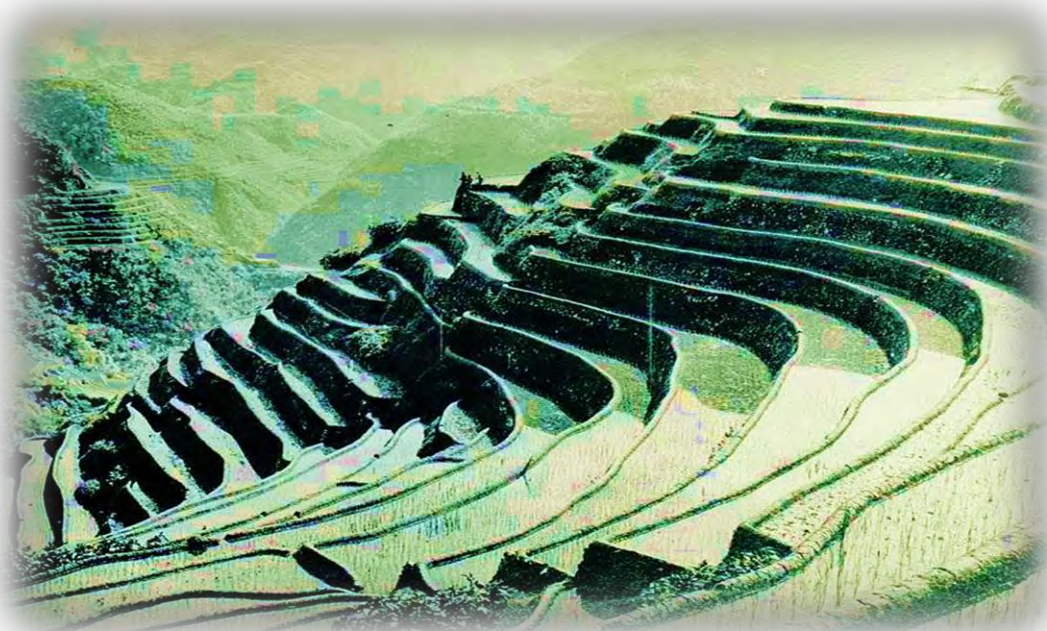




# RICE TERRACES MASTER PLAN

2015-2024

IFUGAO



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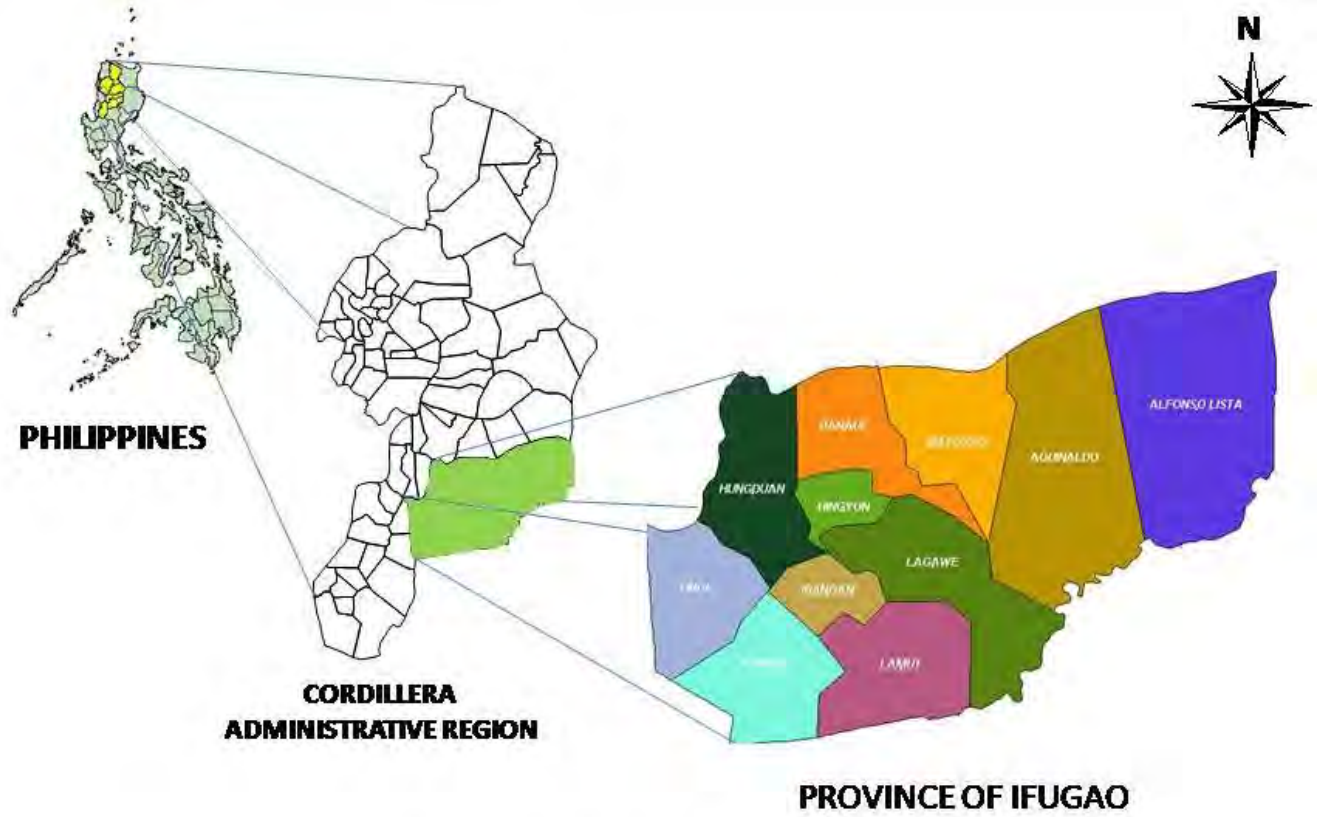
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## LOCATION MAP OF IFUGAO

Map 1: Location Map of Ifugao

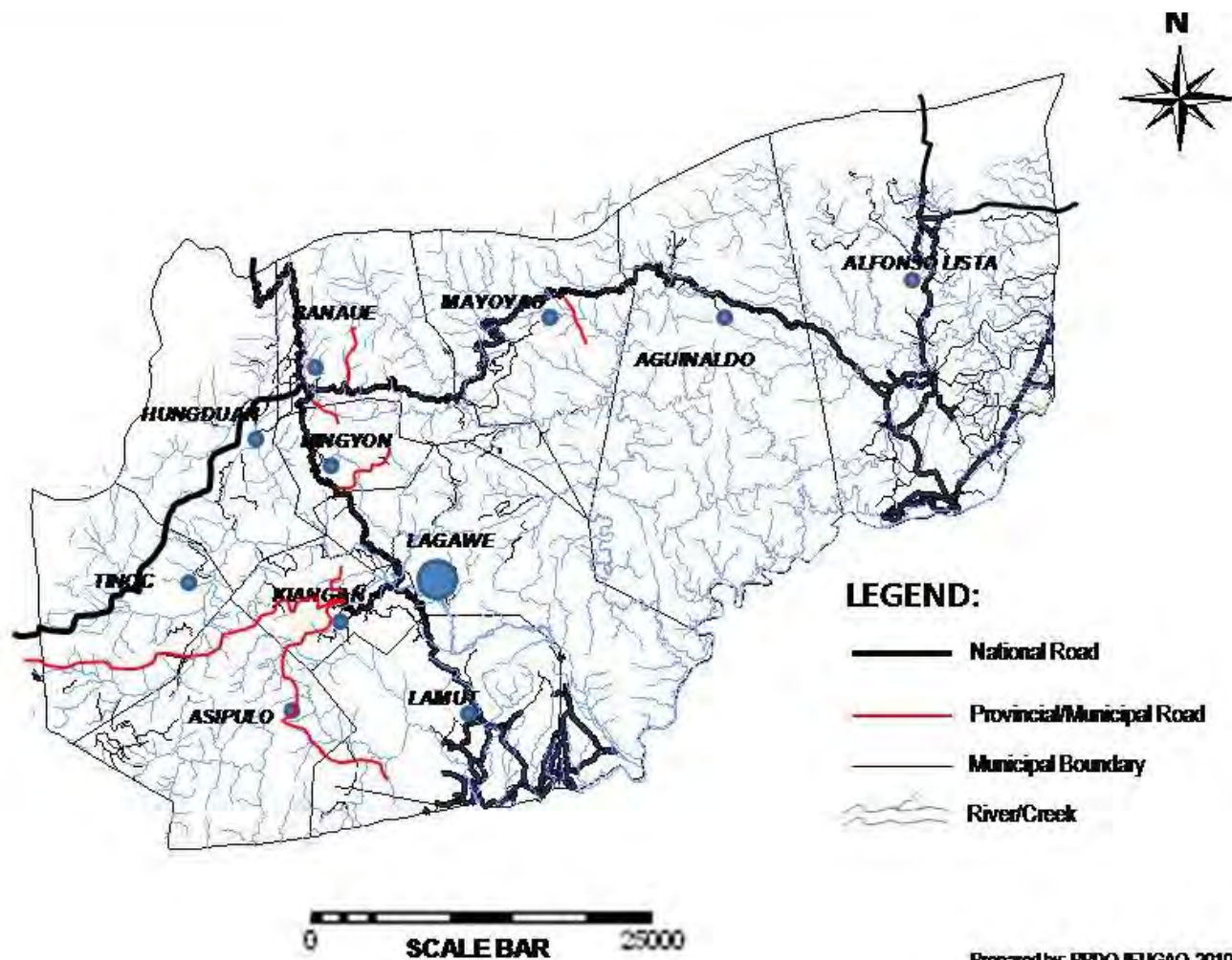


Prepared by: PPDO-IFUGAO 2010  
Source of basic data: NAMRIA, NEDA-CAR



## BASE MAP OF IFUGAO

Map 2: Base Map of Ifugao



Prepared by: PPDO-IFUGAO 2010  
Source of basic data: NAMRIA



**PAMBANSANG KOMISYON PARA SA KULTURA AT MGA SINING**

**MESSAGE**

For more than 2,000 years, the Ifugao Rice Terraces have endured with their outstanding engineering landscape, showing the heroic efforts of the Ifugao ancestors who carved them out for rice cultivation. Their indigenous network of irrigation channels from forest water sources is nothing short of phenomenal. They have captured the imagination not only of the nation but the whole world so that in 1995, they were declared by the UNESCO as a World Heritage Site.

This worthy cultural treasure needs urgent safeguarding and protection. The collective efforts of the people of Ifugao and concerned agencies in developing a sustainable program for the management of this heritage site became instrumental in removing it from the World Heritage Committee's danger list in 2012.

The local government of Ifugao and the National Commission for Culture and the Arts (NCCA) have taken necessary measures to ensure the continuous enhancement and appreciation of this living cultural landscape through the Master Plan for the Restoration and Preservation of the Ifugao Rice Terraces.

Since this heritage site now belongs to the whole world, we all have a shared responsibility to maintain its integrity and worth.

***Mabuhay po tayong lahat!***

  
**Felipe M. de Leon, Jr.**  
**Chairman**

Republic of the Philippines • Office of the President

**NATIONAL COMMISSION FOR CULTURE AND THE ARTS**

633 General Luna Street, Intramuros 1002 Manila / Tel. 527-2192 to 98 / Fax 527-2191 & 94 / e-mail: [info@ncca.gov.ph](mailto:info@ncca.gov.ph) / website: [www.ncca.gov.ph](http://www.ncca.gov.ph)





Republic of the Philippines  
**House of Representatives**  
 Quezon City



## MESSAGE

Like the Rice Terraces, this Master Plan took a relatively long time to complete. The Master Plan required months of unwearied and thorough consultation with various stakeholders to ensure that it would extensively cover all forms of challenges to the survival of the Terraces as a legacy for all humanity.

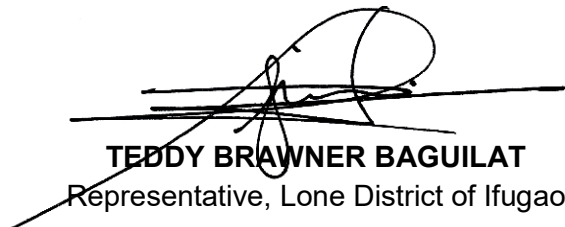
Again like the Terraces, the hard work that was put into the drawing of the Master Plan is evident in its minutest details. All facets of the Terraces – environmental, cultural, social – are discussed by the Plan and these diverse elements are considered as a cohesive ecosystem, with each factor feeding into the others and all of them requiring meticulous examination and contributing value to the strengthening of the Terraces as a physical construct and as a symbol.

The outcome is a roadmap that will sustain efforts for years to come and guide everyone interested in the preservation of the Terraces. Even after the lapse of its decade-long scope, the Plan will be a useful reference for future endeavors to protect the Terraces. Donors and implementers alike will find the Plan a coherent device in coordinating and executing multi-pronged efforts. The structure provided by the Plan will ensure that resources, financial and otherwise, are maximized for the sake of the Terraces.

Because of the vast expanse of concerns that the Plan covers, it is also useful as a guide for similar enterprises to preserve, protect and promote other heritage sites. The methodology adopted to conceive the Master Plan is sound and may be adapted with equal efficacy to other like ventures.

Everyone involved in the creation of the Plan – the formulators, affected communities, resource persons, and other stakeholders – deserve commendation for this masterpiece. But the true value of their work will be realized with the efficient implementation of the Plan.

Thus I call upon all concerned to take to heart the strategies outlined in this Master Plan. The effective and efficient implementation of the Plan will ensure that our beloved Terraces will endure not just for the ten-year scope of the Plan, but for generations and generations to come.

  
**TEDDY BRAWNER BAGUILAT**  
 Representative, Lone District of Ifugao



Republic of the Philippines  
Cordillera Administrative Region  
**PROVINCE OF IFUGAO**  
Lagawe



## OFFICE OF THE PROVINCIAL GOVERNOR

### MESSAGE

The Ifugao Rice Terraces is the first to capture international recognition among the rice terraces structures constructed by early civilizations having been inscribed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as a "Living Cultural Landscape" and considered by the American Society of Civil Engineers (ASCE) as an engineering wonder. It is an ancient agricultural technology developed by the Ifugao forebears more than two thousand years ago and sustained for centuries through their indigenous knowledge (IK) systems.

Unfortunately, like any other world wonders, the rice terraces is not spared of the impact of societal change. Time changes and people changes with time, so does the culture that has sustained the heritage property for centuries. With the influence of modernization and globalization, our people now prefer modern ways of living over our traditional knowledge systems which has weakened and continue to undermine the practice of the IK systems, specially the best cultural practices among the youth today. Albeit, interventions introduced over the years have removed the property from the List of World Heritage in Danger, the heritage property, however, continue to deteriorate. For this reason, we felt the need to update the Ifugao Rice Terraces Master Plan, assess the current situation, identify anew the causes of the continuous degradation of the rice terraces and propose appropriate interventions with the hope that our heritage property and cultural identity as Ifugao people - the Ifugao Rice Terraces shall remain for the centuries to come a living heritage of humanity.

With this updated rice terraces conservation plan, I call on all stakeholders and every Ifugao citizen to be more committed and actively participate in our renewed effort to restore and protect the Ifugao Rice Terraces, not just the inscribed Heritage sites but also the non-World Heritage rice terraces.

  
**ATTY. DENIS B. HABAWEL**  
Provincial Governor



Republic of the Philippines  
Cordillera Administrative Region  
**PROVINCE OF IFUGAO**  
Lagawe



## **PROVINCIAL PLANNING AND DEVELOPMENT OFFICE**

### **ACKNOWLEDGEMENT**

We would like to acknowledge those who, in one way or the other, contributed to the successful formulation and preparation of the Updated Ifugao Rice Terraces Master Plan that provides for the overall framework and direction of developmental effort for the next ten years covering 2014-2024, towards the conservation and protection of the Ifugao Rice Terraces.

Special thanks to the following:

1. The FAO-funded Globally Important Agricultural Heritage System (GIAHS) Project for their continued support they have shown by extending financial assistance, among other ways;
2. The Municipal Local Government Units for assisting in gathering data;
3. The Line agencies for their valuable inputs;
4. The Local Consultants for sharing their expertise; and,
5. Members of the Technical Working Group: The Provincial Planning and Development Office (PPDO), The Ifugao Cultural Heritage Office (ICHO), The Provincial Agriculture, Environment and Natural Resources Office (PAENRO), and the MLGU representatives.

This Updated Rice Terraces Master Plan would not have been possible had you not shared with us your time, effort and skills for the completion of this book.

  
**CARMELITA B. BUYUCCAN**  
PPDC












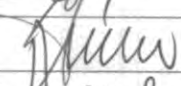
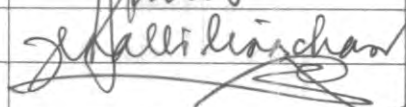
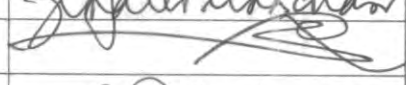
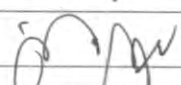
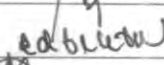
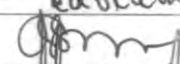
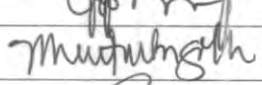
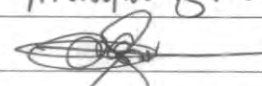
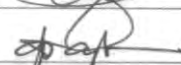
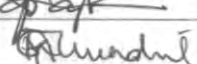
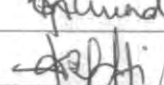
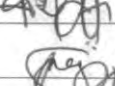



**THE PROVINCIAL PLANNING AND DEVELOPMENT OFFICE**  
Spearheading Department and Secretariat

## JOINT ENDORSEMENT

We, the representatives of the different stakeholders of the Ifugao Rice Terraces, officials and staff of the Provincial, Municipal and Barangay Local Government Units, National Line Agencies, officers and members of Non-Government Organizations, Peoples' Organizations, the Private sector, and the Rice Terraces Farmers, who jointly participated and contributed in the preparation of this Updated Ifugao Rice Terraces Master Plan, do hereby commit to give full support and endorse this updated master plan with all its programs contained therein, for the continued conservation and protection of the Ifugao Rice Terraces.

