ago' to compare the situation between 2012 and 2014.

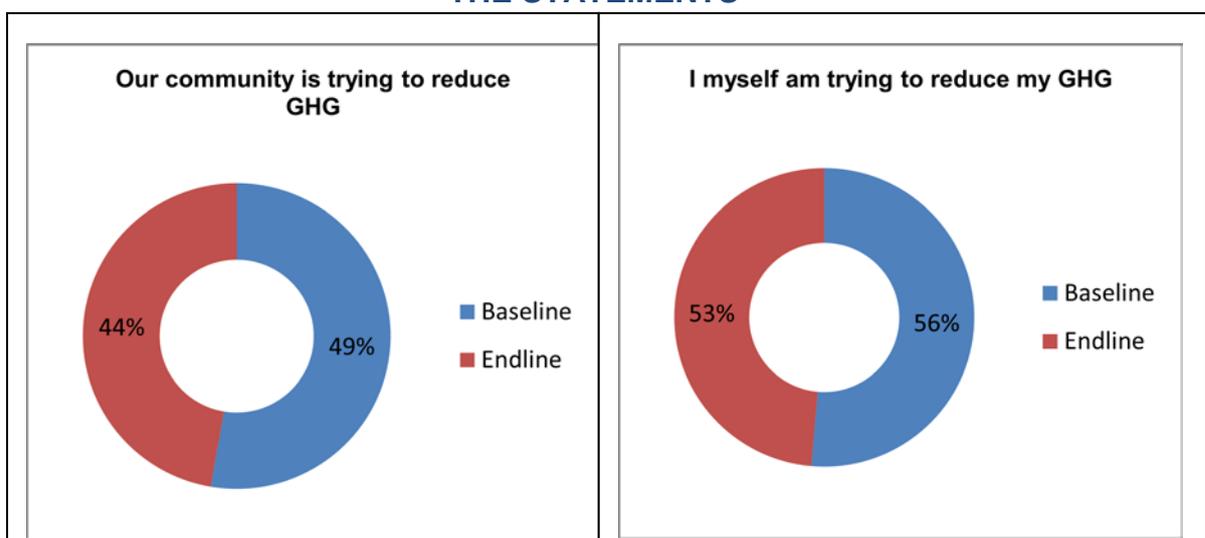
**FIGURE 6: PERCEPTIONS OF CHANGING ENVIRONMENTAL CONDITIONS: PERCENT OF RESPONDENTS WHO AGREED OR STRONGLY AGREED WITH THE STATEMENTS**



Respondents were then asked whether or not they had ever heard the term “greenhouse gas emissions.” A quite similar proportion of community member respondents in both 2011-2012 and 2014 study said that they had, although in both cases the proportion who said they had heard the term was small—only 10 percent in 2011-2012 and 13 percent in 2014.

Those who said they had heard the term were then asked a series of questions intended to gauge their knowledge and attitudes about greenhouse gas emissions and practices regarding their own and their community’s reduction of greenhouse gas emissions. In both studies, there were no significant differences regarding the responses against two questions about behaviors (see Figure 7).

**FIGURE 7: PERCEPTIONS OF CHANGING ENVIRONMENTAL CONDITIONS: PERCENT OF RESPONDENTS WHO AGREED OR STRONGLY AGREED WITH THE STATEMENTS**



Respondents were also asked whether or not they had ever heard the term “climate change.” Both studies found that people were far more familiar with “climate change” term than they were with the term “greenhouse gas emissions.” Fully four times as many respondents from baseline (40 percent) and 49 percent respondents from recent study said they had heard this term.

**Discussion Group Finding:  
Climate Change and Greenhouse Gas**

In 2012 discussion, many participants expressed understanding of climate change but few neither heard the term of greenhouse gases (GHGs) nor understood the link between greenhouse gases to climate change. Most thought that climate change was simply inevitable, and almost no one realized that individuals had a role to play in reducing GHGs - it was the responsibility of governments. However the effects of climate change were clear for them.

Similar to those in 2012, impacts of climate change are very clear to the participants of 2014 group discussions. Many of the participants understood what climate change in a general way; few know the important keywords of climate change such as global and long term. And also similar to 2012, only few able to recall carbon and greenhouse gases or have clear idea how climate change happen. But different with 2012 finding, the recent discussion revealed that many of participants realized that they have a role to play in mitigating GHGs.

Fully four times as many respondents from baseline (40 percent) and 49 percent respondents from recent study said they had heard this term.

In the 2014 KAP study, a cross-tabulation was made between community respondents’ education levels and gender, and their hearing the term “climate change.” The tabulations revealed that, persons who had completed secondary level education (senior high school) were more likely to report that they have heard the term climate change compared to persons educated at the primary levels (elementary and junior high school). The term was also more

likely to be heard among male than female respondents (See Table 6 and 7). This suggests that education levels and gender should be considered a key segmentation variable when planning any communication-based intervention in any future project.

**TABLE 6: RELATIONSHIP BETWEEN EDUCATION LEVEL AND HEARING THE TERM “CLIMATE CHANGE” AMONG COMMUNITY MEMBERS**

		Education Level					
		No Schooling	Elementary School	Junior High	Senior High	Diploma	University
Have you ever heard the term “climate change”?	Yes	7%	29%	22%	33%	3%	7%
	No	93%	71%	78%	67%	97%	93%
Total		100%	100%	100%	100%	100%	100%

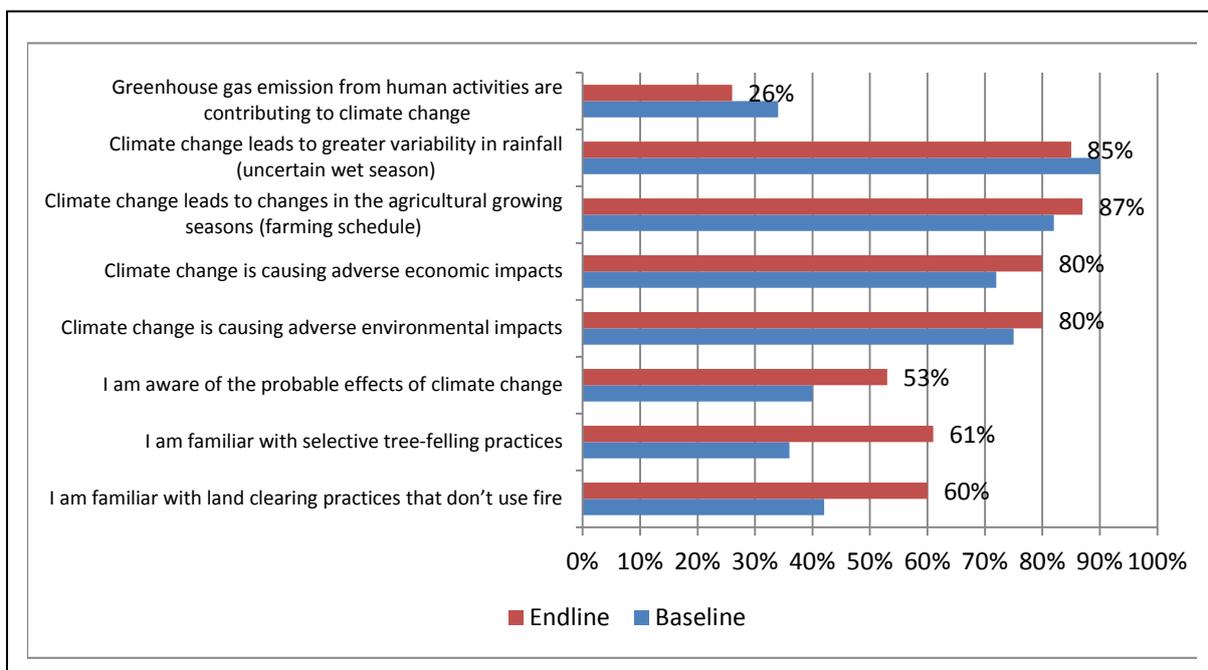
Note: The portion of those who completed diploma and university is only one percent and three percent respectively of the total community sample.