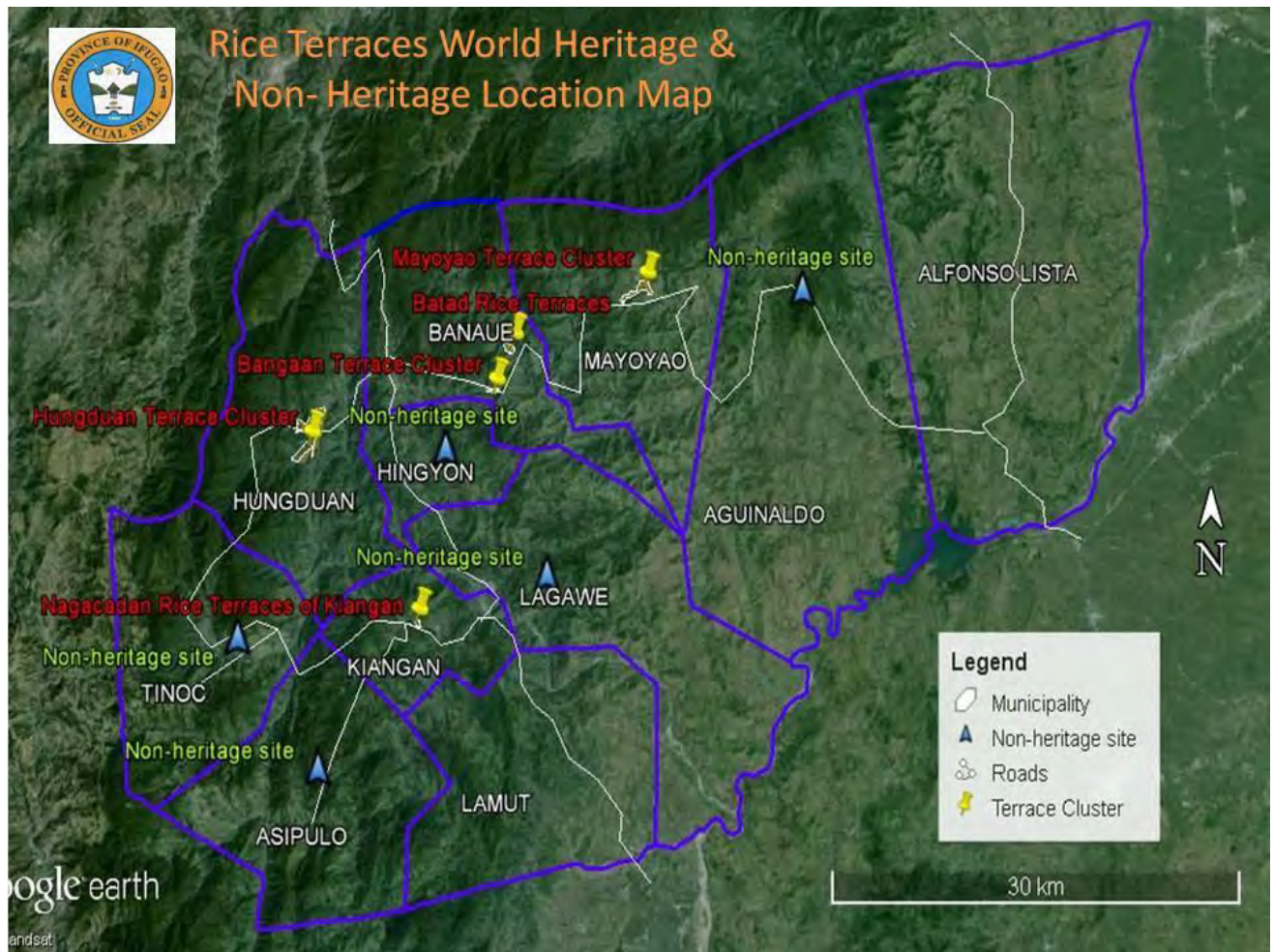
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## LIST OF ACRONYMS

1.	ASCE	–	American Society of Civil Engineers			
2.	BAS	–	Bureau of Agriculture and Statistics			
3.	BDRPMC	–	Barangay Disaster Risk Reduction Management Council			
4.	BLGU	–	Barangay Local Government Unit			
5.	BRTTF	–	Banue Rice Terraces Task Force			
6.	BSWM	–	Bureau of Soil and Water Management			
7.	CBFM	–	Community Base Forest Management			
8.	CHARMP 2	–	Second Cordillera Highland Agricultural Resource Management Project II			
9.	CLUP	–	Comprehensive Land Use Plan			
10.	DA	–	Department of Agriculture			
11.	DAR	–	Department of Agrarian Reform			
12.	DENR	–	Department of Environment and Natural Resources			
13.	DepEd	–	Department of Education			
14.	DILG	–	Department of Interior and Local Government			
15.	DRRM	–	Disaster Risk Reduction Management			
16.	EO	–	Executive Order			
17.	FAO	–	Food and Agriculture Organization of the United Nations			
18.	FMP	–	Forest Management Program			
19.	GIAHS	–	Globally Important Agricultural Heritage Systems			
20.	HLURB	–	Housing and Land Use Regulatory Board			
21.	ICHO	–	Ifugao Cultural Heritage Office			
22.	IK	–	Indigenous Knowledge			
23.	INREMP	–	Integrated National Resource Management Program			
24.	IPRA	–	Indigenous People's Rights Acts			
25.	IRA	–	Internal Revenue Allotment			
26.	IRT	–	Ifugao Rice Terraces			
27.	IRTCHO	–	Ifugao Rice Terraces and Cultural Heritage Office			
28.	IRTMP	–	Ifugao Rice Terraces Master Plan			
29.	SEP	–	Socio-Economic Profile			
30.	ITC	–	Ifugao Terraces Commission			
31.	LAC	–	Lack of Acceptable Change			
32.	MAO	–	Municipal Agriculture office			
33.	Masl	–	Meters above sea level			
34.	MHPP	–	Mini-Hydro Power Plant			
35.	MLGU	–	Municipal Local Government Unit			
36.	MLUP	–	Municipal Land Use Plan			
37.	NCCA	–	National Commission on Culture and Arts			
38.	NCIP	–	National Commission on Indigenous People			
39.	NGP	–	National Greening Program			
40.	NIA	–	National Irrigation Administration			

41.	PAENRO	–	Provincial Agriculture, Environment and Natural Resources				
42.	PD	–	Presidential Decree				
43.	PDPFP	–	Provincial Development and Physical Framework Plan				
44.	PDRMO	–	Provincial Disaster Risk Reduction Management				
45.	PEO	–	Provincial Engineering Office				
46.	PGPPCNO	–	Philippine Government to the Convention for the Cultural and Natural				
			Heritage of Outstanding Universal Value				
47.	PLGU	–	Provincial Local Government Unit				
48.	PPDO	–	Provincial Planning and Development Office				
49.	REDAS	–	Rapid Earthquake Damage Assessment System				
50.	RTOO	–	Rice Terraces Owners Organization				
51.	SLT	–	School of Living Tradition				
52.	TWG	–	Technical Working Group				
53.	UNESCO	–	United Nations Educational, Scientific and Cultural Organization				

## DEFINITION OF LOCAL TERMS

AGGUDUNG/AGUUDONG	a long, edible, conical shape snail that lives in rice fields and rivers
BADDANG/UBBU/BACHANG	a work-sharing system; to aid or assist someone
BAKLE	a ritual celebrated at the end of rice harvest; a term for festivals in some areas in Ifugao
BATIKUL	shellfish; mollusk, aquatic edible species usually found in the rice fields or flowing water
BOBLE	settlement area or village
CHAWWA/UMAPYA	a traditional practice of rehabilitating abandoned and unproductive rice terraces
DANG-A	voluntary labor
DOJO/YUYU	Japanese loach; a long snake-like fish or eel
DOLOG	mudfish dwelling in rice paddies, rivers and small lakes
DOLYA/AGIDAYAN	buffer zones; a land that is untilled around rice field or swidden-plot
GINGA	a small snail, fragile-shell found in rice paddies
GOTAD AD IFUGAO	a festival celebration on the founding anniversary of Ifugao province
HABAL/UMA	production areas; swidden planted area on mountain slopes, usually planted with sweet potatoes or other tubers
IN'HOH/INHOK	outer side of the dike
INALAHAN	communal forest
KAINGIN	swidden farm
KAMANERO	a road worker, maintenance crew for roads
KIWIT	an introduced species of eel
KOHOL	golden apple snail
KULIPPO	an edible snail species found in creeks and rice fields
KULPI	a ritual performed following the transplanting of seedlings; a term for the festivals in some areas in Ifugao
LENONG	a state of peace; a cultural activity in some areas in Ifugao
LODAH	a rice field that has been uncultivated for more than one year
MOMA	betel nut and tree; areca plant
MUYONG/PINUGO	woodlot; forest, may be public or privately owned
PALAY	refers to rice plants while still in the field/not yet harvested
TINAWON	heirloom rice

## EXECUTIVE SUMMARY

The formulation and updating of the rice terraces master plan is designed to provide overall framework, direction and operational strategies in the development, coordination, implementation, and monitoring and evaluation of identified interventions for the protection and conservation of the Ifugao Rice Terraces.

In June 2012, the concerted efforts of the rice terraces stakeholders, spearheaded by the Provincial Government of Ifugao through ICHO, had paid off when the Ifugao Rice Terraces of the Philippine Cordilleras was removed from the List of 100 Most Endangered World Heritage Sites of the World Monuments Watch and restored to its List of World Heritage Sites.

Ifugao has rice terraces in most municipalities thus the rice terraces master plan covers 9 municipalities. The previous 10-year master plan was updated vis-à-vis the apparent continuous deterioration of the rice terraces and its cultural foundation and in view of new challenges affecting the heritage property. Such challenges were summarized in 4 core problems as follows:

### a. Disturbed Ecosystem

With its well-balanced natural cycle disrupted, the ecosystem can no longer function sufficiently, especially in mitigating the adverse effects of climatic change. Given this backdrop, it is urgent that a sustainable development and conservation program be formulated for the protection of the rice terraces' ecosystem.

### b. Inadequate Income of Rice Terraces Farmers

Poverty is a perennial problem that has commonly plagued all the rice terraces communities in the province, heritage and non-heritage sites alike. Their primary source of income have been affected by various unresolved problems causing low levels of rice production and economically insufficient to meet farmers' household needs, let alone to meet market demand for *tinawon* rice and other agricultural produce. Farmers are not gaining much from cultivating and producing rice and other agricultural products in the terraces.

### c. Deterioration of the rice terraces' cultural foundation

The continuous deterioration of the Ifugao cultural values upon which the rice terraces were built and sustained for centuries is engendered by the diminishing enthusiasm and insufficient knowledge of the Ifugaos on their very own cultural heritage, and compounded by the weak implementation of cultural education and promotional interventions.

### d. Inadequate Support for the rice terraces conservation

One of the major loopholes of conservation efforts for the rice terraces lies in the failure to establish and institutionalize a support system where all the support programs of concerned stakeholders are synergized and synchronized to maximize resources and avoid duplication of work. Inadequate support involves inadequate allocation of annual funds for conservation programs by all stakeholders, insufficient infrastructure support, lack of a cultural database system and inadequate conservation policies formulated for the rice terraces and culture.

The master plan shall then focus on implementing major programs specially designed to arrest the deterioration of the essential aspects of the rice terraces to achieve the sundry complimentary development objectives. These include:

1. Ensuring a balanced ecosystem through biodiversity conservation, watershed enrichment, regulation of land use conversion and delineation of expansion areas, and empowering rice terraces communities to become resilient;
2. Ensuring sufficient income of the rice terraces farmers by strengthening product development and marketing, and enhancing economic activities in the terraces areas;
3. Restoring and sustaining the rice terraces through conservation of positive cultural practices, enhancement of knowledge on cultural heritage, and thorough implementation of cultural education and promotional interventions; and,
4. Providing adequate support to the rice terraces conservation in terms of sufficient financial, technical, infrastructure and institutional support, approval and implementation of relevant and appropriate interventions, and establishment of a rice terraces database system.

To implement the objectives, the following Program Components shall be implemented:

**1. Bio-Physical Component**

- Biodiversity Restoration and Conservation Program
- Community-Based Forest Management Program
- Community-Based Land Use Planning and Zoning Implementation Program
- Disaster Risk Reduction Management and Climate-Change Adaptation Program in the Rice Terraces Communities

**2. Socio-Cultural Component**

- Indigenous Knowledge Systems and Cultural Development

**3. Economic Development Component**

- Community-Based Agri-Industry Program
- Sustainable Tourism Development

**4. Support System Component**

- Infrastructure Support Program
- Buffer Zones Development Program
- Institutional and Policy Support Development Program

Implementation of the program components will take place in a 10-year period. Total investment needed is estimated at seven hundred fifty million pesos (P 750,000,000.00).

At present, ICHO remains as the main implementing arm of the Provincial Government of Ifugao for rice terraces and cultural development programs in the province. PLGU provides annual fund allocation for its operation and management and implementation of the envisioned developmental interventions for the conservation of the rice terraces and culture. This is supported by MLGUS and BLGUs, the National Government, International Organizations and Private Entities. Lead actors for the restoration and preservation of the Rice Terraces however rest at the hands of the Ifugao Rice Terraces Owners themselves.



## **PART I**

### **INTRODUCTION**

#### **A. BACKGROUND / RATIONALE:**

In 1973, the late President Ferdinand E. Marcos issued Presidential Decree (PD) No. 260 identifying the Ifugao rice terraces as a national landmark having a high value from the viewpoint of world culture and are considered as irreplaceable treasures of the country. In 1978, Presidential Decree No. 1501 amended PD No. 260 by inserting a provision that penalizes the modification, alteration, repair, or destruction of the original features of any national landmark. On a global scale, President Marcos signed on August 25, 1985 the Instrument of Ratification by the Philippine Government to the Convention for the Protection of the Cultural and Natural Heritage of Outstanding Universal Value otherwise known as the World Heritage Committee.

During the 19<sup>th</sup> Session of the World Heritage Committee at Berlin, Germany on December 3, 1995, the Ifugao Rice Terraces of the Philippine Cordilleras were inscribed upon the World Heritage List as living cultural landscapes. It was noted that the rice terraces illustrate the traditional techniques and a remarkable harmony between humankind and the natural environment.

In December 2001, the Ifugao Rice Terraces were included in the list of the 100 most endangered sites of the World Monuments Watch.

#### **The Ifugao Terraces Commission**

President Fidel V. Ramos signed on February 18, 1994 Executive Order (EO) No. 158 creating the Ifugao Terraces Commission (ITC) to act as an advisory body to the President on matters affecting the Ifugao Rice Terraces. Included in the coverage of the ITC were the municipalities of Banaue, Hungduan, Kiangan and Mayoyao. On May 23, 1994, President Ramos issued EO 178 expanding the coverage of the ITC to include the municipalities of Hingyon, Asipulo, Aguineldo, Lagawe, and Tinoc which were not included in EO 158. The ITC was chaired by the Secretary of the Department of Tourism. Other members were the secretaries of the Departments of Agriculture, Public Works and Highways, Environment and Natural Resources, Education, Culture and Sports, Interior and Local Government, Trade and Industry, Agrarian Reform, and the Head of the Presidential Management Staff. The Congressman of Ifugao, Governor, mayors of the nine municipalities, Chairman of the Cordillera Regional Assembly, and the Executive Director of the Cordillera Executive Board were also members of the Commission. The Commission was assisted by a Technical Secretariat who was headed by an Executive Director. The other members of the secretariat were appointed by the Chairperson upon the recommendation of the Executive Director. All members of the Secretariat, except the Executive Director, were appointed on a contractual basis.

In accordance with the provisions of EO 158, President Ramos approved on September 3, 1995 the ITC three (3) and six (6) year Master Plans for the restoration and preservation of the Ifugao Rice Terraces and immediately issued a directive to all agencies concerned to realign their budgets in consonance with the approved plans. Every year thereafter, the ITC solicited the commitments of the member agencies through a directive issued by the Executive Secretary.

## **The Banaue Rice Terraces Task Force**

Upon the assumption of the Estrada Administration, Executive Order No. 77 was signed on March 4, 1999 abolishing the ITC and creating the Banaue Rice Terraces Task Force (BRTTF). The BRTTF was mandated to restore, preserve and develop the Ifugao Rice Terraces. The agency is also mandated to prepare a development plan for the Ifugao Rice Terraces.

Like the ITC, the BRTTF was chaired by the Secretary of the Department of Tourism. The composition of the BRTTF was reduced and included the Undersecretaries of the Departments of Agriculture, Environment and Natural Resources, Public Works and Highways, the Congressman of Ifugao, and the Provincial Governor, the President of the League of Municipalities Ifugao Chapter. Said Executive Order also called for the organization of a technical secretariat to assist the Task Force headed by an executive director who was appointed by the President. The other members of the technical secretariat were appointed by the chairperson upon recommendation of the executive director.

Executive order No. 89 was signed on April 5, 1999 extending the official existence of the ITC including the secretariat until May 15, 1999. Said Executive Order emphasized that during the extension period, no new business transactions will be entered into by the ITC. After May 15, 1999, the BRTTF started its operation using the budgetary allocation of the ITC. The members of the technical secretariat of the ITC were issued reappointment to constitute the technical secretariat of the BRTTF. Likewise, the executive director of the ITC secretariat was retained as the head of the technical secretariat of the BRTTF until a new executive director was appointed and assumed office on January 3, 2000.

## **The Ifugao Rice Terraces and Cultural Heritage Office**

Executive Order No. 72 issued by President Gloria Macapagal-Arroyo on February 11, 2002 mandated the abolition of the BRTTF under the Office of the President and precipitated the transfer of its responsibilities, functions, and assets to the Ifugao Provincial Government. The National Commission for Culture and the Arts (NCCA) approved Fifty Million Pesos (Php50, 000,000.00) from its program on conservation of cultural heritage in support to the Ifugao Rice Terraces Master Plan. The Provincial Governor, pursuant to Sangguniang Panlalawigan Resolution No. 2002-663, entered into a Memorandum of Agreement with NCCA for the implementation of the P50 million NCCA project grant. The Provincial Government, as a grantee, acted as a lead implementer, among others, for the grant in accordance with the three-year master plan and was directly responsible for hiring, supervising, and facilitating the release of the payment for services rendered by project personnel on a contract basis not exceeding the duration of the project. Having accepted the responsibilities of the defunct BRTTF, and in order to attend to the proper disposition of its responsibilities for the restoration and preservation of the Ifugao Rice Terraces, the Provincial Government established the Ifugao Rice Terraces and Cultural Heritage Office (IRTCHO) by virtue of Sangguniang Panlalawigan Resolution No. 2002-679 to coordinate, follow-up and monitor the implementation of projects and act as secretariat.

## **The Ifugao Cultural Heritage Office**

On June 13, 2006, the Provincial Government of Ifugao abolished IRTCHO and created the Ifugao Cultural Heritage Office (ICHO) through Provincial Ordinance No. 2006-032 in its place with new set of functions. ICHO, upon its creation, took over the responsibilities, functions, and assets of the defunct IRTCHO and proceeded to operate as the implementing arm of the Provincial

Government for culture and arts development programs including the implementation of the various development interventions outlined in the 2002-2012 rice terraces master plan using the remaining annual budget allocation of the latter and succeeding budget allocations thereafter.

In June 2012, the concerted efforts of the rice terraces stakeholders, spearheaded by the Provincial Government of Ifugao through ICHO, had paid off when the Ifugao Rice Terraces of the Philippine Cordilleras was removed from the List of 100 Most Endangered World Heritage Sites of the World Monuments Watch and restored to its List of World Heritage Sites.

At present, ICHO remains as the main implementing arm of the Provincial Government of Ifugao for rice terraces and cultural development programs in the province, and providing annual fund allocations for its operation and management and implementation of the envisioned developmental interventions for the conservation of the rice terraces and culture.

## **B. ASSESSMENT OF THE TEN-YEAR MASTER PLAN (2003-2012)**

The Ten-Year Ifugao Rice Terraces Master Plan covering the period 2003-2012 was formulated in 2002 with the downloading of the 50 million to the Provincial Government from the national government through the NCCA as initial fund for the restoration and conservation of the Ifugao Rice Terraces. The master plan updated the three and six-year master plans formulated and implemented by the defunct ITC and BRTTF for the preservation of the Ifugao rice terraces.

The endangered status of the Ifugao Rice Terraces led to the crafting of the Ten-Year Ifugao Rice Terraces Master Plan designed to provide overall framework, direction and strategies to arrest and reverse the deterioration of the present listed sites (barangays) and 23 additional sites towards the track of conservation and management and sustainable development with peripheral positive impact on all the other sites, and ensure the continued existence and sustained productivity of the rice terraces, and maintain its inscription in the World Heritage List.

Over and above this central focus, the master plan is formulated to address several complimentary or corollary development objectives of the host province that cannot be separated from the overarching objectives for the rice terraces. These include:

1. Securing the rights and enhancing the welfare of the host communities over their ancestral domains;
2. Rehabilitating and enhancing the capacity of the Ifugao watershed to help sustain local and national development;
3. Preserving cultural identity of the Ifugaos and their cultural value to the Filipinos and international community.

The specific objectives per component were:

1. Bio-Physical Component
  - To delineate terraces management and support zones for protection, rehabilitation and enhancement;
  - To enhance capacity of the Ifugao watershed to sustain local and national development;
  - To mitigate natural and man-made hazards

## 2. Socio-Cultural Component

- To foster strong cultural identity and national pride;
- To implement cultural appropriate interventions to maintain rice terraces cultivation;
- To revitalized indigenous knowledge systems and practices;
- To set up effective management systems and linkages;
- To improve capacities of the farmers, stakeholders and various institutions to undertake specific responsibilities within the program;
- To ensure implementation review and/or enactment of laws and policies supportive to the conservation of the rice terraces at all levels;
- To secure rights and enhance the welfare of the host communities over their ancestral domains under the framework of the Indigenous People's Rights Act (IPRA).

## 3. Support System Component

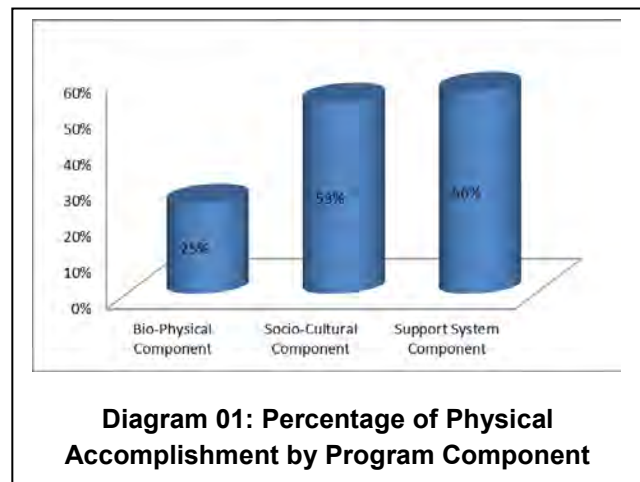
- To develop community-based agri-industry and eco-cultural tourism supportive to the conservation of the rice terraces;
- To improve the delivery of social services in the Ifugao rice terraces communities;
- To develop the lowland areas of the province as buffer zones;
- To establish appropriate, effective and efficient infrastructure support;
- To develop and establish an extensive and sustainable resource support system for the rice terraces.

The assessment of the Ifugao Rice Terraces Master Plan implementation from 2003-2012 aims to identify the accomplishments based on targets, the effectiveness of the programs implemented and the overall impact of plan implementation. To know the status on how far the plan goal and objectives were attained is crucial in identifying and prioritizing programs and activities that are more responsive to current situation and problems affecting the rice terraces. The implementation of the master plan was assessed in terms of physical targets versus actual physical accomplishment, and financial target versus actual expenditure.

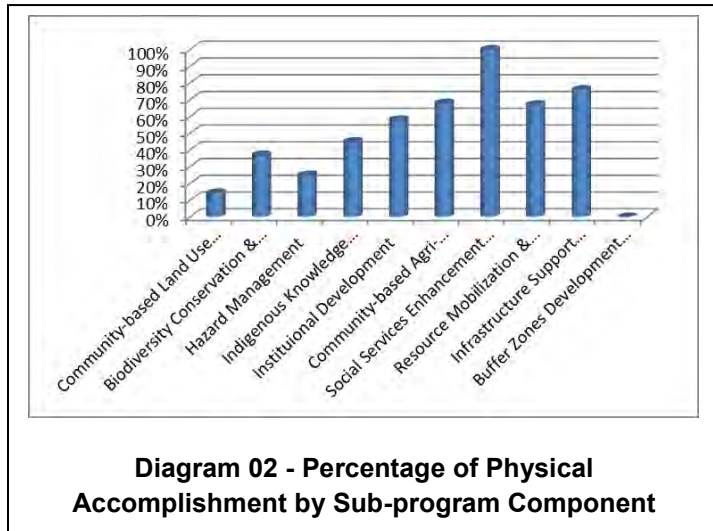
### 1. Physical Targets vs. Actual Accomplishments

Assessment of the implementation of the master plan shows that actual accomplishment is way below par with only 45% of the target interventions implemented and accomplished within the ten year plan implementation period.

As per program component, the support system component has the highest accomplishment of 56%, followed by the socio-cultural component of 53% despite having the lowest financial expenditure. The bio-physical component has the lowest physical accomplishment of 25% having the highest unmet indicators, yet it has the highest financial expenditure.



The physical accomplishment was computed by dividing the unmet performance indicators against the number of required performance indicators in the master plan per objective. Since many performance indicators have no baseline target, it was assumed that in every indicator that have physical accomplishment, a 100% accomplishment was given since there is no specified baseline target to compare with



The accomplishments of the sub-program components of the major programs were mostly implementative of the support system and socio-cultural program objectives. Under the support system component, accomplishments were mostly geared at the development of community-based agri-industry and eco-cultural tourism, improvement of health services, provision of infrastructure support, and establishment of an extensive and sustainable resource support system for the rice terraces. Accomplishments of the socio-cultural interventions, likewise, were mostly directed at fostering cultural

identity and national pride, revitalizing indigenous knowledge systems, implementing appropriate cultural interventions to maintain rice terraces cultivation, establishment of management systems and linkages, capacitating rice terraces farmers and other stakeholders, and ensuring implementation review and enactment of laws and policies in support to rice terraces conservation. Accomplishments under the bio-physical component, on the other hand, were focused on the enhancement of the Ifugao watersheds for national and local development and on the implementation of general guidelines and policies for the proper delineation of land use and management.

Assessment shows that, aside from the special programs and projects funded under the NCCA 50 million special grant for the rice terraces restoration, most of the interventions implemented and accomplished within the period of ten years were the usual regular programs, projects and activities that were targeted and funded yearly in the annual development plans of concerned stakeholders that are consistent and implementative of the master plan's goal and objectives.

The performance indicators that were not met or accomplished include the following:

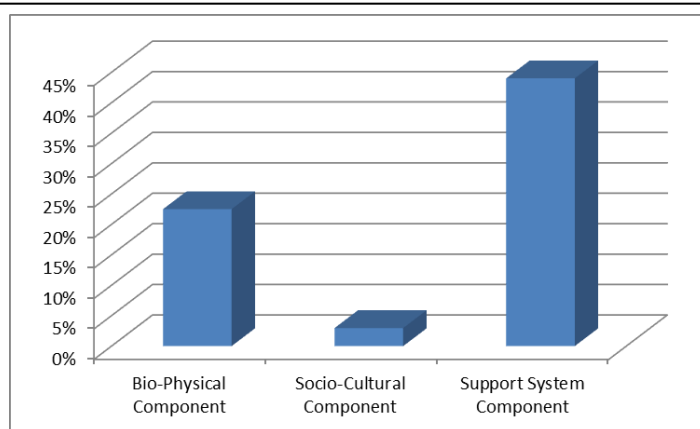
a. Bio-Physical Component:

- Preparation of zoning guidelines
- Preparation of barangay land use plans in the other barangays in the heritage sites
- Organization of barangay land use committees
- Actual delineation of protected areas and areas for rice terraces farming
- Preparation and implementation of a biodiversity conservation plan

- Increase forest cover restoration in the heritage sites to reduce soil erosion and stabilize water resources
  - Identification of areas that need immediate reforestation
  - Structural design standards preparation
  - Establishment of a seed bank system
- b. Socio-Cultural Component
- Strengthen active community-based cultural organizations
  - Enhancement of more cultural products
  - Organization of functional cultural watchdog committee
  - Continue documentation of indigenous knowledge systems
  - Regulation on cultural commercialization
- c. Support System Component
- Preparation of a comprehensive sustainable tourism development and promotional plan
  - Formulation of a heritage management plan
  - Strengthening of support services in marketing cultural products
  - Provision of adequate technical assistance in product enhancement and development

## 2. Financial Target vs. Actual Expenditure

The computation of the financial accomplishment was based on computed actual financial expenditures for the rice terraces conservation projects of both tangible and intangible cultural heritage versus the total financial requirements indicated in the master plan.



**Diagram 03 - Percentage of Financial Accomplishment by Program Component**

Looking at the budget allocation as specified in the Ifugao Rice Terraces Master Plan versus actual expenditures from 2003 to 2011, there is a very wide gap between the recommended funding and the actual financial accomplishment. The 287.562 million financial expenditure from 2003-2009 is way below the financial target of 931.965 million for the implementation of the different programs and services in the master plan with only 28% overall financial accomplishment. Component one that is the Bio-Physical Component has only 19% financial accomplishment,

while the Socio-Cultural Component has 2.97% and the Support System Component got the highest accomplishment of 44%. The data was based on the reports gathered by ICHO during their workshop in 2009 with the rice terraces stakeholders, and on the 2010-2011 20% development funds of the Provincial Government.



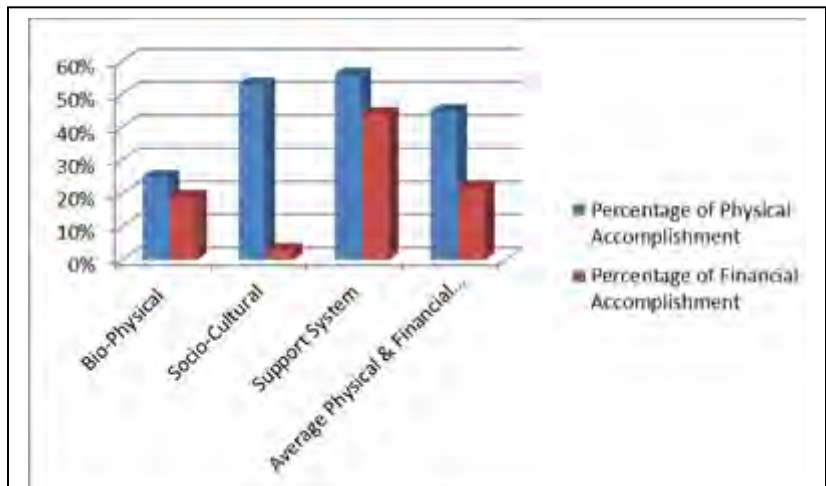
The data shows that most of the programs and services indicated in the master plan were not funded well, and the recommended funding was beyond the financial capacity of the Provincial, Municipal and Barangay Local Government Units considering other priorities and the inadequate internal revenue allotment of the province. In year 2010-2011 alone, out of the 189 million 20% development fund of the Provincial Government, only around 20 million, roughly 10% of the total development fund and 2% of the 931 million total financial requirements of the master plan, was allocated for various projects relative to the rice terraces conservation such as irrigation systems, roads, water system, footpath and other social infrastructure in the four heritage municipalities. Per actual financial accomplishment, around 10 million or even less was utilized yearly for the rice terraces restoration program from the local government units as compared to the recommended allocation of approximately 90 million annually.

### Conclusion:

The overall accomplishment is deemed fair since both physical and financial accomplishments are estimated below 50% of accomplishment after nine years of plan implementation, and above 50% still to be done with the target of implementation over. The actual percentage of physical accomplishment could hardly be determined due to unspecified physical targets per performance indicator in the master plan. There are a lot of physical accomplishments in the different components that led to the accomplishment of some objectives, but it is not certain as to the numerical percentage. The bio-physical component got the highest unmet performance indicators of 14 out of 25 indicators, the socio-cultural and support system components each got 5 unmet major indicators in the master plan. The identified unmet indicators during the 2009 Ifugao Rice Terraces Summit were mostly not complied with except for the preparation of a provincial disaster management plan which is now crafted and ready for approval.

The overall percentage of budget utilized as compared to the recommended funding in the master plan was only 28%, in which 19% was utilized for the bio-physical component, 2.97% for the socio-cultural component, and 44% for the support system component. Though the socio-cultural component has the least disbursement of 2.97% as against the total proposed investment for the entire restoration program duration, albeit it has a great accomplishment, particularly for the cultural transfer program among the younger generations. The institutionalization of the Hudhud competitions, establishment of schools of living traditions, institutionalization of cultural festivals, and establishment of the perpetual trophy award are some of the great accomplishments for the preservation of Ifugao intangible cultural heritage which was praised by UNESCO during their monitoring visit.

The physical preservation of the rice terraces is not so visible despite efforts of the different stakeholders to restore the rice terraces. Many damaged terraces need to be given due attention.



**Diagram 04 – Physical and Financial Percentage of Accomplishment**

Interviewed farmers in the heritage sites said that damaged and abandoned rice terraces continue to be the challenge. Moreover, the shrinking interest of farmers to till the rice terraces continues to be a reality due to economic reasons. Rice terraces farmers can barely meet even the basic needs of life in continuing to till the rice terraces. The value of the cultural heritage property may be strong and the love to conserve it may be high but the capacity to conserve it is minimal. It takes continuous financial assistance to rice terraces farmers for the restoration of their rice terraces.

The allocation and implementation of the 287 million investments of the different national line agencies and LGUs for the various programs outlined in the master plan authenticates the importance of conserving the rice terraces. though there was no certain percentage of physical accomplishment shown due to unspecified physical targets in the master plan, the consolidated accomplishments for the restoration of the rice terraces shows a number of physical achievements, particularly in the intangible cultural heritage preservation, social services and infrastructure support. The various unmet performance indicators indicate the things that needed to be addressed in order to meet the goal and objectives of the master plan.

Rice terrace owners' organizations may have been established in the heritage sites to help in the preservation of the rice terraces with assistance from the national and local government units, but the virus that is causing the heritage property's deterioration is the rising cost of living. Climate Change and the effects of annual typhoons, particularly the two previous strong typhoons that hit the province leaving a 102,663 cubic meters of rice terraces washed out, and 5.1 kms of irrigation destroyed in their wakes, which requires 120 million for their restoration, remain a big development challenge apart from the unmet targets in the master plan. It is, therefore, imperative to invest adequate funds and intensify/strengthen development efforts geared at addressing poverty and other socio-economic-related challenges with the end in view of conserving the rice terraces.

### **Recommendations:**

Based on the unmet performance indicators per key result areas, the following are hereby recommended for priority fund allocation and implementation in the next 10 years of implementation of rice terraces and cultural conservation programs:

- ***For the conservation of the bio-physical aspect of the rice terraces:***
  - a. Update the Comprehensive Land Use Plans (CLUPs) of the municipalities of Banaue, Kiangnan and Mayoyao to incorporate the comments and suggestions of the Housing and Land Use Regulatory Board (HLURB) and other National and International Monitors, and Hungduan to prepare their CLUPs;
  - b. Strictly implement national and local ordinances, such as the total log ban of DENR, zoning ordinances, etc. geared at protecting and preserving the rice terraces and heritage biodiversity resources;
  - c. Increase funding for the Ifugao watershed management program and intensify IEC on environmental protection especially in the four heritage sites where most of the identified danger zones are located;
  - d. Strengthen and ensure 100% restoration of forest covers to help mitigate landslides, soil erosion, and decrease the rate of siltation;
  - e. Development of a comprehensive biodiversity conservation plan geared at safeguarding and conserving the natural resources; and
  - f. Implementation of the Provincial Disaster Risk Reduction Management Plan.

- ***For the conservation of the socio-cultural aspect of the rice terraces:***
  - a. Crafting of a provincial ordinance regulating the commercialization of the Ifugao culture;
  - b. Expedite the development and installation of a Monitoring Information System (MIS) and GIS in the provincial government for easy access to information and provide regular funds thereof for the continuity of the program;
  - c. Strictly implement zoning ordinances and other laws relative to the conservation and protection of the rice terraces and culture at all levels;
  - d. Adoption and implementation of Provincial Ordinance No. 2003-30 authorizing the establishment of endowment funds at the barangay level for the maintenance and preservation of the Ifugao rice terraces;
  - e. Organization of a functional cultural watchdog committee, establishment of a rice terraces regulatory board; and
  - f. Continue the enhancement of cultural products to ensure alternative sources of income for farmers in the rice terraces areas.
- ***For the development of the support system component of the rice terraces:***
  - a. Increase investment in the agricultural industry to increase farm production of indigenous products and to intensify product development to increase value addition of farm output and provide opportunities for farmers to increase their income;
  - b. Conduct of a comprehensive study on how to increase production of the *tinawon* rice and how to develop it to enhance its product value;
  - c. Increase allocation for infrastructure support to the rice terraces conservation to minimize maintenance cost of rice cultivation;
  - d. Establishment of a trust fund at all levels to ensure availability of funds for quick response to rice terraces conservation;
  - e. Prioritized preparation of a comprehensive sustainable tourism development and promotional plan to enhance local tourism industry, and preparation of a heritage resource management plan per site to determine the different actions being undertaken;
  - f. Development of a website for cultural preservation and tourism; and
  - g. Development of potential tourism sites including access roads, improvement of services at the tourism service centers, crafting of ordinances focusing on cultural heritage issues and development, and urging M/BLGUs to take active roles in tourism promotion to contribute in tourism growth in the province.