**TABLE 7: RELATIONSHIP BETWEEN GENDER AND HEARING THE TERM “CLIMATE CHANGE” AMONG COMMUNITY MEMBERS**

		Gender	
		Male	Female
Have you ever heard the term “climate change”?	Yes	63%	37%
	No	37%	63%
Total		100%	100%

Respondents who said they had heard the term “climate change” were then asked a series of questions intended to gauge their knowledge and attitudes about climate change and practices for adapting to climate change. The 2014 KAP study revealed greater awareness regarding community’s risk associated with climate change. A majority of household respondents (80 percent) agreed or strongly agree that climate change is causing adverse economic and environmental impacts. Though only 26 percent respondents correctly identified greenhouse gas emission from human activities are causing climate change. The majority of respondents also made the link between climate change and uncertain wet season, that impacted cropping season (See Figure 8).

**FIGURE 8: DIFFERENCES IN SELF-REPORTED VERSUS ACTUAL UNDERSTANDING OF CLIMATE CHANGE: PERCENT OF RESPONDENTS WHO AGREED OR STRONGLY AGREED WITH THE STATEMENTS**



While only a fraction of community members reported that they had heard the term “greenhouse gas emissions,” the recognition rate among government staff and private sector representatives was much higher. Fully 91 percent of government staff and 75 percent of

private sector representatives responded affirmatively to this question. Recent study found that recognition among government is greater compared to the 2011-2012 study.

Likewise, the vast majority of both groups showed a high understanding of the link between certain positive practices (increased use of renewable energy, improved energy efficiency, and reduced impact logging) and the reduction of greenhouse gas emissions, and between certain negative practices (deforestation) and the increase in greenhouse gas emissions. Among private sector respondents, 70 percent agreed with the statement, “My company is already taking steps to reduce its greenhouse gas emissions.” While 91 percent of government staff agreed that “the private sector has a role in helping to reduce greenhouse gas emissions.”

Further, Indicator #6 monitors number of stakeholders with increased capacity to adapt to the impacts of climate variability and change. While the number of stakeholders is measured through other means, the KAP survey looks at perception and knowledge about the practices, revealing how extensively they are being adopted thus provides a picture about ‘increased capacity’.

**Discussion Group Finding:  
Risk-Reducing Practices and  
Adaptation to Climate Change**

The 2012 participants mentioned numerous ways in which local farmers took in order to reduce risks and adapting to climate change such as changing variety of rice to a more drought-resistant one, or changing to a more draught resistant crop such as yellow (soya) beans, corn and cocoa; damming streams to store water for use between rains; cultivating fish or harvesting products from the forest as a second source of income; and or taking an outside job while waiting for the rainy season to begin.

In 2014 discussion, changing profession such as from farming to fisheries is still one way to reduce climate risk. But 2014 farmer participants’ answers were much more developed, to reduce risk they embrace new technology (water pump) to provide water for their crops, they embrace organic farming and build derivative business out of it, they are planting on non-productive lands and the most important, they acknowledge reforestation as one way to reduce their risks.

In addition to the questions about best management practices already reported in above, one more question confirmed the high level of support for implementing BMPs. A majority (77 percent) of household respondents in 2014 agreed or strongly agreed with the statement, “Every member of my community should adopt best management practices.” Further, recent study also found that more than 40 percent of community members responded “yes” to the question, “Compared to a year ago, my community has adopted new practices to management natural resources.”

At the government level, the high level of support for BMPs also found as 84 percent of government staff agreed to the

statement, “This district office encourages the use of best management practices through policy initiatives.” Further, 47 percent of government staff responded “yes” to the question “Compared to a year ago, my district has adopted new practices to management natural resources.” The response rate has improved significantly compared to only 16 percent of government staff responded “yes” to the same question asked in 2011-2012 study.

When asked about the support for climate change adaptation, the majority (95 percent) of government staff agreed that it is important to implement measures to adapt with climate change, and 60 percent reported that, “The district government is already implementing measures that will help citizens adapt to the effects of climate change.” While baseline found only 49 percent of government staff agreed with the latter statement, the recent finding provides indication of reducing the gap between attitudes and practices.

At the private sector level, more than two-thirds (65 percent) agreed with the statement, “My company already uses best management practices in the forestry sector” and 67 percent agreed with the statement, “My company should use best management practices in the forestry sector.” Likewise, two-thirds (60 percent) of private sector respondents agreed with the statement, “My company is already implementing measures that will help people like me adapt to the effects of climate change.”

There is certainly a higher level of support found in the 2014 study for actions on which future project can build: 94 percent of government staff agreed with the statement, “It is important for district government to help communities adapt to the impacts of climate change.” With more than half of private sector respondents saying that their companies are already taking steps to help adapt to the effects of climate change, the door is already open to support further progress in this area.

Near the end of the survey, a short set of summary questions asked respondents their general feelings about natural resources and the environment as summarized in Table 8.

Even though these are rather generic questions, unlikely to be useful for measuring or verifying a specific indicator, they do represent an important set of what could be called “calibration” questions that can indicate a general pattern in perceptions in the both studies period. As can be seen, both baseline and recent study show that most respondents think that the existing natural forest is adequate and is being maintained, that timber and non-timber forest products are being harvested in a sustainable manner, and that there is sufficient clean water for household use. A solid majority of community members, government staff and private sector representatives feels that protecting the environment is important. (Additional details for these questions can be found in Annex F.)

**Discussion Group Finding:  
Reducing the Gap**

IFACS is seen as playing a significant role in changing how the community perceives climate change. As reported by the participants of group discussion in Gayo Lues, at least 5 percent of population in each village within Kuta Panjang Sub-District, is now knows about climate change. A sample of 30 people from each village was taken (a survey done by local organization) and the result showed that the community has understood how to maintain the environment. Through Cocobest program, IFACS has changed agricultural practices. Many farmers have switched to organic fertilizer and practicing organic farming.