### **C. PURPOSE OF THE UPDATED MASTER PLAN**

The formulation and updating of the rice terraces master plan is designed to provide overall framework, direction and operational strategies in the development, coordination, implementation, and monitoring and evaluation of identified interventions for the protection and conservation of the Ifugao Rice Terraces.

The previous 10-year master plan was updated vis-à-vis the apparent continuous deterioration of the rice terraces and its cultural foundation and in view of new challenges affecting the heritage property.

Specifically, the updated master plan seeks to:

1. Provide direction to the provincial, municipal and barangay government units, national agencies, non-government organizations, the academe, private entities, and other stakeholders in the conservation of the Ifugao Rice Terraces;
2. Define policy recommendations for local and national legislative and policy formulating bodies;
3. Facilitate the speedy updating and implementation of existing environmental protection and zoning laws, and formulation of other laws relative to the preservation of the rice terraces;
4. Determine financial and other resource requirements for plan implementation;
5. Facilitate the synergy and synchronization of all development efforts for the conservation of the rice terraces; and,
6. Develop a comprehensive monitoring and evaluation system/tools to ensure efficient and effective program implementation.

#### **D. PLANNING APPROACH AND PROCESS**

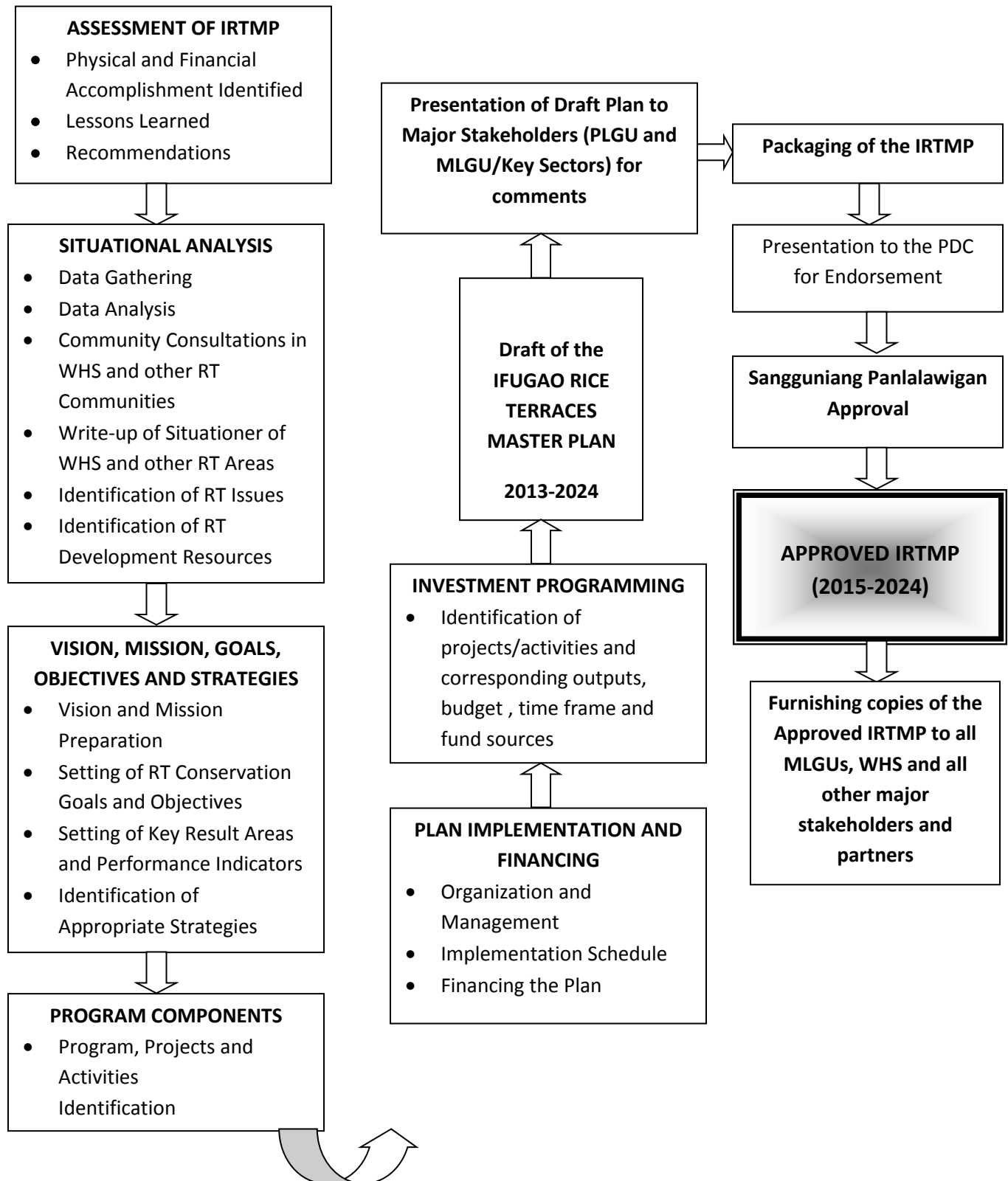
The initial process involved the assessment of the 2003-2012 Ifugao Rice Terraces Master Plan (IRTMP) where lessons learned and recommendations were identified as inputs for the updating process. The assessment focused on physical and financial aspects of the IRTMP. Community consultations in world heritage communities and in other rice terraces communities (not inscribed) ensued specifically to assess the current situation and identify pressing problems in IRT conservation.

At least 4 workshops were conducted for the vision, mission, goals and objectives setting, problem tree and objective tree analysis and the identification of appropriate programs and projects. The workshops included write-shops for the program components and preparation of over-all logical framework and logical frameworks of individual program components.

Another workshop on Investment Programming was also conducted both for world heritage sites and non-world heritage sites. The draft plan was then packaged and was presented to major stakeholders' for their suggestions. Comments were incorporated and the plan was presented to the Provincial Development Council for their approval and subsequent endorsement to the Sangguniang Panlalawigan. After the approval of the SP, copies of the plan were distributed to all MLGUs and selected stakeholders.

The planning process for the preparation of the 2015-2024 IRTMP is presented in the next page (Diagram 05).

**Diagram 05 - THE PLANNING PROCESS FOR THE UPDATING OF THE IFUGAO RICE TERRACES MASTER PLAN**



## PART II

### THE PLAN

#### A. SITUATIONAL ANALYSIS:

##### 1. THE CURRENT SITUATION

###### a. LOCATION:

The province of Ifugao is located along the eastern flank of the Luzon Central Cordillera Range, within geographic coordinates 16.52 and 17.25 degrees North latitude and 120.80 and 121.52 degrees East longitude. It is bounded on the north by Mountain Province; on the west by Benguet; on the south by Nueva Vizcaya; and on the east and southeast by Isabela.<sup>1</sup> Eleven municipalities comprise the province of Ifugao with an aggregate land area of 256,636 hectares. Of this, nine municipalities with a combined land area of 183,000 hectares or 71% of the total land area of the province are upland towns where the rice terraces are located while two municipalities accounting for 29% of the total land area are lowland municipalities in the south and southeastern parts of the province. Lagawe serves as the capital town where the seat of the provincial government is located. The town centers of Lagawe and Banaue are along the national highway linking the province to the lowlands of Nueva Vizcaya and to the Cordillera provinces of Mountain Province and Benguet (Ifugao Socio-Economic Profile, 2013).

###### b. POLITICAL SUBDIVISIONS:

Ifugao is politically sub-divided into eleven (11) municipalities and 175 barangays. As gleaned from the table below, the municipality of Mayoyao has the most number of barangays with 27. In terms of land area, the municipality of Alfonso Lista on the southeastern part of the province and bordering Isabela has the biggest land area accounting for 51,092 hectares or 19.91% of the total land area of the province.

**Table 1- Land Area and Number of Barangays per Municipality**

<b>Municipality</b>	<b>Land Area (Has.)</b>	<b>Percent (%) of Land Area</b>	<b>No. of Barangays</b>
1. Aguinaldo	44,810	17.46	16
2. Alfonso Lista	51,092	19.91	20
3. Asipulo	19,611	7.64	9
4. Banaue	17,132	6.68	18
5. Hingyon	6,259	2.44	12
6. Hungduan	21,501	8.38	9
7. Kiangnan	8,109	3.16	14
8. Lagawe	27,757	10.82	20
9. Lamut	22,544	8.78	18
10. Mayoyao	20,190	7.87	27
11. Tinoc	17,631	6.87	12
<b>TOTAL</b>	<b>256,636</b>		<b>175</b>

Source: NAMRIA, 2010



Land area is very important among the municipalities because this is one of the bases for the allocation of the Internal Revenue Allotment (IRA) which explains the presence of boundary disputes even among the municipalities. The province has boundary disputes with its neighboring provinces particularly Nueva Vizcaya, Mountain Province, Isabela and Benguet.

Of the eleven municipalities, only the municipality of Aguinaldo qualified as a 2<sup>nd</sup> class municipality and Alfonso Lista a 3<sup>rd</sup> class municipality. The municipalities of Banaue, Hungduan, Kiangan, Lagawe, Lamut, Mayoyao and Tinoc are 4<sup>th</sup> class municipalities while Asipulo and Hingyon are 5<sup>th</sup> class municipalities. Generally, the IRA account for **97%** of the income of the municipalities and only **3%** are generated out of local sources such as real property taxes collections, business permits and other forms of taxes (BLGF Basic Data: 2013).

#### **c. LAND:**

The topographic feature of the province is marked by rugged mountains and massive forests except for the rolling lowlands in the municipalities of Lamut and A. Lista and a part of Lagawe and Aguinaldo. Ifugao is interlocked by v-shaped river valleys and sharp ridges which contribute to the over-all ruggedness of the terrain. U-shaped valleys and rounded ridges are confined to the rolling uplands of Banaue, Hingyon, Lagawe, Kiangan and Asipulo. The town center of Tinoc is lying on a surface believed to be an extinct volcanic center. The relatively flat circular terrain is surrounded by steep ridges. Tinoc is also the location of Mount Munhuyuhuy which is 2,523 meters above sea level (masl).

Of the total land area of the province, 56,049.30 hectares or 21.84% is classified as alienable and disposable land and 229,154 hectares as forestland which is 89.29% of the total land resources of the province. The alienable and disposable lands are located in the southeastern portion of the province which includes agricultural and non-agricultural land, build-up, and other lands that were formerly agricultural lands. Most of the forest lands are categorized into forest reservation, brushland, grassland, national park, military reservations, and water bodies. The rice terraces are located in the uplands under the category of unclassified forests (NAMRIA, 2010). The Ifugaos however regard their terraces and their environment as part of their ancestral domains and welcome the recognition by the state of their ancestral domain rights under the Indigenous Peoples Rights Act (IPRA).

The slope range in the province is classified into six categories by the Bureau of Soil and Water Management (BSWM). The first category consists of areas which are level to very gently slopes varying from 0-3%. These areas are highly suitable for agriculture, urban or industrial uses and are generally found in the municipalities of Lamut and A. Lista. The second category is areas with gently sloping to undulating land with a slope ranging from 3 to 8%. All of the land included in this category is only found in the municipality of A. Lista. The third category includes undulating to rolling lands with slope ranging from 8 to 18%. This slope category dominates the lands of Lamut and A. Lista. The fourth category includes rolling to hilly or moderately steep lands with slopes from 18 to 30%. The fifth category covers lands with slopes ranging from 30 to 50% and is distributed in the municipalities of Lagawe, Aguinaldo, Kiangan and A. Lista. The sixth category covers the areas with slopes of more than 50% and characterized as very steep and mountainous areas. More than half (54.56%) or 137,378 hectares of the province's land area fall under this category. These lands include the rice terraces and are found in the municipalities of Aguinaldo, Mayoyao, Banaue, Hungduan, Tinoc, Kiangan and Hingyon.

**Table 2 - Slope Classification of Ifugao**

<b>Slope Range</b>	<b>Area (hectares)</b>	<b>Percentage (%)</b>
0 – 3%	10,200	4.05
3 – 8%	8,800	3.49
8 – 18%	26,900	10.68
18 – 30%	36,200	14.38
30 – 50%	32,300	12.83
Above 50%	137,378	54.56

Source: BSWM

Similarly, more than half (62.58%) of the province's land area have elevation characteristics of more than 500 meters above sea level (masl). These areas are predominant in the municipalities of Banaue, Hingyon, Hungduan, Kiangnan, Mayoyao, Tinoc, Asipulo and Aguinaldo. On the other hand, the municipalities of Lamut, A. Lista and portions of Lagawe and Aguinaldo are predominantly lowland with elevations below 500 masl.

#### **d. A GENERAL PICTURE OF THE IFUGAO RICE TERRACES**

The steep mountainous terrain of Ifugao was not an impediment for the Ifugao people who settled here millennia ago to survive and create their identity. From the heavily forested slopes, they carved-out multileveled terraces for rice cultivation and dug an indigenous network of irrigation channels from forest water sources. These expertly rendered structures of agricultural engineering continue to function, producing rice for consumption rather than for commercial purposes. The terraced rice paddies are scattered around the province specifically in the upland municipalities of Asipulo, Banaue, Hingyon, Hungduan, Kiangnan, Mayoyao and Tinoc including the upland barangays of the Municipalities of Aguinaldo and Lagawe. No data could be found specifying the exact measurements or even a good estimate of the total land area covered by the different rice terraces abounding in the province. The only available description referring to its length is the widely read statement that if the terraces were placed end to end, it would encircle half of the globe.

For many Ifugao people, the traditional rice terraces no longer satisfy their economic or culinary needs. As the landscape continue to lose its importance in daily life, the young Ifugao have become increasingly indifferent to its survival and conservation which largely contributed to its abandonment and deterioration.

##### **d.1. THE INSCRIBED SITES**

The age of the rice terraces was established by scientific means. An earlier study identified the date of a village as ranging from the 7<sup>th</sup> to the 11<sup>th</sup> century and terraces sites in the higher elevation districts of Amganad and Lugu in Banaue from the 16<sup>th</sup> century. In this last district, for example, remains of a post used in original terrace embankment formation which was accidentally exposed by a landslide have recently been given a carbon – 14 date of A.D. 1555 plus or minus 60 years by the University of Georgia Center for Applied Isotope Studies.<sup>2</sup>

In accordance with the provisions of the Convention Concerning the Protection of the World Cultural and Natural Heritage of the UNESCO, the rice terraces were included in the World Heritage List in 1995 as a living cultural landscape. Six years thereafter in December 2001, the rice terraces

<sup>2</sup> Harold C. Conklin, *Ethnographic Atlas of Ifugao*, American Geographical Society of New York, 1980, p. 38

were classified in the World Heritage List in Danger owing to its rapid deterioration. The monitoring mission cited that unless drastic measures are undertaken to reverse the current situation, the rice terraces will lose its World Heritage status in 10 years.

Ratification of the Convention obligates the state party, in this case the Philippine Government to ensure the identification, protection, conservation, preservation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 and 2 and situated on its territory. Towards this end, the Philippine Government shall do this to the utmost of its resources and, where appropriate, with any international assistance and cooperation which could be obtained.

The Convention defines cultural heritage sites as works of man, and areas including archeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological points of view. Specifically, the rice terraces satisfied the following criteria:

- (iii): “bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared...”<sup>3</sup>
- (iv): “be an outstanding example of a type of building or architectural ensemble or landscape that illustrates (a) significant stage(s) in human history...”<sup>4</sup>
- (v) : “be an outstanding example of a traditional human settlement or land-use that is representative of a culture(s), especially when it has become vulnerable under the impact of irreversible change...”<sup>5</sup>

While the inscription mentioned the rice terraces of the Philippine Cordilleras, the rice terraces actually referred to in the original nomination dossier are the Batad and Bangaan terrace clusters in the municipality of Banaue, Mayoyao Central terraces cluster, the rice terraces of the municipality of Hungduan and the Nagacadan rice terraces in the municipality of Kiangan.

Fortunately in June 2012, 10 years after the inclusion of the rice terraces in the World Heritage Sites in danger, the concerted efforts of all stakeholders resulted to its removal from the list thereby gaining back the glory and honor as originally inscribed.

#### **d.1.1. Batad Rice Terraces Cluster**

Barangay Batad is one of the 18 barangays composing the Municipality of Banaue. It is eleven kilometers away from Barangay Poblacion Banaue to the entrance of the road leading to Barangay Batad popularly known as Junction. This place is along the National road moving towards the next Barangay of Bangaan and moving further to the Municipality of Mayoyao. From the junction, it is six kilometers to Barangay Batad. Based on the approved 1990 Cadastre Survey (CAD 1034-D), the barangay has a land area of 1,240 hectares spread over 19 sitios. The topography of Batad is characterized by rugged mountainous and hilly terrain with V-shaped steep and narrow creek valleys and sharp ridges. It has an elevation of about 800-900 masl. About 88% of the barangay's land area have slopes 30% and above. Based on the 2010 Census of Population and Housing conducted by NSO, the barangay has a total population of 1,024 registering a 4.12% decrease or 44 people from the 2007 Census of 1,068.

<sup>3</sup> UN Convention Concerning the Protection of the World Cultural and Natural Heritage

<sup>4</sup> Ibid

<sup>5</sup> Ibid

The rice terraces of Batad are noted for its tiered landscape and take the shape of an amphitheater giving a unique and awesome beauty to every visitor be they local or international tourists.

The table below presents the land uses and area of each land use of Barangay Batad, Banaue, Ifugao.

**Table 3** - Barangay Batad, Land Uses and Area

LAND USES	AREA (HECTARES)	PERCENT TO TOTAL (%)
Timber/forest land	539.70	39.64
Agricultural land	467.47	33.92
Grassland/shrubland	200.08	14.52
Creeks and rivers	24.60	1.98
Residential area	7.75	0.94
Institutional	1.00	0.28
<b>Total</b>	<b>1,240.00</b>	<b>100.00</b>

*Source: Barangay Development Plan, 2010-2014*

Rice or *palay* remains the main crop with 50.86 hectares or 16.46% of the total land area devoted to rice farming. There is one cropping a year and it is estimated that the annual production is 38,147 bundles of *palay*. One bundle is equivalent to one kilogram when husked. Various kinds of vegetables are also planted in about 5 hectares of the Barangay area but harvest is mainly for home consumption. Among the vegetables, baguio beans is the kind which is marketed. Root crops specifically sweet camote is grown to supplement the shortage of rice and sometimes fed to animals like pigs, dogs and chickens. Other agricultural products like corn, banana, citrus, rattan and etc are planted and occupy about 25% of the barangays Agricultural areas. Rattan and oranges are the marketable fruits.

#### **d.1.2. Bangaan Rice Terraces Cluster**

The barangay derives its name from the pot-shaped formation of the rice terraces when viewed from the center of the barangay. Because of the scenic formation of the rice terraces, the place continue to attract tourists. It is also a starting point for tourists going to the other terraces areas like Batad, Cambulo, and Ducligan. The barangay has a land area of about 709 hectares based on the approved 1990 Cadastre Survey (CAD 1034-D) spread over ten sitios. Like Batad, the place is characterized by rugged mountainous and hilly terrain with v-shaped steep and narrow creek valleys and corresponding sharp ridges. It has an elevation of 800-900 masl and 88% of the land area of the barangay have slopes 30% and above. Average temperature in the locality is 20 °C from April to September and 16 °C from November to January. The climate of the barangay falls under type III, with no very pronounced maximum rain period and a short dry season lasting for 1-3 months.

Based on the 2010 Census of Population and Housing conducted by NSO, the barangay has a total population of 746 which registered an increase of 4.48% or 32 people from the 2007 data of 714. The table below presents the land uses and area of each land use of Barangay Bangaan, Banaue, Ifugao.

**Table 4 - Land Uses and Area, Barangay Bangaan**

<b>LAND USES</b>	<b>AREA IN HECTARES</b>	<b>PERCENT TO TOTAL (%)</b>
Timber/forest land	496.50	70.03
Agricultural land	116.70	16.46
Grassland/shrub land	77.50	10.93
Creeks and rivers	10.10	1.43
Roads	4.90	0.69
Residential area	2.13	0.30
Institutional	1.13	0.16
<b>Total</b>	<b>709.00</b>	<b>100.00</b>

*Source: Barangay Development Plan, 2002*

Rice or *palay* remains the primary crop. Another dominant farm crop is sweet potato which is used to feed livestock such as pigs, dogs and chicken. Almost all barangay residents who belong to the labor force are engaged in farming activities.

#### **d.1.3. Nagacadan Rice Terraces Cluster**

The barangay of Nagacadan is located in the western part of the Municipality of Kiangnan. Based on the 2010 Census of Population and Housing conducted by NSO, the barangay has a total population of 816 which registered an increase of 6.25% or 48 persons from the 2007 data of 768. The barangay is 8 kilometers away from the town center and is reachable by land transportation. However, the inner sitios are inaccessible to land transportation and can only be reached by hiking through pathways. The barangay has a total land area of 898 hectares where around 70 hectares are devoted to rice farming. Because of its elevation measuring about 800 masl and the cold weather, rice cropping is done once a year. Other vegetable crops are grown and sold to the market at the town center.

The table below presents the land uses and area of each land use of Barangay Nagacadan, Kiangnan, Ifugao.

**Table 5 - Land Uses and Area, Barangay Nagacadan**

<b>LAND USES</b>	<b>AREA IN HECTARES</b>	<b>PERCENT TO TOTAL (%)</b>
Timber/forest land	512	62.59
Agricultural land	123	15.04
Grassland/shrub land	78	9.54
Creeks and rivers	42	5.13
Roads	32	3.91
Residential areas	29	3.55
Institutional	2	0.24
<b>Total</b>	<b>818</b>	<b>100.00</b>

*Source: Barangay Development Plan, 2002*

More than half of the land area of the barangay is classified as timber or forest land with slope greater than 30%. Compared to other areas, the forest in the place is still preserved, although it has been noted that some portions have been cleared for vegetable gardening and residential purposes. The forest is maintained through the muyong system where a family or clan lay claim to a portion of the forest. The biggest threat though to the forests and rice terraces is the construction of the Kiangnan-Tinoc and Kiangnan-Hungduan road which damaged portions of the rice terraces and the forests. Once the roads are improved, it will be inevitable that settlements will flourish on the road sides.

Because of its proximity to the town center and the higher economic returns, farmers have ventured into the production of temperate vegetables like Baguio beans, sweet peas and cabbages. Rice farms have been converted into vegetable gardens. Parts of the micro-watershed have been cleared and devoted to vegetable gardening. However, due to the entry into the country of smuggled vegetables which are cheaper than locally produced vegetables, the farmers have reverted to rice farming.

#### **d.1.4. Mayoyao Rice Terraces Cluster**

Like the other upland municipalities of the province, Mayoyao has an agricultural area of about 4,645 hectares of which 3,680 hectares or 78.35% is devoted to rice farming. The rest of the agricultural area is planted to vegetables and fruit trees. In general, the municipality has two croppings which take place in January to June and July to December. The first cropping is more productive since the weather is more favorable with lesser rain and typhoons. The second cropping is done only in the lower elevation but harvest is much lower than the first cropping harvest.

The terraces cluster is found in the central part of the municipality which is surrounded by mountains which serve as a boundary with the other barangays of the municipality. The municipality of Mayoyao is 44 kilometers away from the municipality of Banaue and 21 kilometers from Aguinaldo municipality. The roads from Banaue and Aguinaldo are not yet completely paved and the occurrence of slides is frequent sometimes making transportation difficult especially during the rainy season.

Based on the 2010 Census of Population and Housing conducted by NSO, the aggregate population of the nine barangays composing the cluster totals to 7,096 registering an increase of 3.21% or 221 persons from the 2007 data of 6,875. Of the nine barangays, three are upland barangays where farming is single cropping while the six barangays have two croppings in a year.

#### **d.1.5. Hungduan Rice Terraces Cluster**

The whole municipality of Hungduan is included in the World Heritage List. The municipality is located in the northwestern part of the province and is bounded on the east by Banaue, on the south by Kiangnan, on the southwest by Tinoc, on the northwest by Sabangan, Mountain Province and on the north by Bontoc, Mountain Province. It is 25 kilometers away from Banaue and 45 kilometers away from the capital town of Lagawe. Total land area is 22,789 hectares where 705 hectares or 3.09% of the land area is agricultural land which are basically the rice terraces. Almost 50% of the total land area or 11,043 hectares is classified as forest. The forests are located on the western portion of the municipality while the grass or shrub lands are generally located on the eastern side with the Hapao river as a natural



boundary between the two. The terrain is mountainous with 16,674 hectares or 73.17% of the land area has a slope greater than 50%.

Based on the 2010 Census of Population and Housing conducted by NSO, the Municipality has a total population of 9,933 registering an increase of 3.46% or 332 persons from the 2007 data of 9,601.

The rice terraces are located or interspersed in clusters within the grass or shrub lands with patches of privately managed forested areas called *muyong* that serve as watershed as well source of wood for fuel, woodcarving and housing requirement. The rice terraces are cultivated once a year. Although the exact area cannot be determined, abandoned rice terraces have either become grasslands or converted into vegetable gardens. The abandonment of the terraces can be attributed to the poor conditions of the irrigation systems caused by natural calamities coupled with the weakening cultural value of the younger generation. The road widening project from Banaue to the municipality has caused damages to the irrigation canals along the roadside as common earth was moved recklessly.

The municipality is criss-crossed by river systems especially on the southeastern portion. All these major rivers and their tributaries flow to the Ibulao River and eventually drain to the Magat River.

## **d.2. OTHER TERRACES CLUSTERS**

The terraces system extends up to the integral upland municipalities of Aguinaldo, Hingyon, Lagawe, Asipulo, Tinoc. Several of these clusters are considered candidates for inscription in the rice terraces Heritage List and play central or complementary roles in the overall rice terraces ecosystem in the province.

### **d.2.1. Aguinaldo Rice Terraces Cluster**

The rice terraces cluster in this municipality are situated in 8 barangays namely: Awayan, Bunhian, Chalalo, Damag, Galonogon, Jacmal, Mongayang and Ta-ang. Among its 8 barangays, Damag has the largest area estimated at 25 hectares followed by Awayan with 22 hectares. The rice terraces in the 8 barangays totals to an estimate of 121 hectares being maintained by at least 170 households engaged in rice terraces farming.

### **d.2.3. Asipulo Rice Terraces Cluster**

Asipulo rice terraces are located in 3 barangays namely Amduntog, Antipulo and Pula. Amduntog has the largest area with 20.085 hectares. The total RT areas is 39.0855 (1,795 number of rice paddies) hectares being maintained by 119 household farmers.

#### **d.2.4. Hingyon Rice Terraces Cluster**

The rice terraces in this municipality are situated in all its 12 barangays with barangay Mompolia having the most extensive estimated at 60 hectares followed by Poblacion with 40 hectares. Poblacion rice terraces has also the most panoramic view with its basin-like shape. The whole estimated area of rice terraces totals 179 hectares.

#### **d.2.5. Lagawe Rice Terraces Cluster**

The whole estimated area of rice terraces in the 4 barangays of Lagawe namely Boliwong, Cudog, Burnay and Montabiong totals to 349 hectares. Of the 4 barangays, Boliwong has the biggest area of rice terraces estimated at 93 hectares.

#### **d.2.7. Tinoc Rice Terraces Cluster**

The more prominent rice terraces in Tinoc are located in 5 barangays namely: Poblacion, Luhong, Binablayan, Wangwang and Ahin. Barangay Poblacion has the largest area of about 137 hectares and is also the most scenic. Total rice terraces is estimated at 240 hectares.

#### **d.2.8. Rice Terraces in the Municipalities where there are Inscribed sites**

Aside from rice terraces that are inscribed in the World Heritage Sites, there are rice terraces cluster in Kiangan, Mayoyao and Banaue that are as majestic as the inscribed sites. Viewpoint Rice Terraces in Banaue is post card perfect and is the most accessible. The description “stairways to the sky” probably have been coined because of Viewpoint rice terraces.

The Ba-e Rice terraces in Kiangan offers a scenic landscape, with a paved road sloping down to Ba-e village. It is known to be where the 1<sup>st</sup> Catholic mission was built. The Julongan Rice Terraces also in Kiangan is contiguous with the Nagacadan Rice Terraces. Pockets of these rice terraces can be viewed along the newly widened road going to Tinoc.

## **2. DEVELOPMENT CHALLENGES**

### **a. Disturbed Ecosystem**

Over the years, the adverse impact of the interplay of various factors like climate change, modernization and globalization, population growth, and poverty among others have now taken its toll on the rice terraces. As Ifugao continue to get its share of modernization and industrialization, the people, likewise, continue to assimilate modern ways of living and continue exerting pressure on the rice terraces’ already dwindling ecosystem. With the ecology as the main source of all raw materials for human consumption, it is inevitable for humans to abusively exploit the ecological resources to meet basic needs and wants for modern amenities. Destructive and unregulated human activities, particularly unregulated land use conversion, illegal logging, and bio-piracy of natural resources have resulted to the loss of biodiversity and watershed degradation, as well as, rendering the terraces communities vulnerable to calamities.

Consequently, many flora and fauna species are endangered and some are now extinct or at the brink of extinction with human continuously encroaching into their natural habitats and converting the forests into other land uses.

With its well-balanced natural cycle disrupted, the ecosystem can no longer function sufficiently, especially in mitigating the adverse effect of climatic changes. Given this backdrop, it is urgent that a sustainable development and conservation program be formulated for the protection of the rice terraces' ecosystem.

### **b. Inadequate Income of Rice Terraces Farmers**

Poverty is a perennial problem that has commonly plagued all the rice terraces communities in the province, heritage and non-heritage sites alike. Their primary source of income has been affected by various unresolved problems causing low levels of rice production and economically insufficient to meet farmers' household needs, let alone to meet market demand for *tinawon* rice and other agricultural produce. Farmers are not gaining much from cultivating and producing rice and other agricultural products in the terraces. The low returns from rice terraces farming activities can be attributed to the following factors:

#### Undeveloped rice terraces products

Vis-à-vis marketability of products, specially consumable goods, at least, in terms of size, packaging, quantity and shelf life, the undeveloped products from the rice terraces are no match to the high breed agricultural products and processed and well-packaged home-made goods; let alone compete with the highly developed commercial products that are abundant in the market. Albeit, people worldwide are now patronizing organic goods, which is the very advantage of rice terraces products being organic, it cannot, however, meet huge volumes of market demand. Also, their undeveloped state cannot maintain product freshness when transported to distant market outlets as their shelf-life is but short.

#### High cost of maintaining the rice terraces

Managing the rice terraces now a days is very costly. The traditional practice of "baddang" where all terraces owners come together to help work, by turns, on each other's rice fields is no longer observed today, forcing them to adopt the modern practice of hiring laborers to do the works necessary in maintaining their rice fields. Unfortunately, almost all of the rice terraces owners cannot afford such cost, and with the able-bodied migrating out of Ifugao, only the children and old ones are left to till the rice terraces who cannot do all the heavy work in the rice fields.

#### Low production

Unlike in the past, the rice terraces today suffer from low productivity. Rice Terraces farmers believe that low production is being caused by pests and diseases ravaging the terraced rice fields, frequent occurrence of natural calamity, inadequate irrigation water supply, and low soil fertility due to siltation.

#### Low farm gate price of rice terraces products

One of the reasons rice terraces farmers are not benefiting much from rice terraces farming activities is due to the very low farm gate cost of their produce that does not compensate farmers' labor cost, production and other expenses incurred. Farmers usually sell their agricultural and aqua-cultural produce at a cheap farm gate price which does not include shipping, handling, storage, marketing, and profit margins of the farmers. Hence, farmers earn barely enough to meet their own household consumptions and nothing for emergency and other needs.

#### Conversion of rice terraces to other land uses

Rice Terraces owners are usually compelled to convert their heritage property to vegetable gardens, residential and/or commercial sites and other land uses out of great financial need. It is usually the damaged and abandoned rice terraces, which the farmers cannot afford to restore, that are either converted to other land uses by the owners themselves or sold to enterprising people who, in turn, develop the rice terraces into commercial or other agricultural uses. It was identified that abandoned rice terraces are usually caused by reduced farm labor due to mass outmigration of farmers, and low productivity due to insufficient supply of irrigation water.

#### Difficulty sustaining the volume of supply of high value products from the rice terraces

The very nature of traditional agricultural cycle in the rice terraces where rice and other agricultural products are cultivated once a year makes impossible mass production to meet huge volumes of market demand, especially for high value products. The challenge is how to develop a technology that would address the problem on mass production and sustainability of product supply whole year round without compromising the welfare of the rice terraces and its ecosystem.

While the problem can be remedied, however, the rice terraces farmers, having no or limited formal education and exposure to other alternative livelihoods, are deprived of ideas, knowledge and skills in innovating other ways of generating additional sources of income. The farmers have no idea on how to capitalize on the development opportunity that their heritage property offers being a world class tourist destination. Ironically, their rice terraces are generating income through tourism activities yet not a penny goes to them, nor do they receive subsidy from tourism revenue involving their rice terraces. This is one area the master plan needs to work on to address the problem.

### **c. Deterioration of the rice terraces' cultural foundation**

The continuous deterioration of the Ifugao cultural values upon which the rice terraces were built and sustained for centuries is engendered by the diminishing enthusiasm and insufficient knowledge of the Ifugaos on their very own cultural heritage, and compounded by the weak implementation of cultural education and promotional interventions. Most of the Ifugaos today, especially among the younger generations are not interested in learning their traditional values and practices. Armed with scientific knowledge accumulated through formal education and new religious beliefs assimilated from interacting with the outside world, most believe that that old ways are obsolete and no longer applicable to today's modern living. Likewise, the

customary practices are not strictly observed because of the high monetary cost that it entails, which, to most Ifugaos who are living on subsistence, is financially burdensome vis-à-vis today's high cost of living.

The few number of surviving aged Indigenous Knowledge Bearers, with most of the indigenous knowledge systems not documented and/or poorly documented, likewise, poses a great threat to the sustainability of the Ifugao IKs. As culture bearers, their demise would mean extinction of Ifugao's culture if and when no drastic measure is taken to address the issue at hand. While there are schools of living traditions (SLTs) established as an avenue to transmit IK to the youth, however, these SLTs are limited and can only be found in some world heritage areas. All stakeholders need to work hand-in-hand to strengthen advocacy, promotion and innovative ways of re-educating the Ifugaos of their indigenous knowledge systems, especially the best traditional practices that are doable in this age of advanced scientific technology.

#### **d. Inadequate Support to the rice terraces conservation**

One of the major loopholes of conservation efforts for the rice terraces lies in the failure to establish and institutionalize a support system where all the support programs of concerned stakeholders are synergized and synchronized to maximize resources and avoid duplication of work. Inadequate support involves inadequate allocation of annual funds for conservation programs by all stakeholders, insufficient infrastructure support, lack of a cultural database system, inadequate technical assistance to stakeholders, especially for those operating in the barangay level, weak implementation of institutional support system/program, and inadequate conservation policies formulated for the rice terraces and culture.

For conservation efforts to succeed, it is imperative that stakeholders synergize and synchronize all programs in support to the rice terraces conservation and ensure adequate support.

**Diagram 6: S-W-O-T ANALYSIS**

Based on community consultations conducted in World Heritage and non-World Heritage sites, strengths, weaknesses, opportunities and threats were identified as basis for problem identification and identification of appropriate strategies.