**TABLE 8: RESPONDENTS WHO AGREE OR STRONGLY AGREE WITH STATEMENTS ABOUT NATURAL RESOURCES AND THE ENVIRONMENT**

	Baseline			Endline		
	Communities (n=710)	District Government (n=50)	Private Sector (n=30)	Communities (n=2708)	District Government (n=152)	Private Sector (n=57)
The existing natural forest is adequate and is being maintained.	60% (n=426)	78% (n=39)	73% (n=22)	56% (n=1,513)	67% (n=101)	73% (n=42)
Non-timber forest resources are harvested in a sustainable manner.	64% (n=457)	66% (n=33)	67% (n=20)	69% (n=1,880)	69% (n=105)	79% (n=45)
Forest timber resources are harvested at a sustainable rate.	65% (n=461)	76% (n=38)	56% (n=17)	72% (n=1,956)	68% (n=103)	81% (n=46)
There is sufficient clean water for household use.	57% (n=403)	78% (n=39)	80% (n=24)	67% (n=1,823)	67% (n=102)	79% (n=45)
There is sufficient water for agricultural use.	46% (n=328)	86% (n=43)	87% (n=26)	55% (n=1,494)	71% (n=108)	82% (n=47)
Protecting the environment is important.	88% (n=624)	98% (n=49)	100% (n=30)	93% (n=2,522)	98% (n=150)	95% (n=54)

## Findings Related to District Spatial Planning and Strategic Environmental Assessments (SEA)

Indicator #3 monitors percentage of people with increase capacity to apply spatial planning. As with other capacity related indicator, the percentage is measured through other means, the KAP survey looks at perception and knowledge about the practices, revealing how extensively they are being adopted thus provides a picture about increased capacity.

To make a positive contribution to the district spatial planning, IFACS utilized a strategic tool mandatory to government for any planning document known as Strategic Environmental Assessment (SEA). SEA refers to a range of analytical and participatory approaches that aim to integrate environmental considerations into policies, plans, and programs, and evaluate the inter-linkages with economic and social considerations. Integrating environmental consideration into strategic decision-making can improve the quality of local planning, ensure sustainability, and change the land-use practices. To serve the purpose of mitigating climate change impacts, IFACS combined SEA with Low Emission Development Strategies (LEDS).

Overall, there were more positive responses gained in 2014 study when communities were asked about the district spatial plans. More than half (54 percent) of respondents from recent study agreed or strongly agreed with a statement that their village or community supported district spatial planning. A higher response rate compared to 44 percent responses gleaned in 2011-2012 study. Likewise, more than one-third of endline respondents agreed with a statement that their village or community had adequate information about district spatial planning, or that their village or community was invited to participate in the consultative process of district spatial planning. While baseline showed lower responses rate. However, the challenge remains due to highest response to these two questions was “don’t know”.

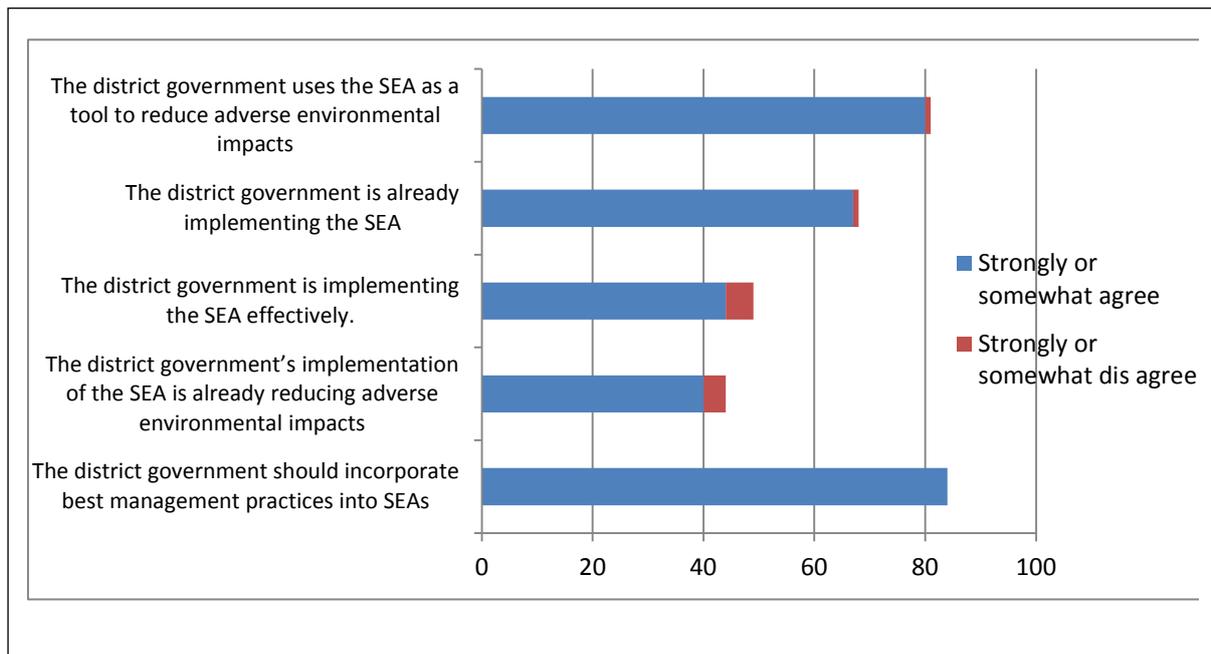
A related question asked was whether or not respondents agreed with the statement, “Instead of using natural forests, degraded lands should be used for farming activities.” This was asked as part of the spatial planning group of questions both because such land use is a hoped for outcome of spatial planning and also as a cross-check against other natural resource and forest management-related questions in the survey. Again, recent study found higher response rate to this question: 69 percent of household respondents said that they agreed or strongly agreed with the statement compared to 61 percent responses gained in baseline study. This verifies that there is already a greater understanding on respondents about resource management, although further support is needed for communities to prevent them from entering the forest. This finding was also echoed in 2014 group discussion whereas participants emphasized the needs for IFACS continuous supports to enhance farmers’ livelihood.

At the government level, a number of questions were asked that directly addressed the government’s capacity for completing or updating district spatial plans. In addition, the questions were also linked to utilization of SEA in supporting or improving district spatial plans. The majority (82 percent) of respondents agreed with the statement, “The district government has the information necessary to complete or update the district spatial plan.” More than two-thirds (69 percent) agreed that “District government has adequate resources (personnel, equipment, budget)” and 71 percent agreed that “Staff have adequate expertise and skills” to complete or update the district spatial plan. All responses rate have increased compared to those found in 2011-2012 survey.

Further, government staff were also asked a series of questions on SEAs not asked of the other two groups. An initial question asked whether the respondent had himself or herself been involved in any activities related to the development or implementation of an SEA, to

which 64 percent responded that they had. Respondents reported a generally healthy degree of application of SEA as can be seen in Figure 9. The importance difference compared to baseline result is more people agreed to the idea of “The district government should incorporate best management practices into SEAs.” IFACS initiation to synchronize Landscape Conservation Plans (LCP) –which contained BMP principles –with SEAs seems to work effectively, in particular in changing people perceptions on the importance of BMP.

**FIGURE 9: DISTRICT GOVERNMENT STAFF ATTITUDES AND PERCEPTIONS ABOUT THE STRATEGIC ENVIRONMENTAL ASSESSMENT**



Persons participating in group discussion echoed the benefit and application of SEA in their district policies. In Kayong Utara, West Kalimantan, IFACS support for the SEA-LEDS was highly appreciated. The preparation of the SEA-LEDS was perceived as greatest outcome as this catalyzed the fast-track preparation of the district spatial plan. In Sarmi, SEA-LEDS was not only used as the basis for district spatial plan but also for mid-term development plan (RPJMD). Down into practice, the Public Works Office in Sarmi has synchronized bridge construction and other environmentally-friendly infrastructure with the SEA-LEDS. Participants in Aceh saw the creation of SEA-LEDS as an important learning process; people are more confident in their ability to analyze issues strategically.