AREAS	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
<b>BIO-PHYSICAL</b>				
a. Community-based Land Use, Physical Planning and Zoning Programs	- Ifugao Rice Terraces inscribed and renowned by the UNESCO as World Heritage Sites and as GIAHS area.	- No CLUP/ Not updated CLUP - Lack/ poor implementation of laws/ ordinances - No building code/ easement - No zoning ordinance - No consultation to barangay prior issuance of tax declaration - None implementation of NIPAS ACT, other national and local ordinances - Abandoned rice fields	- Presence of external fund sources for special projects and programs funded by UN Agencies ( GIAHS-FAO, UNESCO, Prince Claus) - CHAMP 2, DAR, NGP-DENR, OPAPP, NIA covered area - PLGU, MLGUs, BLGUs interventions on RT and cultural conservations - UNESCO inscribed as WHS, and Philippines only GIAHS Area - Potential natural and man-made landscapes and resources as additional tourist destinations - Presence of Historical Areas as tourist destination - Influx of foreign and local visitors - Presence of culture bearers - Availability of indigenous products, organic products for food processing, the heirloom rice for export - Yearly celebration of cultural festivals	
b. Bio-diversity Restoration and Conservation Program	- Rich in biodiversity and natural resources/ spots - Organic/ traditional farming still practiced - Heirloom rice still being planted	- Extinction of “Ginga, Dojo, Batikul, Dolog, Aguudong” - Decline/extinction of wild animals - Unregulated extraction of indigenous fauna and flora		- Introduction of Industrial trees - Occurrence of earthworm, golden kuhol, “kiwit” of the Japanese Ill that damages the rice terraces - Increasing population
c. Community-based Forest Management Program	- Intact watershed - All year round availability of water - Favourable climate condition	- Deforestation - Practice of Kaingin System - Forest Denudation - Forest fires specially during summer - Introduction of non-endemic tree species - Conversion of forest land into agri-land - Less observance of ‘Pinugo’ system - Unfunctional barangay nurseries - Lack of knowledge of indigenous forest management practices of younger generation		- Introduction of non-endemic trees - Conversion of forest land into commercial and Agri land
d. Hazard Management	- Active and resourceful leaders - Presence of cultural	- Abandonment of traditional rice varieties - Rice production not economically feasible - Lack of knowledge of traditional rice cycle		- Road widening- excess soil dumped at the Irrigation and Rice



	<ul style="list-style-type: none"> <li>values and practices</li> <li>- Availability of LGU Funds for project counterpart</li> <li>- Peaceful community</li> <li>- Existence of updated BDPs, MDPs, PDPs, policies and ordinances</li> <li>- Improved road conditions</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of implementation of solid waste management</li> <li>- Hesitancy in implementing the BDRRMP (Brgy. Disaster Risk Reduction Mgmt. Program)</li> <li>- Hazard maps not prepared</li> <li>- Extraction of natural resources without consultation from the community</li> </ul>	<ul style="list-style-type: none"> <li>- Presence of organized and strengthen POs and ADSDPP, community elders and officials</li> <li>- Intact watershed with abundant water supply all year round in the RTs</li> <li>- Practice of agricultural and Forest land indigenous management systems and practices</li> </ul>	<ul style="list-style-type: none"> <li>Terraces</li> <li>- Intensive use of pesticides and insecticides in the Rice Terraces areas</li> <li>- Illegal logging</li> <li>- Natural Calamity</li> <li>- Unregulated hunting</li> </ul>
<b>SOCIO-CULTURAL COMPONENT</b>				
a. Cultural Products & Organization	<ul style="list-style-type: none"> <li>- Existence of One town one product</li> <li>- Tinawon Rice and other organic products developed and processed</li> <li>- Presence of active organizations in the community</li> <li>- DTI accredited Ifugao entrepreneurs on Woodcarvings, handicrafts, local processed products</li> <li>- Government support for Ifugao livelihood trainings and start up capita</li> </ul>	<ul style="list-style-type: none"> <li>- Loss/ diminishing cultural values</li> <li>- No interest of young people to learn</li> <li>- Expensive cultural activities</li> <li>- Old/ few indigenous holders</li> <li>- Cultural practices are not documented</li> <li>- Decreasing numbers of culture bearers</li> <li>- Insufficient fund for Agri-infra Support</li> <li>- Aged farmers</li> <li>- Very low ROI</li> <li>- Poor management of the 'Pinugo'</li> <li>- Tinawon rice is mostly for food consumption</li> </ul>	<ul style="list-style-type: none"> <li>- Intact Bayanihan/ Dang-a/ Ub-bu system</li> <li>- Continuous planting of Tinawon Rice in the RTs</li> <li>- Presence of small entrepreneurs for Ifugao products</li> <li>- Presence of mini-hydro power plant</li> <li>- Presence of government programs on agricultural enhancement</li> <li>- Government agencies, line stakeholders- private, NGOs, UN Agencies invested funds for RT conservation projects</li> </ul>	<ul style="list-style-type: none"> <li>- Effect of Christianity</li> <li>- Negative influence of Tourists</li> <li>- Changing moral values related to agricultural, social and cultural practices and activities.</li> <li>-</li> </ul>
b. Establishment of Transfer Program	<ul style="list-style-type: none"> <li>- Continuing program on School of Living Traditions</li> <li>- Indigenous Knowledge transfer inclusion to DepEd curriculum</li> <li>- Presence of a</li> </ul>	<ul style="list-style-type: none"> <li>- Diminishing of indigenous knowledge</li> <li>- Less importance given to the preservation and establishment of SLTS</li> <li>- No strict implementation of ordinance in planting</li> <li>- Limited schools established for living traditions</li> <li>- Revivals and enhancement of cultural values</li> </ul>		<ul style="list-style-type: none"> <li>- Lack of Government policies toward mainstreaming cultural knowledge transfer in formal education curricula and other developmental programs</li> </ul>

	specialized school of living tradition located at Gohang National High School, Gohang, Banaue. - Presence of culture bearers/ knowledge holders - Presence of skilled blacksmith men	- Scarcity of knowledge holders		
<b>ECONOMIC DEVELOPMENT COMPONENT</b>				
a. Enhancement of Agricultural Productivity	- Available resources for product development - Available skills that can be tapped	- Low production of agricultural products - Inadequate sustainable livelihood for IRT farmers - Out-migration of farmers to other places - Non-imposition of ordinances affecting agriculture - Lack of capacity building to stakeholders - Younger generation do not practice/are not interested in traditional rice farming - Not functional CAWASAs		- Infestation of Kiwit, Kuhol, earthworm - Commercialization of culture
a. Community-based Agri-industry Program	- Tons of Tinawon rice exported to cities and even abroad thru Rice Inc. - Promotion of Rice-Cycle-Tour, trekking and viewing - Presence of Accredited Tour Guides - Enhancement of Local product	- Low yield of <i>tinawon</i> - Planting season not followed - Labor-intensive and costly - Refusal of young generation to go work in the rice fields - Inadequate agri-livelihood machines/food processing facilities		- Introduction of HYVs
b. Sustainable Tourism Development	- Presence of Natural and manmade landscape; Rice Terraces, waterfalls, mountains, lakes and	- Lack of marketing outlets - Low return of investment of Agri-base products - Decrease production of indigenous products - Lack of tourism manpower in promoting		-

	the like - Presence of potential tourist destinations - Celebration of Cultural Activities; Gotad ad Ifugao, Kulpi, Bakle, Lenong, Victory Day and the like	prospect tourist spot - Many potential tourist spots not developed - Lack of accommodation facilities in other heritage areas, view decks, decent recreational facilities, decent restrooms along the highways and other tourist facilities - Not in-placed local tourism policies - Need for linkaging of WHS		
<b>SUPPORT DEVELOPMENT COMPONENT</b>				
A. Infrastructure Support Program	- Accessibility of major tourist destinations - Agri-tourism infrastructure projects funded and implemented	- Need for more road improvements - Lack of post-harvest facilities - Lack of CIS, FMRs, Tramlines		
b. Institutional Development		- PO's organized only for fund accessing - Need for local policies on IRT conservation - Need for more investments/funding for IRT		- Negative effect of tourism - Commercialization of practices - Weak marketing linkages
c. Buffer Zone Development Program		- Inappropriate infrastructures - No infrastructure guidelines - Need for a more focused reforestation program		

Diagram 7: PROBLEM TREE

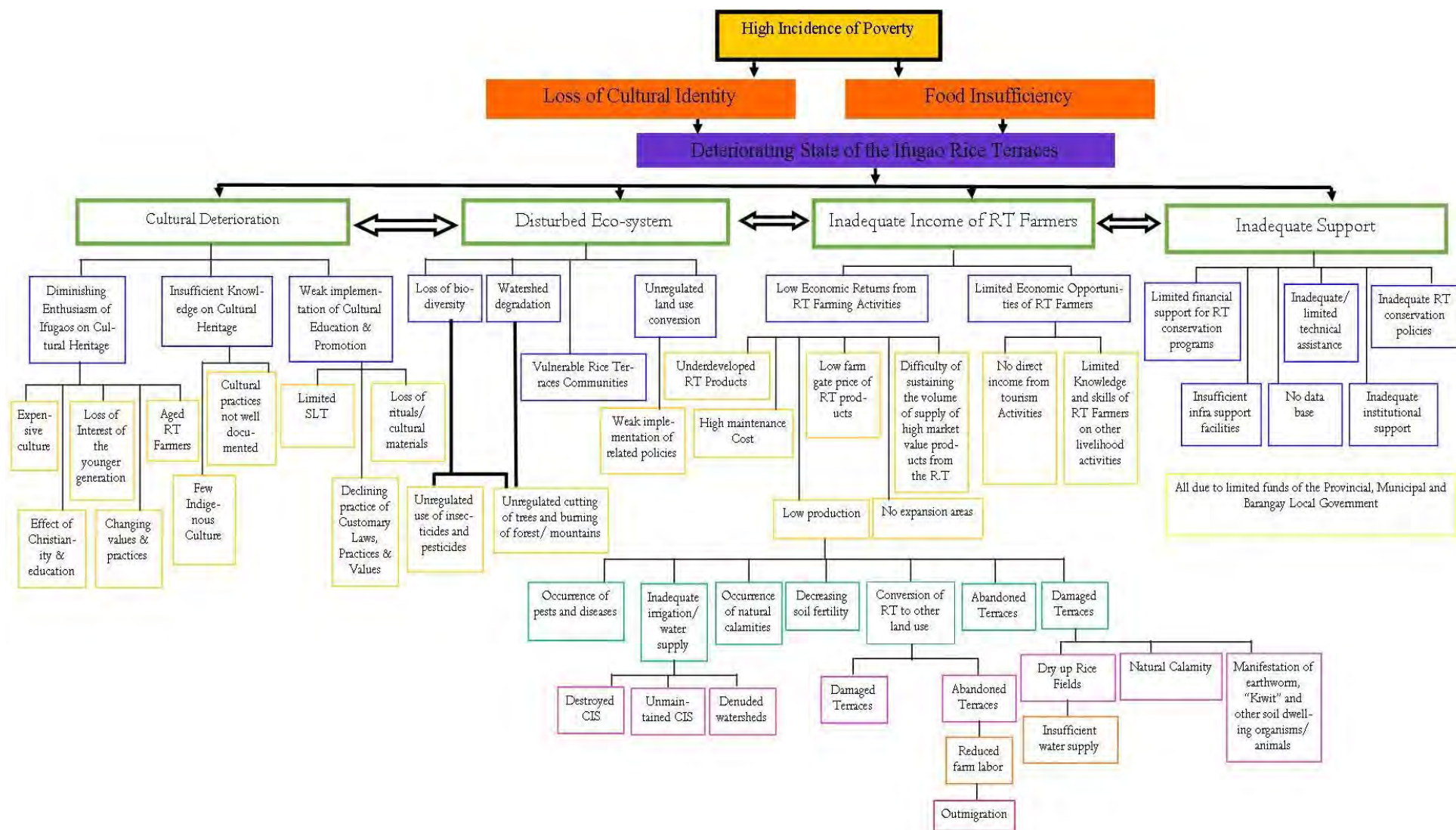
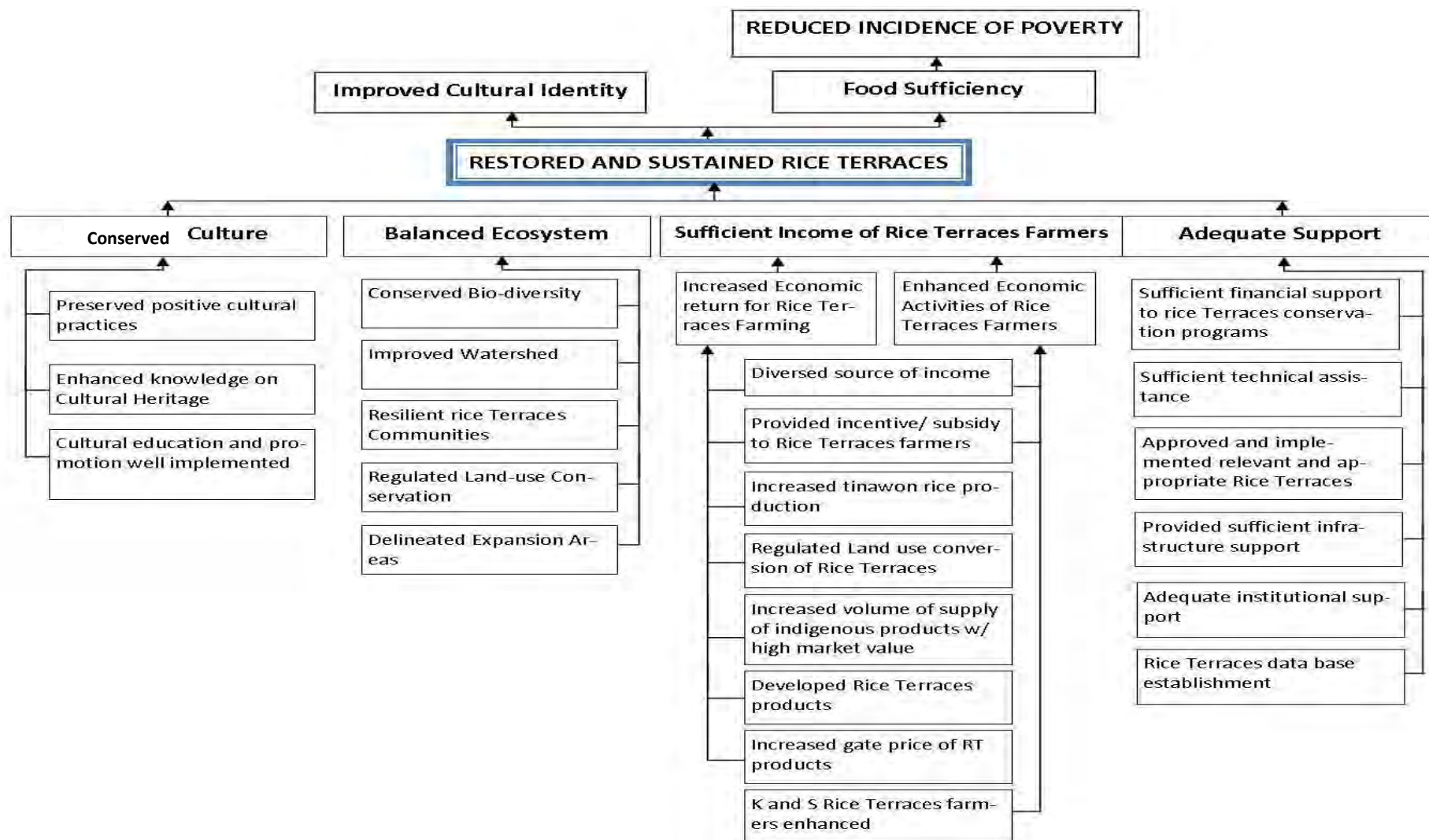


Diagram 8: OBJECTIVE TREE



### **3. DEVELOPMENT RESOURCES AND POTENTIALS**

- **Rich Biodiversity and Relatively Preserved Forest Resources**

Compared to other provinces, Ifugao still has relatively intact forest resources like timber, useful vines, wildlife, medicinal plants and other forest treasures coupled with very rich indigenous tree species and animals endemic to the province. The system for forest preservation which is “muyung/pinugo” is still being practiced which is very important in rice terraces conservation.

- **Favorable Conditions for Agricultural Development and Abundant Water Resources**

Ifugao is endowed with natural conditions highly conducive for agriculture. It has fertile agricultural lands and is blessed with a temperate climate that makes possible the production of rice, corn, various vegetables, fruits and other high-value crops such as cut flowers, coffee and legumes. The province also has abundant water resources which is very vital in rice terraces preservation. These water resources like streams, rivers and springs that flow ceaselessly year round may be tapped and harnessed to produce energy, irrigate agricultural lands and provide water supply for domestic and commercial uses.

- **Positive Community Values of the People, Intact Cultural Values and Practices and Willingness to Preserve the Rice Terraces**

As a people, the Ifugaos are a hardworking and resilient lot. One enduring manifestation of these traits is the Ifugao rice terraces, which is proof of their ability to survive and adapt to difficult and hostile environments. In addition, they are hospitable, cooperative and willing to improve their lives. These positive values are necessary in the restoration and conservation efforts since sustained cultivation of the rice terraces demands a lot of physical labor. It is also evident in the rice terraces communities that they still have relatively intact cultural grounding even with the influence of modernization. A significant number of rice terraces owners and farmers continue to maintain the rice terraces. Cultural values and practices like “baddang/ubbu”, “dang-a” and “bakle” are still being practiced that contributes a lot to the sustained cultivation of the rice terraces.

- **Existence of Indigenous Knowledge on Sustainable Agriculture and Natural Resources Management**

Indigenous knowledge on farming like the rice calendar, organic farming practices, choosing plant varieties that are more resilient to strong winds and flooding, drying systems and other traditional knowledge are still being practiced today. Rice in the rice terraces is organically grown and is gaining national and international attention as a high value organic crop. Natural resources management through the “muyung” system ensures the watersheds that provide water for irrigating the rice terraces.

- **Ifugao Rice Terraces as an International Tourist Attraction**

Ifugao is considered as one of the international tourist destinations in the country. Aside from the Rice Terraces in Banaue, Mayoyao, Kiangan and Hungduan, the province also boasts of other attractions such as historical sites, natural attractions like hot springs, rivers and lakes, caves and a rich and unique culture. Its recognition as a World Heritage Site by the UNESCO boosts its potentials for world-class tourism and a very promising tourism industry.



- **Existing Documentation and Studies on the Rice Terraces and Free Advertisements**

The rice terraces being world famous gained attention from international and national agencies, private individuals, non-government organizations and the academe. Research, studies and documentations were done including the physical landscape, culture, resources and issues that go with it and can be used as references for development efforts in rice terraces preservation.

- **LGUs Commitment to Restore and Preserve the Rice Terraces**

Local government units in the province at all levels have taken an active role in rice terraces restoration and preservation. At the PLGU level, the Ifugao Cultural Heritage Office was created to ensure the quality implementation of conservation of tangible and intangible heritage. Funding for restoration has also been allotted by the PLGU, MLGUs and BLGUs concerned aside from funding projects on cultural development. At present, income from the Ambangal Mini-Hydro Power Plant owned and managed by the PLGU is exclusively being used for rice terraces conservation project.

#### **4. DEVELOPMENT OPPORTUNITIES**

- **Recognition of the Rice Terraces as a World Heritage Site**

UNESCO recognized the Ifugao Rice Terraces as a world heritage site with the inscription “A Living Cultural Landscape”. As such the province stands to gain in terms of attention and assistance of national government and international organizations in the preservation and enhancement of its rice terraces and unique culture. In 2012, the Rice Terraces were certified as no longer in the list of World Heritage Sites in danger.

- **Recognition of the Rice Terraces as a Globally Important Agricultural Heritage Site**

The Food and Agriculture Organization have listed the Ifugao Rice Terraces as the only Globally Important Agricultural Heritage System (GIAHS) site in the country. According to Food and Agriculture Organization (FAO), “these ingenious agri-cultural systems reflect the evolution of humankind, the diversity of its knowledge, and its profound relationship with nature. These systems have resulted not only in outstanding landscapes, maintenance and adaptation of globally significant agricultural biodiversity, indigenous knowledge systems and resilient ecosystems, but, above all, in the sustained provision of multiple goods and services, food and livelihood security for millions of poor and small farmers.”