In addition, both private sector representatives and government staff were asked whether or not they had ever heard the term “Low Emission Development Strategies.” Fully 75 percent of government and more than half (51 percent) of private sector respondents said they had. The responses rate were higher from 2011-2012 study for both groups. Then, those who said they had heard the term were asked a subsequent set of questions. When asked how well they understood the term, 96 percent of government staff and all (100 percent) private sector respondents said they understood the term “highly,” “somewhat,” or “a little,” with only 4 percent of government staff and no private sector respondents saying that they did not understand it at all. This level of understanding has improved compared to the baseline situation.

**Discussion Group Finding:  
LEDS-usage and Constraint**

In 2012, very few participants had heard of LEDS, but when it was defined for them, they were quickly able to identify a number of relevant strategies already being implemented including, minimizing the use of firewood, reducing livestock farming, using barren land rather than clearing forest, and using organic fertilizers. However, although the participants were aware that the 2012-2017 mid-term development planning included LEDS but they claimed of not able to implement it because there was no technical guidance in the plan for implementation.

In 2014 discussion, most participants were more aware of LEDS, although they did not mention the term. They know the documents that need to be prepared and they know how to prepare it. What was good from the 2014 discussion is that technical reason such as the absence of technical guidance is not a reason for not implementing LEDS; rather it is the political will of the Head of District that directs what path the development goes.

Among those who were asked, there was high support for LEDS in the district, with 95 percent of government staff saying they supported LEDS. While 89 percent private sector respondents strongly agreed with the statement, “My company supports LEDS for the district.” Just over half of private sector respondents reported that their companies provided funds to help support LEDS for local communities.

Further, all (100 percent) private sector respondents and 98 percent of those in government staff agreed with the statement, “Reducing emissions is important.” Solid majorities of both groups agreed that LEDS will “help our economy” and that it will “help our

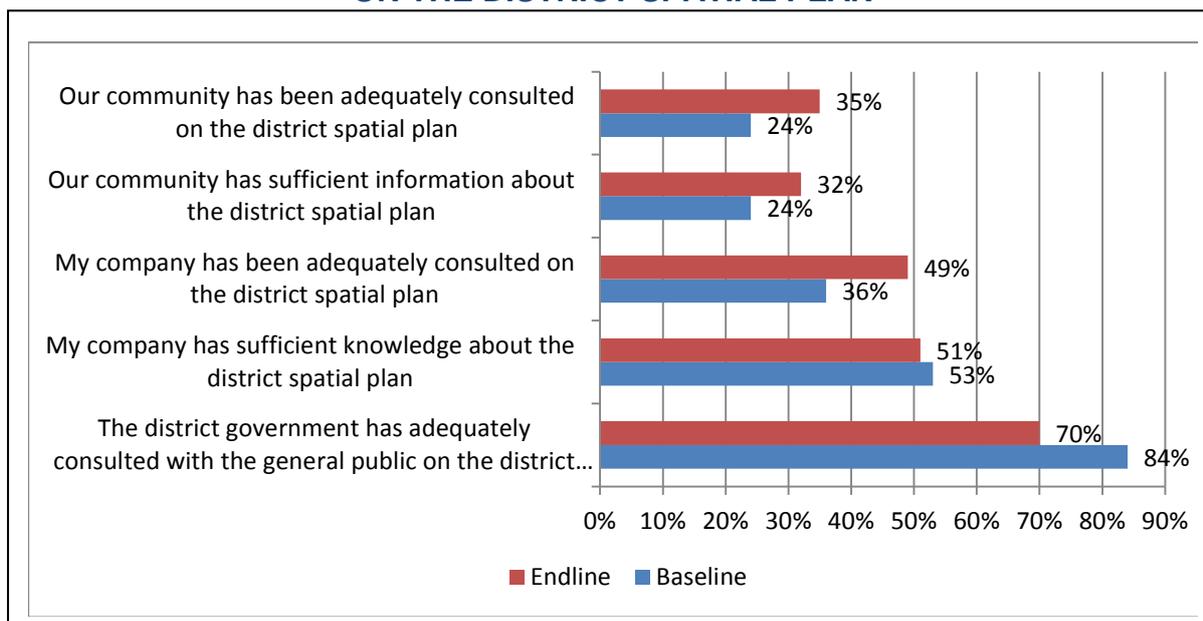
environment.” Both groups correctly identified LEDS with energy efficiency and also identified LEDS with agricultural intensification.

## Findings Related to Multi-Stakeholder Forums

Indicator #9 counts the number of MSFs operational. The MSFs are a primary tool for facilitating USAID IFACS goals, as the MSFs contain key decision makers and stakeholders from the public, private, and civil societies. For IFACS, MSF is defined as a working group of stakeholders with a “vested” interest in the future of forests, land use, LEDS, improving the livelihoods and future of their constituency, and mitigating and adapting to climate change in the district. One of the key roles of the MSFs is ensuring adequate stakeholder inputs into the development of the spatial plans. One KAP question in particular addresses this point.

Community members and private sector representatives were asked whether or not they felt that they had been adequately consulted on the district spatial plan, and whether or not they had sufficient information about the district spatial plan. Although not dramatic, there is improvement in the involvement of public into spatial plans development as can be seen in Figure 10. Compared to only 24 percent baseline response, more than one-third (35 percent) of household respondents in 2014 study reported that their community has been adequately consulted on the district spatial plan. Likewise, 49 percent of private sector respondents agreed that their companies have been adequately consulted on the district spatial plan; compared to only 36 percent baseline responses. There was a common perception during group discussions among IFACS stakeholders that formation of the MSF has enabled a bridge of communication between government and community as well as increasing the level of community participation in the development process.

**FIGURE 10: OPINIONS ABOUT THE ADEQUACY OF PUBLIC CONSULTATIONS ON THE DISTRICT SPATIAL PLAN**



### 3.2 Qualitative Group Discussion Results

As indicated in the methodology, the main topics of discussion were as follows:

1. Current perceptions and understandings of what climate change actually is and what impacts they believe it has brought (i.e., how climate change is defined in the minds of the participants).
2. The degree to which participants believe that climate change will impact them personally as well as their community, impact their district, and impact their business operational.
3. The extent to which they perceive their *-personal, community, district, business-* level of risk to climate change impacts.
4. Steps and measures (changes in behavior) that participants may be taking to reduce their level of risk and why they are taking the steps they are and why they may not be taking other possible steps.
5. The extent to which participants are aware of what the district government is doing about climate change.
6. The extent to which participants are aware of what IFACS has done about climate change.
7. The degree to which participants believe that IFACS intervention has made a difference. What changes they considered the intervention has been made and what role they considered the intervention played.
8. Participants’ perception of roles and responsibilities to enhance climate resilience.

Six MSFs in 6 districts were consulted. Based on thorough review of all the notes taken and the audiotapes recorded, feedbacks from each MSF are discussed below.

#### Aceh Selatan

Most participants defined climate change from the impacts that they feel on everyday lives – that climate change is the increasing temperature on earth; situation when the season is unpredictable. However there were few participants that able to define climate change more

sophisticated as change in meteorology and climatology cycle such as temperature, wind, and rain that affecting earth in a long run. This change according to the participants happened due to natural causes such as volcano eruption and because of anthropogenic factor such as land opening, land conversion, logging, fossil fuel burning, industrialization and change in forest management.

They realized the climate change is already on their doorstep since they could no longer predict the season, the increasing temperature has made Aceh Selatan hotter, and there is occurrence of flood, long draught and landslide, along with tidal waves. The springs become lesser and the river water is decreasing. With such a condition they claimed that agriculture yields especially nutmeg are decreasing and if the situation keeps going, they were afraid that the number of poor people will be increasing because a drop in nutmeg production means drop in nutmeg derivative industries such nutmeg syrup that at the end will be affecting their livelihood.

While climate change has affecting everyone – because everyone needs clean water, they admit there is group of people that is more vulnerable – poor people – that is nutmeg farmer who currently many of them have switched profession to fisher folk but remain poor because they are not supported by proper facilities. When agriculture could no longer support families and number of unemployment are increasing, in the shade of contractors' preference of hiring outside manpower, climate change will lead to the increasing of social conflict. Conservation too will be at risk, because land is much more fertile inside the park and illegal logging will increase.

The participants agreed that every element in society: government, private sector, and civil society need to be part of the climate change resiliency efforts. As individual, most participants see that what they have been doing like planting tree that has economic value such as nutmeg at landslide prone area or at home; using sustainable agriculture practices that able to increase yield and crops' value such as organic treatments and grafting are necessary to improve climate resilience. Improving planting skills and preserving local wisdoms such as *kenduri*, *seunebok* and enforcing them through village consensus (or CCLA) are thought by participants as important to help community more resilient.

As for private sector, the cocoa collective group is developing prime cocoa seed in order to improve cocoa productivity and is producing organic fertilizer to be used by farmers or to be sold, while nutmeg oil producer is still searching for alternative fuel to firewood. While private sector is already in the process of improving its practices, it is yet taking role in promoting or campaigning for environment-friendly practices to public.

As for government officials, actions that they thought important to do and have been doing in order to lessen climate change impacts are by taking coordinated persuasive measurements to safe the park, increasing land and crop productivity through providing seed, supporting agricultural research, farmer technical training and supporting access to market by road improvement, sensitizing on non-timber product management and environmental protection. One participant said that he had suggested to the Head of the District to create environment-friendly programs that able to increase people's income.

The participants acknowledged positive impacts from IFACS assistance. The formation of MSF, FORLAST, was seen as useful because it enables people from different offices to sit together. According to the forum's chief, with government support, the forum will surely run and be involved in people's capacity strengthening activity. For MSF's member and government officials, the creation of CCLA and SEA had provided a learning process; they are now more able to analyze issues strategically. Without IFACS, they also felt that they would have never created the SEA. Agricultural capacity building supports such as grafting, *rorak* system, and Cocobest are most valued by government and especially the

communities. The technical support has attracted interest from farmers in neighboring villages.

Working with IFACS is considered to be like a ‘doctor’s consultation’ –the more discussion they had the more problems they see. IFACS forces discussion of tough, serious issues that cause partners to better understand their problems while providing them solutions and insights to take of things they previously took for granted. With all the positive impacts, the participants expect that there will be a comprehensive multi-stakeholders cooperation that able to rehabilitate and protect the park’s buffer area in a long term; that there will be a sustainable assistance from experts; and that an awareness program through religious speeches (channels) should be retained.

## Gayo Lues

Most participants defined climate change from the impact perspective, that it is a situation where heat is increasing; or when weather is uncertain. One participant said that climate change is change on earth surface. However, important keywords are heard such as it happens globally, accumulative results, and longtime process. Several participants mentioned carbon as the cause, while most participants identified activities that emit carbon as the cause of climate change: high fire intensity, illegal logging, plantation opening, and chemical usage in agriculture. Water and air pollution were also mentioned as causes.

When climate change is not handled quickly, the participants believe that draught, flood and landslide will occur. The springs are disappearing from the deforested area. Hunger and poverty because of failing crops will happen. Today, *Kejrun Blang* institution that used to decide planting season is no longer effective because it could no longer able to predict the season.

The participants are aware of the interconnectedness of risks pose by climate change. Although risks are different based on each person role in society, but they all are in the same chain. As one participant said, “One is linked to another. As the owner of pesantren, my student’s parents are farmer. When harvest failing, they could not pay for school. This is the cycle.” The participants understood that farmers have higher climate risk because of the floods and draught cause harvest failing or low product quality that at the end will affect their income. Forest communities have to be ready for fire at all time. And when communities are failing, government is risked to have its development programs fail. For example when harvest failing, government’s food security program too will fail. When disaster occurs, government’s fund will be allocated for emergency thus making development agenda delayed.

To lessen these risks, every elements of the society should take part. Civil society should do environment-friendly activities and government should back them up with regulations. According to the head of the environment office, programs that are adapted to climate change, RPJMD and environment management strategies are clear and are already included in Gayo Lues District’s low emission development plan.

Civil society is considered too already aware of the importance of tree planting, energy saving, and proper waste management; and had switched to using organic fertilizer for agriculture. Among them there is agreement that whoever starting a fire and cause fire on other people’s land, the person will be fined. This is important for them to acknowledge because slash and burn activity is still exist, or because there was case such as fire spark from a lemongrass distillation factory that uses firewood flown by wind and triggering fire on someone else’s land.

Communities at 49 villages had signed Community Conservation and Livelihood Agreements (CCLAs) and formed VCC (Village Cocoa Clinic) in four sub-districts to help communities improving their cocoa production without further land opening. But for the participants what more important is to preserve their local wisdom. A practice that is ties to customary can slow climate change, they said. According to forestry extension official, people are still holding into tradition thus they are still protecting the forest. For example, people cannot cut down trees in *ulu naih* area – water catchment area. Therefore low emission development strategy for them is just a sophisticated name sticks into an old thing they already know.

As for government, their efforts to increase communities' climate resiliency are by supporting agriculture practices adaptation to climate change such as by providing primary seeds that need less water; and supporting organic farming. Today there are already 55 villages from 144 villages that received intervention for organic farming. Provision to high value crop seed is also being done in order to improve communities' welfare thus they do not go into the forest. Government is also giving access to the people for using non-productive land for maize planting. Improving farmers' skill is also one of the concerns. To protect the forest, the government uses participatory approaches by letting the communities be part of the forest patrol and fire control. Protecting water catchment area along with the river is also priority.

All above actions are part of low emission development strategy that is already included in the RPJMD and this is also reflected in the village level, *Perdes* (*peraturan desa* – village regulation). An example to this is at Penosan Village that issued *Perdes* for water resources protection. The local government had prepared documents to support policies such as SEA. The district openness to low emission development could not be separated from the Head of District vision to make the district a low emission district. However government official is questioning national government policy that is still giving subsidy for chemical fertilizer.

For private sector, they no longer open new land nor use chemical fertilizer. They too have use electricity in their product processing – instead of firewood – such as in Rerebe patchouli distillation factory. They even start to produce biogas from patchouli and animal waste.