FAO said that the continued existence and viability of the rice terraces is a manifestation of strong culture-nature connections, marvelous engineering systems, innovation and determined spirit of the Ifugaos to maximize use of the mountainous lands for food production.

- **Support from National and International Organizations and Other Stakeholders on Rice Terraces Conservation**

The existence of various funding sources like the national government, multilateral and bilateral sources and private organizations presents an opportunity for the province to access

said resources to boost its financial resources. In addition to these funding sources, there are also available appropriate technology packages in research centers and the academe which the province can avail of for its rice terraces preservation and cultural development efforts.

Also, there is an increasing number of Ifugaos who have migrated abroad and, for sure, still carry the pride of being an Ifugao and as such are potential donors for programs like “Adopt a Rice Field Program” and other restoration and preservation rice terraces activities.

- **Increasing Demand for Organic Agricultural Products and Indigenous Products from Off-Farm Activities**

With the global trend for preference of health foods, organic agricultural products are becoming in demand. This presents a big opportunity for rice terraces farmers for increasing income from native rice production as rice farming in the upland rice terraces is organic in nature.

- **IPRA LAW**

IPRA Law provides the Ifugaos land tenurial rights where titles of lands can be acquired. Its implementation would benefit rice terraces farmers as it allows indigenous practices including land ownership. This serves as a motivation for preserving the Ifugao’s rich and unique culture.

## **B. VISION, MISSION, GENERAL OBJECTIVES AND STRATEGIES**

### **1. Vision:**

The Ifugao Rice Terraces remains a living cultural heritage of humanity and a tourism resource serving as a source of pride, identity, and socio-economic well-being of the Ifugao, the Filipino and international community managed in harmony with culture and nature.”

### **2. Mission:**

Develop the capabilities and resources of Ifugao Rice Terraces communities to effectively harness efforts to ensure the preservation and conservation of the Ifugao rice terraces ecosystem and culture supported by municipal and barangay local government units, national government agencies and all other concerned private organizations and individuals, national and international sectors.

### **3. General Objectives:**

Within the span of 10 years covering the plan implementation period of 2015-2024, the updated master plan shall provide overall framework, direction and strategies to address the various issues and concerns confronting the Ifugao Rice Terraces and reverse its deterioration towards the conservation of the Ifugao Rice Terraces.

Particularly, the master plan shall focus on implementing major programs specially designed to arrest the deterioration of the essential aspects of the rice terraces to achieve the sundry complimentary development objectives. These include:

1. Ensuring a balanced ecosystem through biodiversity conservation, watershed enrichment, regulation of land use conversion and delineation of expansion areas, and empowering rice terraces communities to become resilient;
2. Ensuring sufficient income of the rice terraces farmers by strengthening product development and marketing, and enhancing economic activities in the terraces areas;
3. Restoring and sustaining the rice terraces through conservation of positive cultural practices, enhancement of knowledge on cultural heritage, and thorough implementation of cultural education and promotional interventions; and,
4. Providing adequate support to the rice terraces conservation in terms of sufficient financial, technical, infrastructure and institutional support, approval and implementation of relevant and appropriate interventions, and establishment of a rice terraces database system.

#### **4. Strategies:**

The objectives are further translated into specific programs and activities to address the identified various development challenges vis-à-vis the rice terraces conservation, to wit:

- a. **Bio-Physical Component** – The bio-physical aspect of the rice terraces pertains to its ecosystem which is comprised of the land, bodies of water, and forest, wildlife, aquatic and biodiversity resources. The program components include:

##### **a.1. Biodiversity Restoration and Conservation Program**

###### **Strategies/Inputs:**

- Inventory and Assessment of Forest/Muyung Owners and Terraces Flora and Fauna
- Germplasm Collection and Preservation
- Plan Preparation and Implementation
- Research and Capability Building
- Utilization of Flora and Fauna for Sustainable Agriculture and Eco-tourism
- Regulation and Quarantine Services
- Protection and Law Enforcement
- Climate Change Adaptation
- Plant Matching
- Monitoring and Evaluation

**a.2. Community-based Forest Management Program****Strategies/Inputs:**

- Social Preparation
- Nursery Establishment
- Site validation, survey and mapping
- Reforestation
- Agro-forestry
- Forest Enrichment
- Protection and Law Enforcement
- Provision of Technical Assistance
- Monitoring and Evaluation

**a.3. Community-based Land Use Planning and Zoning Implementation Program****Strategies/Inputs:**

- Policy and technical support and IEC
- Community-Based Land Use and Zoning Ordinance Formulation-Workshops
- Capacity Building for Implementation of Community Land Use Plans and Zoning Ordinances

**a.4 Disaster Risk Reduction Management and Climate-Change Adaptation in the Rice Terraces Communities****Strategies/Inputs:**

- Disaster Risk Reduction Mitigation and Preparedness Program in Rice Terraces Areas
- Delineation and Stabilization of Hazard Zones
- Crop Resiliency Program
- Indigenous Aqua-food Species Revitalization

**b. Socio-Cultural Component** – This aspect of the rice terraces encompasses the tangible and intangible cultural heritage of the rice terraces, and other cultural arts.**b.1. Indigenous Knowledge Systems and Cultural Development****Strategies/Inputs:**

- Cultural events and product development and marketing
- Indigenous Knowledge Transfer Program Establishment
- Agricultural Productivity Enhancement
- Indigenous Knowledge Mainstreaming in formal education and development agencies
- Database System Development
- Cultural Mapping
- IEC and Advocacy Program
- Stakeholders Capability Building

**b.2. Institutional Development****Strategies/Inputs:**

- Community organizing and capability building
- Institutionalization of the rice terraces restoration and conservation, and cultural heritage preservation programs
- Policy development and advocacy
- Capability building and empowerment

- c. **Support System Component** – This refers to the establishment of a sustainable development network to give support and strengthen the holistic conservation of the rice terraces and culture through the implementation of complementary development programs.

**c.1. Community-based Agri-Industry Program****Strategies/Inputs:**

- Product development and marketing
- Organic agriculture and productivity improvement program
- Research and capability building
- Climate Change Adaptation

**c.2. Sustainable Tourism Development Program****Strategies/Inputs:**

- Tourism Product Development
- Site Development
- Policy Development and Institutionalization
- World Heritage Sites Network
- Tourism Education, Research and Development

**c.3. Resource Mobilization and Institutionalization Program****c.4. Infrastructure Support Program****Strategies/Inputs:**

- Tourism Infrastructure Development
- Technical Assistance for Infrastructure Development
- Construction and Rehabilitation of CIS
- Restoration of Abandoned and Collapsed Rice Terraces Stonewalls
- Other Infrastructure Programs
- Project Programming and Preparation
- Project Implementation

**c.5. Buffer Zones Development program****Strategies/Inputs:**

- Identification and Improvement of Primary or Critical Watersheds in the Buffer Zones as component of the Core Zone Conservation Approaches
- Identification of a Plantation Area for Timber Tree Propagation
- Development Program for the Non-World Heritage Municipalities as Service and Commercial Centers, Industrial Areas and Major Agricultural Production Areas
- Rice Terraces and Cultural Preservation Programs for the Buffer Zones

**c.6. Monitoring and Evaluation****Strategies/Inputs:**

- Social Validation
- Technical Evaluation
- Consultation Meetings
- Midterm Review
- Final Evaluation

## C. PROGRAM COMPONENTS

### C.1 BIO-PHYSICAL COMPONENT

#### C.1.1. BIO-DIVERSITY RESTORATION AND CONSERVATION PROGRAM

##### **Rationale**

Biodiversity or biological diversity is the variety of all species on earth. It is the different plants, animals and micro-organisms, their genes, and the terrestrial forest, and freshwater ecosystems of which they are a part. Biodiversity is both essential for our existence and intrinsically valuable in its own right. This is because biodiversity provides the fundamental blocks for the many goods and services a healthy environment provides. These includes things that are fundamental to our health, like clean air, fresh water and food products, as well as the many other products such as timber and fiber.

In Ifugao, the rich indigenous biodiversity resources such as flora and fauna, e.g.: “ginga”, “batikul”, “dolog”, “aggudung”, “yuyu”, “kulippo”, and other indigenous plants, animals and trees are going extinct due to human activities. Other reasons are caused by accidental introduction of non-endemic and destructive species such as “kiwit”, golden “kohol”, earthworm” and other destructive species that destroy biodiversity. Pollution of rivers and creeks caused by poor solid waste management attributed to the loss of aquatic animals.

The practice of conventional farming, like application of inorganic fertilizers, pesticides, insecticides, introduction of varieties/seeds treated with GMO, the slash and burn farming (“kaingin”), is a bigger contributor to the destruction of ecosystem. Thus, the traditional farming and forestry practices of “inalahan”, “muyung”, “payo”, agro-forestry, “ubbu”, selective timber harvesting of the Ifugao indigenous communities are vanishing together with the natural resources. A biodiversity restoration and conservation program built on the traditional agro-forestry system of the Ifugaos is what it takes to respond to the problem.

##### **General Objective:**

To sustain the viability of the Ifugao Rice Terraces through Biodiversity Conservation utilizing indigenous knowledge systems.

##### **Specific Objectives:**

- To restore endangered species and protect endemic species from extinction and gene pollution;
- To prepare and implement Biodiversity restoration and Conservation Plan built on traditional agro-forestry management system of the Ifugaos;
- To utilize judiciously precious biological resources for alternative sources of income;
- To develop policies and measures in the regulation of Bio-piracy and entry of exotic species;
- To identify and maintain protected areas such as parks, wildlife and fish sanctuaries, medicinal and aromatic species, and others;
- To introduce organic farming to conventional farmers; and,
- To enhance technical and managerial capabilities of all stakeholders.

## **Program Components**

- **Inventory and Assessment of Forest/Muyong Owners and Terraces Flora and Fauna**

This component includes the surveying, describing, characterization, sorting, cataloguing, quantifying and mapping of entities such as genes, individuals, populations, species, habitats ecosystems or their components, and the synthesis of the resulting data and information for the analysis of the patterns and processes. Our awareness/learning on all forest and terraces flora and fauna will contribute to the conservation and management of the resources for present and future generations.

- **Germplasm Collection and Preservation**

Collection and preservation of germplasm samples in gene banks and natural habitats ensures a sustainable source of materials for breeding purposes, restoration and multiplication of endangered species and enhancement of existing endemic species.

- **Plan Preparation and Implementation**

Refers to the actual preparation, smooth implementation of Biodiversity Restoration and Conservation Program consistent to National Laws, ie: NIPAS ACT, Clean Air Act, RA 9003-Solid Waste Management.

- **Research and Capability Building**

Researchable areas might arise during the implementation of this program that needs to be addressed immediately. This component also includes the packaging of technologies and effective management strategies for the conservation of biodiversity resources, enhancement of technical and managerial skills of all stakeholders, conduct trainings on organic farming for new farmers' organizations, strengthening trained organic producers, and application of organic farming practices through farmers' field school on rice, vegetables, and animals.

- **Utilization of Flora and Fauna for Sustainable Agriculture and Eco-tourism**

The economy of the small communities is driven by the use of indigenous species in industries such as agriculture, forestry, fisheries and pharmaceutical products, etc. Aromatic plants are used for industrial products, and fishes are used for aquariums and other uses. The relative number of species put to use by humans is still small, yet the potential for other species to make a comparable economic contribution is enormous. Hence, this component will endeavor to develop and utilize wildlife/biodiversity resources into viable income-generating activities/enterprises that are supportive to sustainable agriculture and eco-tourism development of the province

- **Regulation and Quarantine Services**

This component will look primarily on the formulation and enforcement of regulation and quarantine policies for the entry of non-endemic and destructive species in order to protect indigenous and endangered species.



- **Protection and Law Enforcement**

Stakeholders/Muyong owners are the drivers and frontliners in the protection of the biodiversity areas. Thus, mandatory creation of ENRO & MENRO shall be undertaken, to strictly supervise and implement forest laws and regulations.

- **Climate Change Adaptation**

Delineation of biodiversity areas within the heritage sites shall be undertaken observing Comprehensive Land Use Plans (CLUPs) to quantify seedlings to be planted in the areas. These biodiversity areas will serve as carbon sequestration as one (1) hectare biodiversity area converts seven tons of carbon dioxide per day into oxygen that is essential to human beings.

- **Plant Matching**

Indigenous seedlings will be planted in the rice terraces areas to determine their suitability before they will be propagated and planted to the rice terraces watershed areas to ensure 85% survival rate. Likewise, exotic species like Gmelina and Mahogany will be propagated and used to enrich the watersheds or woodlots to address the felt needs of farmers for construction materials.

- **Monitoring and Evaluation**

Monitoring shall be undertaken by various stakeholder-agencies with mandates on Environmental integrity like Department of Environment and Natural Resources (DENR), Department of Agriculture (DA), Department of Education (DEP-ED), Department of Agrarian Reform (DAR), and the Local Government Units (LGUs), to ensure proper implementation of the project.

### **C.1.2. COMMUNITY-BASED FOREST MANAGEMENT PROGRAM**

#### **Rationale**

The Ifugao people have a strong history of sustainable forest management system they used in utilizing their private woodlots. Their indigenous knowledge systems on forest management are deeply intertwined with agricultural farming in the rice terraces since Ifugao woodlots are parts of the rice terraces' complex eco-system, and can be glimpsed in Ifugao folklores and chants. The watersheds, located above the rice terraces, provide irrigation water channeled to the rice paddies below using bamboo aqueducts. The traditional forest management practices of the Ifugaos have helped sustained the Ifugao Rice Terraces and its ecosystem for centuries. Consequently, the erosion of the Ifugao traditional forest management system has adversely impacted on the ecology of the rice fields. The inadequate irrigation water has resulted to dried-up rice paddies and, eventually, abandonment of many rice fields and conversion of some into other land uses in order to make the land productive to sustain domestic needs.

The increasing growth in population, on the other hand, made land expansion inevitable. People continue to encroach into the forests converting them into residential, vegetable gardens and other land uses, thereby destroying a significant portion of the Ifugao forestland and

causing ecological imbalance as many vital forest resources have vanished and wildlife species depleted and endangered. Likewise, unregulated/illegal logging and indiscriminate felling of old growth trees for lumber needs have caused the watersheds to dwindle. This weakened the forests' capacity to produce and provide water for domestic and irrigation uses. With most of the old growth trees harvested and nothing to absorb and holdup water run-off during heavy downpours, it is no surprise soil erosion becomes rampant in the terraces areas. The traditional forest management system of the Ifugaos is an essential element in the rehabilitation equation if we are to arrive to the right interventions to preserve the rice terraces' watersheds. It is, therefore, crucial to revive and integrate in the LGUs' comprehensive development plans, particularly the best traditional forest management practices that are doable in today's modern time and acceptable to both the younger and older generations in the rice terraces communities. The local authorities need to initiate measures, guidelines and policies to control the utilization of forest reserves/watersheds, and for the community people to be dedicated in the development, protection, conservation and maintenance of their watersheds. After all, as environmentalists say, everybody lives in the watershed.

**General Objective:**

To enhance environmental protection and conservation in the rice terraces areas

**Specific Objectives:**

- To maintain and ensure sufficient water supply in the terraces areas through implementation of CBFM projects;
- To empower land owners in the terraces areas as partners in the implementation of CBFM projects as livelihood projects and contribute to disaster risk reduction and mitigation efforts; and
- To implement biodiversity development projects related to Community Based Forest Management program.

**Project Component:**

• **Social Preparation**

Massive IEC, community meetings and capacity building related to the project be conducted at the community level and the necessary community organizations in place.

• **Nursery Establishment**

In selecting the site for nursery, some criteria should be considered like water supply, size of the nursery, topography, accessibility, species to be produced and the number of seedlings to be handled.

• **Site validation, survey and mapping**

Prior to plantation establishment, proposed sites must be validated for its suitable purposes. Survey and mapping takes place to determine the boundaries between plantations.

- **Reforestation**

This component is directed at the moderately eroded areas approximated at 9,038.00 hectares using the community-based strategy. Preference seedlings to be planted are the indigenous forest tree species. These programs includes the National Greening Program (NGP), Forest Management Program (FMP), Integrated National Resource Management Program (INREMP), Second Cordillera Highland Agricultural Resource Management Project (CHARMP2) being implemented by DENR , DA, the local government units, and community people.

- **Agro-forestry**

This component is directed at the moderately eroded areas approximated at 1,995.00 hectares. This is the most viable land use for cultivated upland. It involves the raising of woody perennials with agricultural crops. Efficient soil conservation measures, such as, intercropping, relay cropping, and hedgerows planting, must be included in the design. Coffee, betel nut, rattan and other high value crops could be utilized.

- **Forest Enrichment**

Enrichment of at least 100 hectares with different rattan species or other forest tree species will be undertaken under this project component. Rattan, in combination with fast growing tree species, offers a promising potential in search for a compatible scheme to ensure ecological balance in a rapidly depleting forest ecosystems. It will also increase forest cover and eventually augment the dwindling rattan supply from the natural forest, and at the same time augment income of farmers.

- **Protection and Law Enforcement**

Muyong owners or the stakeholders are responsible in the protection of “muyong” areas. They are obliged to abide with the forestry laws, rules and regulations pertaining to CBFM programs.

- **Provision of Technical Assistance**

While the stakeholders possess traditional techniques for upland farming and plantation management, technical assistance should not be limited to the conduct of seminars and trainings held at distant venues and limited to a select few. This should be conducted within the areas covered, and should be done regularly to encourage the stakeholders to remain within the project in the long term.

- **Monitoring and evaluation**

Monitoring and evaluation should be conducted in a regular manner/schedule to determine whether the methods being used are effective enough in addressing the problems affecting the rice terraces' ecosystem, and make changes or adjustments where the methods are not responsive to the issues and concerns at hand. A technical working group (TWG) from the different stakeholders concerned should be organized to do the monitoring and evaluation activities.

### **C.1.3. COMMUNITY-BASED LAND USE PLANNING AND ZONING IMPLEMENTATION PROGRAM**

#### **Rationale:**

With a great understanding of the natural environment, the Ifugao forebears were able to convert the mountains into a life-system involving land use management properly delineating settlements, protected areas, production areas and built-infrastructures like small irrigation systems. This understanding and knowledge made possible the existence of the rice terraces. Traditional land use management in the Ifugao communities is a vital factor in the continued functionality of the rice terraces. The “*muyung*” or the protected production areas, the “*payo*” and the “*habal/uma*” or production areas, the “*boble*” or the settlement areas, the “*dolya/agidayan*” or the buffer zones and the irrigation and water distribution systems comprised the traditional land use system in rice terraces communities. This system has gained world acclaim as a living cultural landscape of outstanding universal value exemplifying the Ifugao indigenous physical planning and community land use management system.