IFACS is seen as playing a significant role in changing how the community perceives climate change. As said by one of the participants, in Kuta Panjang Sub-District, at least 5 percent of population in each village is now knows about climate change. A sample of 30 people from each village was taken and the sampling shown that the community has understood how to look after the environment. Through Cocobest program, IFACS had changed agricultural practices. Farmer has started to switch to organic fertilizer and there are some villages that are already practicing organic farming. Through program such as Cocobest, IFACS is considered to be as partner to government. The MSF that IFACS helped to induce is now becoming a resource for local government to grasp program from provincial level. It is regretted by the participants that IFACS is yet working in every village and sub district.

## Palangka Raya

The participants in Palangka Raya shared different level of understanding about what climate change is. Some of them understood climate as weather, thus climate change is sudden change of weather. Several others correlated climate with temperature, that climate change is the rise of temperature on the earth surface. Other mentioned climate change as change in nature cycle such as carbon and hydro cycles. One participant mentioned climate change as a significant change in weather/climate such as temperature, precipitation.

Though all participants know the element and activity of what to create climate change for example sun, smoke from factory smokestacks, cut tree, burned peat, intense farming, land opening, atmosphere etc, only several participants know the connection of those elements and activities – in other word, know how climate change happen. Several impacts of climate

change that they identified are the extinguished of certain species that later makes the ecosystem not balance, appearances of new disease or uncontrollable pest, decrease in water quantity and quality. All of the participants agreed when nothing is done to address climate change, at the end, it is human life and livelihood that is being affected such as hunger, decrease in income.

The effect and impacts of climate change have discomfort feeling for all participants. The words heat, rain, flood, emergency, storm, unpredictability came repeatedly from the participants. Most of the participants understood that people who depends their income from the nature has most risk. They are traditional farmer (either on land or in water, plant or animal) and fisher folk. This is because, for farmer, they are not able to predict when to start planting, though when they are able to, there is a huge chance of failing and while they try to avoid harvest failure, the cost to maintain the crops is getting higher due to increase number of pests. Similar to agriculture, in aquaculture, the fish-farmer also experiencing failure because the fish eggs hatch earlier than it should be and the fishes' size are not as big as it should be. For the sea fisher folk, they are not able go to the sea because bad weather and for inland fisher folk they are not able to maximize their catch due to improper catching equipment – each season require different catching tools.

Several participants also identified baby, children, old people and pregnant women as having more risk. They should get nutritious food continuously (compare to other sex and age groups) in order to keep them healthy. Another group that is also impacted heavily by climate change is trader – because there will be no product they can sell and road contractor – because they will not able to meet their deadline.

When looking at their own risk, several participants feel that they are at big risk – one person draw her personal risk as big as climate change – because their home are flooded during heavy rains, their foods depends heavily from farmer, or because they do farm. Most participants see that their personal risk is small if compare to the communities'.

For government officials their risks come from the nature of their work as civil servant. Their concerns were that they may not reach their target because of climate change for example how to increase yield while facing crop failure due to climate change or how to create a balance between opening land for production while at the same time, there is a demand for conservation. In spite of the threat that climate change pose to person, family, community etc, few of the participants noted that there are opportunities from it, those are the opportunity to add to the pool of knowledge about climate change and opportunity to explore more about climate change that able to give value added for community.

The participants identified many actions that need to be taken in order to reduce risk, the actions fell into eight categories: 1) community and information, 2) forest and peat landscapes, 3) agriculture, 4) energy and water, 5) waste, 6) animal, 7) transportation and 8) coordination. Within the community and information group, needed actions are education and socialization about important landscapes and reforestation, and information dissemination about climate change in order to raise concern, one way to do this is through writing environment articles.

Within forest and peat landscapes group, needed actions are conservation, massive reforestation (cut 1 plant 10) and home based tree planting, stop land opening and controlled land opening, stop illegal logging, prevent forest burning, fast fire extinction, water provision for fire extinction, mapping of critical land mapping and disaster prone area.

Needed actions within agriculture group are back to nature, organic and environmental friendly farming practices, while within energy and water group the identified needed actions are energy and water saving practices, and water management.

Within waste group, the needed actions are recycling, waste management, and keeping the environment clean, while for animal welfare group there is animal protection. For transportation and coordination groups, the needed actions are lead-free transportation usage and multi-stakeholder coordination.

All participants agreed that all elements – community, private and government – should get involved in all those activities. They also claimed to have done all of the mentioned actions; however there are problems in engagement, activeness and consistency (intensity) from those elements to the mentioned activities.

The participants as MSF members felt that have done and achieved many, however the result of their works are not yet supported by government in terms of regulations. As one of the participants mentioned, the recommendations are there but are still waiting for the decision maker. The MSF has a potential to be a policy influencer. They have the knowledge and working ability and what is more important is that the members thought themselves as one team. However there is an obstacle in creating change in the policies, since policy should be made applicable by budget – the MSF members are not the one that making the decision to which activities government money go.

IFACS program is considered to be very helpful in providing space for coordination. The existence of MSF was praised by government officials and NGO participants. The MSF has enabled them to work together in addressing environmental problem. IFACS was considered to help them build their common ground. The participants hoped that the MSF could be sustained in spite of IFACS program is going to be ended.

At a more practical level, IFACS supports for farmer were considered significant. Training given by IFACS' grantee had helped rubber farmer in improving their rubber quality thus increasing their income. The program was also considered as supporting government's program that had provided the rubber seed for the farmer. Another achievement gained from the presence of IFACS through MSF was the existence of Hutan Pendidikan (Education Forest). Through socialization to local people, the Hutan Pendidikan is now possible. Local people now acknowledge the forest for education and research purposes. The CCLAs although is not yet effective in protecting a certain area from turning into mining area, had given a learning opportunity for NGO participants about the interconnection in nature, for example when the lake is contaminated then surround livelihood will also be affected. While for participants from religion-based organization *Walubi* and indigenous group, IFACS program had confirmed the work that they have been doing all along.

## Kayong Utara

Most of the participants in Kayong Utara understood climate change as change in surround situation and structure, unstable situation and weather, uncertainty in season change, irregular climate, and when weather is no longer friendly. They understood climate change as a new unknown situation. One person defined climate change as weather circulation. One participant defined climate change as situation or rising temperature that affected the atmosphere, troposphere and biosphere.

The participants were puzzled on how climate change occurred. They were hardly able to connect between deforestation, factory smokestack, cars, non-organic farm, volcano, atmosphere and sun. They did not recognize carbon as one element causing climate change. The thing that made heat reflection could not get out of the earth is particle – but not carbon.

The impacts from climate change, according to the participants are extreme heat, drought, rising of sea level. Most participants thought of climate change as a bad thing, it gives them

uncomfortable feeling. They used word like complaint, confusion, hot, change and fear to describe it. Confusion because farmer is no longer knows when to plant; and fear because of flooding and the rise of sea level.

The participants see that it is farmer who gets most impact. They can longer know when to plant, and while not working on their field, they could not do any other work. One farmer participant feels that his income in not certain because he experienced crop failure. One participant emphasized that it is traditional farmer that experiencing the hardest impact. Regarding to agriculture, one participant also identified the increasing of pest and the difficulties they have in controlling the pest since they could no longer know the cycle.

The perception that farmers are the most threatened by climate change was supported by the farmer participants. They perceived climate change as a small thing – only an environmental process but the impacts are big – even bigger than the climate change itself. They now could not tell what season it is. From 1 – 10 scale, the higher the number the riskier, the farmers chose 7 to 9, because their source income is at stake. The participant who gave 9 already experienced several crop failures.

Farmer participants identified four things to do in order to reduce risk, those are: using organic fertilizer instead of chemical – and they have been doing this with the support of IFACS; to adapt to the unpredictable season change, this one is yet done because they are lacking facility to do it – they have no water pump; to do reforestation, this is also yet to be done because they are still waiting for the seed; and last, to protect peat forest from cutting down, the farmers claimed that they only cutting down the forest when they are forced to. If the compensation is there, they said they would not do it.

For the civil society group (NGO) there were five identified needed actions. Those are reforestation; with community working on to create a green and sustainable source of livelihood; increase community awareness toward cause, effect and impact of climate change; bridging community and government in doing productive, green and sustainable program; and supporting government in creating climate change adaptation and mitigation policy. All the mentioned actions are being done. However, there are things that need to be done in order to make them more effective. For reforestation, in order for reforestation agenda to be widespread, the NGO thought that the government should be clear about the land use zonation. To enhance their works with community in creating a green and sustainable source of livelihood, more success evidences are needed to convince people to switch to such a source of livelihood. Government and private sector supports are needed to increase community awareness toward cause, effect and impact of climate change. To help bridging community and government in doing green agenda, mapping of government programs as well as coordination are needed to be done in order to make the programs and the budgets more structured. And last, to support government makes climate change adaptation and mitigation policies, government should provide space for NGO to get involved in every line of works that governments do regarding to climate change – starting from economic, social and environmental assessment to the implementation. NGO participants also feel that politics at *musrenbang* (development planning meeting) is becoming kind of obstacle.

For government officials, most all needed actions are claimed to already being done. Those are tree planting, however, the official feel that a continuation to the program such as zonation of tree type is important to be regulated; strict regulation for any activities that have impact to environment; limited permission for land use conversion, this action is felt difficult by the official to conduct because no compensation is given to the people who resides surround the national park; slash and burn prevention, sensitizations according to the government official have been done but still there is permission that is given in peat land to do such thing. The reason to this, is because the sensitization is yet given to every location.

An action that is needed but yet done is to create a spatial planning regulation at local area. So far, village communities have yet own such document and many private sectors have yet own environment management document. Another finding that may hinder the planning is that there is yet a clear border among nearest districts and also between national park and the protected forest.

For the government official, the most important IFACS role was in the development of SEA-LEDS that helped fasten the district spatial plan (RTRW) establishment in the regent, the process itself had helped improving capacity for some of the officials. While for the civil society, IFACS was considered to be very helpful in bridging communication between government and the community, in inducing community participation in the development process and had helped improve the image of NGO. IFACS too had supported five villages in building conservation agreements. For the farmers group, they thanked IFACS for their hand tractors that have helped them cutting their cost, they too thought that the organic fertilizer training was very helpful for their practices.

To enhance the result that IFACS has brought, the participants thought it is important to continue what they had started. The existence of *Rumah Ide* (MSF) and its team building are needed to be strengthened, sensitization and education regarding climate change are still needed by the government official. Support for mapping is also thought important. For NGO, they need support to be able to influence the *musrenbang*. While for farmer group, they wished for more support on organic practices.

## Mimika

Climate change perceived by participants in Mimika as when coastal line in Kei moved, when local wisdom was no longer able to read the season – fisher folk cannot tell when the west wind is; when it is flood in dry season. For farmer, climate change is when the rain is “a few meters in here while there is not”. Why climate change happens according to them is because Timika’s population is growing; Freeport’s mining waste; Timika is becoming transit city that lots of vehicle come to park; and because there is a lot of land opening for palm oil plantation. The opening of mangrove forest was also considered as one of the cause. Only participant from private sector could correctly identify the cause of climate change as increase of greenhouse gas that were caused by pollution, waste and peat land burning, mangrove destruction and loss of green spaces, and the increase of Timika population.

To reduce climate risk, when flood occurs and harvest fails, the farmer tries to plant another crop such as yardlong beans and fruit, or whatever they can sell in the city. As for governments there are few actions it has taken to reduce climate risk. The government had issued regulation on tree cutting – company should plant ten threes to replace one they had cut down. The sanction to this when fail to comply is discontinuation of operational permit. The government also issued regulation on mangrove and produced SEA document. In the making of the SEA, three public consultations were conducted and people from villages came into the consultation. However, there are some issues arose at the discussion regarding government’s effort.

Government’s ten-threes-for-one-three program was challenged by the participant from indigenous group – that unlike the regulation stated, timber company cut down not only certain three but any three they can sell. The indigenous group participant later mentioned about the 2010 forest moratorium that Susilo Bambang Yudhoyono signed, and claimed that the land should return to the indigenous people group and the palm oil plantation should be closed. Participant from farmer group also questioned the three seeds which the company uses that according to them is endangering the surround trees. A participant from forestry office responded by explaining the process of how a permit is given, that before a company request a permit to government, it should carry a statement from the land owner – in this

case is from the indigenous people group – saying that the owner agree to let the company into their land and exploits the trees above that land. The statement should also be known by the head of indigenous people group, head of the village and head of the district. As for the tree seed, the official said, the forestry office suggests the company to use Papua endemic plants that has high economic value.

The debate continued, the official's answer was again challenged by the indigenous group participant, exclaiming for explanation which indigenous group had gave the agreement, and that they all should sit together then decide. The forestry official then admitted that they do not know who is the exact owner of the land, what they know is, if the head of sub-district already signed a document then ownership issue must have been cleared. The official later complained about the lack of staff number in the forestry office, only six people to manage millions hectare age of land and that when a law breaching occurred, no one is reporting to them.

Overall, climate change has becoming a focus for Mimika district. The farmer's group although not really know the exact definition of climate change, shares a big concern since they understand the impact. The concern made them more critical to government climate change mitigation program. While for the indigenous people group, they understood what happen to nature as more as development's impact. The context of their demand of forest land and abolition of palm oil were more because of the livelihood-injustice issue.

At private sector level, there are several things that Freeport has been doing to reduce climate change risk. In 2006, Freeport built an information center for reclamation and biodiversity, and the place is active to disseminating the respective issues since. Around the same year, a Working with School Program was started. The annual program aims to find environment ambassador among the local junior high students. Similar program, Working with Public Program, aims youth from religious organization and targeted to support a more environmentally-friendly worship places. The program has been running for two years.

For broader public, Freeport has a on air program that talks on certain subject every forth times in a week for one month. It also produced comic and brochure about reduce, reuse and recycle and other environmental related themes. While for internal, the company is campaigning for an eco-office such as paper waste reuse.

Media and government sees IFACS' contribution in mangrove regulation as very significant. Without IFACS' support, according to media, the regulation would not be issued as quickly as it was. Government appreciated IFACS' full support during a-long-one-year-working process. Both also saw IFACS as the first organization that introduced commercial and edible benefit of mangrove, such as to make as tea or cake. IFACS is also seen as the first one to introduce GIS and infrastructure data spatial. An official from National Land Agency appreciated IFACS' help in producing ancestry and other important sites map. In this way, the official said, we know which site that cannot be used for other purposes. The government official was also impressed by interactive dialogues in some of IFACS' activities, that people could give inputs on how to manage the environments. How to produce document such as SEA, is also considered as one contribution of IFACS. Government will do similar process when producing other document.

As for the indigenous people group, they were thankful that IFACS had helped them mapping their ancestry ground. The map will help them to preserve of the area; which are allowed to be built for what purposes and which are not. People of Komoro will definitely not accepting that the ancestor burial site be built as tourism site.

Freeport joined several of IFACS activities and it considered the involvements were very helpful in providing information on climate change and mangrove, that it had shared new knowledge and technique in mangrove monitoring. Freeport also actives in biomass

measurement in peat land. The involvement in IFACS' mangrove activities induced the corporation to put mangrove and peat land as a topic in the Working with School Program.

Thus all stakeholders wished for IFACS to be continued in Mimika. "It is a pity that what we have started is stop, if we stop now, the result would be maximum," said Bappeda official. When the project continued, they hoped that the project will have better scheduling so they can follow all the planned activities. Aligning the project's schedule with government budgeting schedule is also important thus government can cover some expenses that are not covered by IFACS. For this, the Bappeda office asked for IFACS one year work plan to be shared. Government annual budget is fixed by January.

Participant from national park was hoping that IFACS can reach villages inside the park – because they rarely does due to limited budget; and that IFACS should also focus to sustainable forest management beside forest resource usage.

Participant from private sector suggested that enhance public engagement can makes IFACS more effective, for example on the continue campaign though local mass media and targeting teachers and schools might also good. Freeport is willing to support if there is any specific session on mangrove and peat land.

## Sarmi

Climate change was defined by some of the participants as change of nature; it is an irregularity of season, a higher tide and bigger sea streams. It is a change that happens within a course of time. Other participant defined climate change as a higher temperature and another as higher precipitation, higher heat intensity signed by the presence of El Nino. What has caused this according to the participants are because the trees at the coastal and at the forest were cut down. Massive deforestation from timber industry at most of the west coastal is responsible for all these cut down. Another participant explained that climate change happen because information could not reach the villages due to bad infrastructure and flood.

What the impact are, according to them, are flood especially at the Kasukwe – the concession area; destruction of infrastructure such as road and bridge; increase of health cases due to awaken of germ from the heat; dust from the draught will lead to breathing problem, weather anomaly makes mosquitoes breed faster – increasing malaria disease probability; and cassava and vegetables will fail because of the flood. Participant from indigenous group mentioned that the impact from climate change is the drowning of houses of the Kaisau-Armopa Bonggo caused by the abrasion. The abrasion also happened along the eastern part of Bonggo Beach, while at the western part became extent to the sea in the 1960s. Since the timber industry came, many trees have been cut down and important sites were no longer protected. Transmigration, said participant from indigenous group, has brought negative impact in the management of nature such as the use of electricity for hunting at the forest.

Thus the highest climate risks are bore by the poor, farmer and fisher folk, and those who live in disaster prone area. Fisher folk could not go to the sea when tidal occurs; people at the remote villages could not harvest their cassava and vegetables due to the flood. It is all about livelihood, one participant said. Mothers at villages will take the fall because they could not go to the market. Primary need prices are very expensive when disaster occurs.

To reduce the climate risks, fisheries office has program for housing at the western part of beach where is prone to disaster; distribution of fishing tools for the fisher folks; sea natural resources protection for fisher folk in order to increase district revenue; and sea mapping. While agricultural office has cocoa grafting and planting program; and coconut planting for

villages along the coastal. There is also a regulation of not planting near the river mount; it should be at least 100-200 m from the mount.

Health office has program in measuring pollutant in Waim's river from the timber industry; supporting yard planting and reforestation, and promoting nutrition. The participant from the health office emphasized on the Law no 5 of 2014 about the allocation of special autonomy fund which should take sides to Papua people. The Bappeda claimed that the spatial planning and *Renstra* (Strategic Plan) already backed-up by SEA-LEDS in which IFACS supported its development. They also are sensitizing the spatial planning in Bonggo area, west and east coast areas and city of Sarmi.

The Public Work Office has synchronized bridges construction and other environmentally-friendly infrastructures with SEA-LEDS, while Village Empowerment Office runs program from national government on mangrove forest conservation.

For Bonggo indigenous people, environmentally-friendly fishing practices training from government that able to elevate Sarmi fisher folk livelihood, would make them more resilient. The fishery official explained that at the principle, program should come from below and the request later goes to the respective SKPD (Government Working Unit). Bappeda (Planning Agency), according the office, needs to also support the request. The participants later emphasized on the need of all SKPD to synchronize their works.

IFACS has taught people of Bonggo the importance to protect important sites such as shrine, watershed, mangrove forest and places to look for food such as sago village – through CCLA. What is notable for them however is how IFACS staff was willing to stay among the people and walk from Armopa Village, Kiren Village, Tettoom Jaya Village, Tamar Village, and Mawesday Village and consistently talked with chief of the tribe, villages and *Ondoafi* about the important to protect such sites. Now, according to the indigenous people, Kaptiau Village is asking to have CCLA at their village.

For the government officials, IFACS had helped offices to work together and synchronized programs. IFACS helped them to discuss with each other thus they now understand their strengths, weaknesses, what the opportunities and threats are. IFACS was considered by the government official has brought them to think about the importance of incorporating of nature conservation in their programs at villages, and IFACS had facilitated them in making SEA-LEDS for district spatial plan and mid-term development planning (RPJM), and went with them and the village people into field to take GPS coordination of important sites. IFACS was seen as the officials as climate change information pivot point for the offices and the villages. Thus the officials hoped that IFACS will still help them to go into villages for the climate change programs. The officials also hoped that the MSF targetting technical person.

# 4. CONCLUSION

Overall, this study shows improvement to the situation of knowledge, attitudes and practices (KAP) of IFACS stakeholders regarding climate change, forestry and other related concepts. Though the study also supported the need for enhancement in public education and awareness activities to filling the knowledge gaps regarding climate change. The gap, for example, is a full understanding of the impacts of climate change with a lack of understanding of its causes.

Likewise, the study also suggested a high level of support for protecting the environment as well as implementing measures to adapt to climate change which was echoed by government staff and private sector representatives in any occasion.

While baseline identified significant gaps between support for an idea with the actual steps taken to improve environmental and forest conditions, that circumstance has shifted significantly among stakeholders in the landscapes.

In summary, a strong majority of community members, government staff, and private sector representatives supports protection of the environment and the forest and the use of best management practices and take actions to reduce greenhouse gas emissions and adapt to the effects of climate change. Together with increased in transparency and participation, this positive KAP will provide a solid foundation for any future project to build on.

**INDONESIA FOREST AND CLIMATE SUPPORT (USAID IFACS)**

Wisma GKBI, 12th Floor, #1210  
Jl. Jend. Sudirman No. 28, Jakarta 10210, Indonesia.

Phone: +62-21 574 0565      Fax: +62-21 574 0566

Email: [info@ifacs.or.id](mailto:info@ifacs.or.id)