The principle of containing development in land use is highly recognized in traditional land use management. The Ifugao already had been applying the concept of containing development and minimizing human activity on land cover through what is known in modern planning as “greenbelts” (Guimbatan: 2003).

With the increasing population and the demand for built-up and infrastructure areas increasing, traditional land use management was somehow altered to give way to modern needs exerting pressure on the rice terraces’ fragile ecosystem.

A solid grounding and understanding of the indigenous knowledge systems developed around the terraces is important in any restoration and preservation effort in view of the influx of modern knowledge/technology that erodes indigenous knowledge especially among the young generations. Also necessary is identifying protected areas and preserving the rice terraces as protected production areas through zoning considering indigenous land systems at hand.

The Local Government Code only requires municipalities/cities and provinces to prepare their land use plans, however, in the community level, land use plans that are easy to understand and are implementable by the barangay local government officials and community stakeholders are needed, and the policy governing land use in rice terraces communities should be built on indigenous knowledge systems. Moreover, being an international heritage icon, international standards to preserve the authentic value of the rice terraces have to be considered.

#### **General Objective**

To preserve the rice terraces through proper delineation of the use of the land identifying protected rice terraces production areas.

### **Specific Objectives**

- Advocate the concept of community land use management to community members especially rice terraces owners;
- Prepare community land use plans for rice terraces areas that are non-world heritage sites;
- Enact zoning ordinances for rice terrace communities with no zoning ordinances;
- Assess the implementation of community-based land use plans and come-up with recommendations for the updating of land-use plans; and,
- Implement zoning laws.

### **Program Components**

- **Policy and Technical Support and IEC**

Policy support will include the provision of the general land use framework integrating rice terraces conservation considering international standards and indigenous knowledge and culture in the municipal comprehensive land use plans (CLUPs) of the municipalities and in the provincial development and physical framework plan (PDPFP) of the provincial government.

Technical support shall be provided by the Provincial Government and the Municipal Governments and other concerned agencies in the assessment, preparation and/or updating of community land use plans and barangay zoning ordinances. Technical support shall also include monitoring of the implementation of community land use plans.

Information education campaigns shall focus on advocating the importance of community land use management to community members, especially to the rice terraces owners, and soliciting support and implementation of zoning laws.

- **Community-Based Land Use and Zoning Ordinance Formulation-Workshops**

Assessment workshops shall be scheduled in world heritage sites with community land use plans and/or zoning ordinances. For non-world heritage sites, preparation of community land use plans shall be done with the enactment of community zoning ordinances to implement the land use plans. Full participation of all community stakeholders shall be encouraged in all phases of the planning process from assessment, needs analysis, setting of spatial policies to the crafting and approval of the zoning ordinance.

- **Capacity Building for Implementation of Community Land Use Plans and Zoning Ordinances**

Capacity building which includes orientations and trainings, mechanisms for implementing zoning ordinances like designating protected areas, partnerships and negotiating skills and necessary support for implementing zoning ordinances shall be done. Indigenous knowledge experts in the community shall be tapped to ensure indigenous knowledge and systems are embedded in capacity building activities.

## **Program Management**

Management of the program shall be spearheaded by the Provincial Government through a technical working group (TWG) to be organized to implement the program. The TWG shall be comprised by technical personnel from the PPDO, ICHO, PAENRO, Provincial Engineering Office (PEO), National Commission on Indigenous People (NCIP), Department of Interior and Local Government (DILG), Provincial Environment and Natural Resources Office (PENRO), National Irrigation Administration (NIA), and the Tourism Division. Counterpart structures from concerned municipalities shall also be organized.

### **C.1.4. DISASTER RISK REDUCTION MANAGEMENT AND CLIMATE-CHANGE ADAPTATION PROGRAM IN THE RICE TERRACES COMMUNITIES**

#### **Rationale**

The Province of Ifugao, in its geographical location as a land locked province, is highly susceptible to natural disasters. PAG-ASA in their study cited the province as top 3 in provinces prone to rainfall change, top 3 in typhoons, top 20 in temperature increase and top 3 in all weather-related risks. Hydrometeorologic hazards are the events that have the most significant economic damage to the province such as rain-induced landslide caused by successive typhoons. It is also highly susceptible to floods and earthquakes, or even El Niño phenomena, making it one of the most disaster prone provinces in the region.

Disaster susceptibility of the province was compounded by denudation and intensive land use activities. Direct human impact contributed to the condition such as inappropriate farming practices, road construction and other massive equipment supported earthwork activities, particularly in steeply sloping areas leading to the siltation of major rivers and destruction of valuable farmlands, environmental degradation and the increasing risk of environmental disasters. The areas highly susceptible to crop production by rain-induced landslide are actually rice terraces areas and are world heritage sites. Moreover, based on Rapid Earthquake Damage Assessment System (REDAS) scenario simulations, Ifugao has 16 epicenters (fig.15) which are based in different seismic historical events, and one major fault line traversing the province which is the “digdig fault”. The presence of this active fault and epicenters within the province may reactivate and will amplify ground shaking, earthquake-induced landslide as well as earthquake-induced liquefaction. The “digdig fault line” could be very hazardous as it is situated within the province particularly on the western side and traverses the municipalities of Tinoc, Banaue, Hungduan and Asipulo, which all have rice terraces.

Climate change, especially the increase in temperature, rapid changes in rainfall and changing weather patterns, directly impacts upland agriculture and thus affects the production of rice in the rice terraces communities. Also, climate change’s impacts on drought, landslides, floods, pests and diseases and stronger winds can greatly affect the preservation of the rice terraces. It is, therefore, vital to integrate indigenous knowledge system into disaster management and climate change adaptation measures taking into consideration the time-tested and proven knowledge of local farmers on what particular plant varieties are more resilient to hot or cold weather and pests, and on the particular crops to be planted at a particular time of the year to ensure greater production. Thus, the preservation of the rice terraces necessarily calls for the establishment of a program on disaster risk reduction and climate change

adaptation strategies that would at least mitigate damaging effects of hazards and climate change in the rice terraces.

**General Objective:**

To formulate mitigation measures to minimize the damaging effects of natural and man-made hazards, and climate change impacts on the rice terraces communities. It shall include disaster preparedness and climate change adaptation strategies in agricultural development in rice terraces areas.

**Specific Objectives:**

- To make functional community disaster-risk reduction councils including in-placed disaster risk reduction management plans and policies;
- To implement mitigating measures, especially in the implementation of infrastructure projects in the rice terraces communities; and,
- To ensure that agricultural development projects are in line with climate change adaptation strategies (international standards i.e. UNESCO on infrastructure guidelines).

**Program Components**

- **Disaster Risk Reduction Mitigation and Preparedness Program in Rice Terraces Areas**

This program shall include the following:

- Risk Assessment of Hydro-meteorological (landslide and flooding) and geological hazards (earthquake-induced landslide and ground shaking) in rice terraces communities;
- Integration of Disaster Risk Reduction and Mitigation (DRRM) in community development plans and/or in the community land use plans;
- Construction of mitigating measures in rice terraces areas susceptible to landslide and flooding;
- Conduct trainings on disaster preparedness and response, search, rescue and retrieval operations to members of the Barangay Disaster Risk Reduction and Mitigation Council (BDRRMC);
- Development and institutionalization of an early warning system in the BDRRMC especially for incoming strong winds, strong rains, projections of drought, flooding and other hazards, to include procurement of equipment for early warning;
- Screening and monitoring of new technologies and species and implementation of containment measures;
- Strengthening of mechanical and vegetative measures in sloping farms;
- Conduct of education campaigns for farmers at risk;

- **Delineation and Stabilization of Hazard Zones**

This program shall be implemented in line with the community land use planning and zoning where hazard areas in rice terraces communities shall be identified, delineated and mapped. Stabilization measures should be incorporated in the restoration projects especially in rice terraces areas highly susceptible to landslides. Other infrastructure projects like irrigation systems, farm to market roads and pathways shall incorporate hazard mitigation strategies in the design and construction.

- **Crop Resiliency Program**

This includes the use of improved rice strain (indigenous rice species), dissemination of knowledge or studies conducted by DA and other agencies on appropriate Climate Change technologies on farming and exploring crop insurance, especially for rice terraces production areas highly exposed to landslide or water run-off. This shall also dwell on the propagation of indigenous fruit tree species, especially indigenous trees that have long showed resiliency and compatibility in Ifugao despite climate changes, establishment of seed banks in flood prone agricultural areas, and establishment of a system for pest and disease outbreak forecasting and early warning.

- **Indigenous Aqua-food Species Revitalization**

The introduction of foreign species, changing weather patterns and cropping seasons have brought indigenous aquatic food species on the brink of extinction. As a strategy for food security, the project shall focus on revitalizing aqua food species indigenous to the rice terraces areas to help enhance the rice terraces' ecological balance.

### **Program Management**

The Provincial Disaster Risk Reduction and Mitigation Office (PDRRMO) shall take the lead in the implementation of this program including program coordination. The Provincial Agriculture, Environment and Natural Resources Office (PAENRO) and the Municipal Agriculture Offices (MAOs) in the 11 municipalities shall form the core of implementers. The Ifugao Cultural Heritage Office (ICHO) shall be the lead in monitoring the program implementation.

## **C.2. SOCIO-CULTURAL COMPONENT**

### **C.2.1 INDIGENOUS KNOWLEDGE SYSTEMS AND CULTURAL DEVELOPMENT**

#### **Rationale**

Over the course of history, traditional Ifugao communities have continued to rely heavily on Indigenous Knowledge (IK) for survival, food security and protection of the environment. The utilization of traditional knowledge accumulated through years of constant interaction and experimentation with the environment have enabled the Ifugao Indigenous Peoples/Communities to create the World Renowned Ifugao Rice Terraces, live in harmony with



nature, conserve their natural resources, and sustain the environment that the present generations now enjoy. What was considered backward and inferior is now rapidly gaining the recognition of the international scientific community with the latter acknowledging the crucial role and importance of Ifugao IK in sustainable development. Global, as well as, local efforts are now geared at protecting and utilizing IK in poverty alleviation, food security, environmental conservation, social and economic well-being of the local communities, and in natural disaster management.

Indigenous Knowledge Systems continue to be practiced but mostly in the terraces communities mainly for survival. Handed down from generation to generation, these IK systems were utilized by the ancient Ifugaos to build rice terraces for food production wherever they settled in Ifugao. The Ifugao Rice Terraces continues to exist today because of the IK that continues to nurture and sustain it. Unfortunately, just like any other world heritage sites, the Ifugao Rice Terraces is eroding rapidly as Ifugao continues to get its share of globalization and modernization which have weakened the traditional knowledge that founded it. These IK systems are not well documented and they stand in danger of being lost as its custodians are passing away and with the younger generations preferring modern approach over IK. Viewing IK as backward and non-profitable, the younger generations are indifferent and uninterested to learn the traditional wisdom of their forebears much to the dismay of the few surviving Traditional Knowledge Bearers. IK utilization in Ifugao continues to deteriorate under the conditions of economic decline and environmental degradation. Consequently, many Ifugaos, especially the younger generations and able-bodied are continuously leaving the terraces communities in search for lucrative livelihoods in the urbanized town centers of Ifugao and nearby provinces, metropolitans, and even abroad, contributing to the rapid deterioration of IK in the province.

While the international community has recognized the vital role of Ifugao IK in addressing global concerns, especially climate change and food security, the real challenge, however, is in making the owners and managers of this IK – the Ifugaos – once again, accept and make these traditional knowledge systems an integral part of their day-to-day life for conservation to be truly realized. Conservation of these precious IK must have to start with the Ifugao people before local and global communities' campaign to conserve Ifugao IK becomes successful. It is, hence, imperative that the Ifugao Rice Terraces stakeholders must commit to actively implement sundry development interventions to protect, develop and transmit IK to the younger generations before the few surviving IK Custodians will forever be gathered to their forefathers.

### **General Objective:**

To strengthen the utilization of intangible and tangible cultural heritage towards the conservation of the Ifugao Rice Terraces.

### **Specific Objectives:**

- To foster strong cultural identity and national pride

Cultural identity and national pride shall be strengthened through the establishment of a cultural regulatory board, development and promotion of cultural products, institutionalization and development of festivals and events as tools for sustainable tourism

and economic development, and establishment of functional cultural organizations in the municipal and barangay levels.

- To document and publish indigenous knowledge systems, cultural arts and tangible cultural heritage

This shall cover documentations (written and video documentaries) of the history of Ifugao, it's people, culture and land, indigenous knowledge systems and tangible cultural heritage like the tinawon rice cycle, traditional agricultural practices, forest management system, construction of terraced rice fields, stonewalling, stone-tiling, weaving, blacksmith, woodcarving, types of Ifugao houses, traditional judicial system, Ifugao songs, chants, dances, fables and stories, different traditional Ifugao attires, heirlooms and jewelries, and other tangible cultural heritage of the Ifugaos.

- To develop and establish a cultural database system

This seeks for the development of not just a database system utilizing both conventional and electronic storage and retrieval systems but more so, a software will be designed to function as an Ifugao cultural e-library and virtual/e-museum.

- To develop Indigenous Knowledge Systems and tangible cultural heritage as a tool for holistic development

This aims to develop IK and the rice terraces' tangible aspect into viable and sustainable enterprises which are supportive and implementative of cultural, environmental, and agricultural conservation programs.

### **Program Components**

- **Cultural Events and Product Development and Marketing**

This includes the development, marketing and promotion of Ifugao cultural products and cultural events/festivals annually conducted in the provincial, municipal and barangay levels as avenues in showcasing Ifugao arts, games, crafts and products. Through the "Ifugao Certified Product" program of the Provincial Government, cultural products will be promoted and marketed in the national and international market. The establishment of Cultural Heritage Councils at all levels is also encouraged to develop policies and operational guidelines in the implementation of both tangible and intangible heritage development programs.

- **IK Transfer Program Establishment**

This includes the following activities:

1. Conduct of Schools of Living Tradition in the identified World Heritage Sites and Non-World Heritage Sites. This is aimed at reviving the indigenous knowledge of the community not only for tourism purposes, but as a way of transferring it to the younger generation.

2. Institutionalization of SLT in all schools and in the Municipal Local Government Units and Barangay Local Government Units.
3. Conduct skills training on stonewalling and other traditional farming systems, crafts making, theatrical and others
4. Establishment of a community learning center
5. Conduct of experiential learning for students

- **Agricultural Productivity Enhancement**

Enhancing the productivity of the rice terraces is necessary in motivating the farmers to continue tilling and maintaining their rice fields, but it entails the employment of two essential activity components, as follows:

1. Capability Building - Rice terraces farmers will be trained and equipped with necessary knowledge and skills, particularly on organic farming and new and emerging technologies that are doable and beneficial to upland farming.
2. Research and Development – This will explore beneficial uses of agricultural resources to humans, animals and in enhancing soil fertility and agricultural productivity of the rice terraces.

- **Mainstreaming Indigenous Knowledge in Formal Education and Development Agencies**

Vital to the successful conservation of the Ifugao Rice Terraces is the integration of IK systems into the operation process and procedures of development projects being implemented in the rice terraces areas. It is, therefore, crucial to explore the possibility of integrating indigenous knowledge with scientific/modern knowledge and emerging technologies to make it more responsive to drastic environmental, economic and social changes in the province, and help mainstream IK in the academia, and development agencies/organizations, which this component will strive to achieve.

- **Database System Development**

This will basically focus on the development of a database system utilizing both conventional and electronic storage and retrieval systems but more so, it will be a specially and innovatively designed software which will function as an Ifugao cultural e-library and virtual/e-museum.

- **Cultural Mapping**

This includes the preparation of a sketch map or topographic map using available data or GPS to show the locations of rice terraces (world heritage and non-world heritage sites) in

the province, as well as, determine and map out the following: areas where IK systems are still being practiced, locations of surviving IK Holders, areas with SLTs, historical and cultural sites, etc. Likewise, it will also endeavor to produce an inventory of existing tangible and intangible cultural heritage.

- **Information, Education and Campaign / Advocacy Program**

Intensive information drive and advocacy will be undertaken to inform and re-educate the Ifugaos, especially the youth and children about their unique Ifugao identity and positive cultural practices or systems, with the end in view of instilling in them a positive attitude toward their culture, influence positive change in their behavior toward traditional systems, and, eventually, get them to actively support cultural development and rice terraces conservation programs.

- **Stakeholders' Capability Building**

It is crucial that stakeholders of the rice terraces are well equipped with the necessary knowledge and skills to successfully conserve and safeguard the Ifugao culture and the rice terraces. Hence, capability building and enhancement trainings, as well as, field exposures shall be provided to capacitate and empower stakeholders in the implementation and management of IK and cultural development programs and projects.

### **Program Management**

The Ifugao Cultural Heritage Office will spearhead the implementation of this program and shall take charge of the implementation, monitoring and evaluation of all sub-programs, projects and activities. It is responsible in coordinating with the other stakeholders – the LGUs, national line agencies, non-government/civic organizations, people's organizations, and the rice terraces farmers - in carrying out its functions, to include resource support and information dissemination. As the lead office it will conduct regular community consultations, meetings, workshops and other related activities with stakeholders to synergize stakeholders' cultural development programs, implementation schedules, budgets, and technical services, among others to maximize resources and avoid duplicity of work.

## **C.3 ECONOMIC DEVELOPMENT COMPONENT**

### **C.3.1 COMMUNITY-BASED AGRI-INDUSTRY PROGRAM**

#### **Rationale**

The province's economy is propelled by agriculture activities wherein the products of Ifugao are indeed agricultural in nature, reflective of the main economic activity in the area. Based on Bureau of Agriculture and Statistics (BAS) data of 2012, the existing effective agricultural areas devoted to crops totaled to 50,284 hectares. Rice remains the primary crop because it is the staple food in the province and rice cultivation utilizes 17,193 hectares of the province's total land area. Corn propagation, on the other hand, as the secondary crop, uses 24,658 hectares primarily for commercial purposes and animal consumption. The remaining 8,433 hectares are devoted to other seasonal and permanent crops.

Based on the results of series of community consultations conducted in the different Heritage sites including the non-heritage sites, the following issues/problems are needed to be addressed:

1. Lower production of tinawon rice compared to lowland rice;
2. Tinawon cultivation is more laborious and the cost of inputs is higher as compared to production;
3. The presence of giant earthworms and eel or “kiwit” contributes to the destruction of the rice paddies;
4. The entry of golden apple snail “ kohol”, pest and diseases to the rice terraces was also noted to lower harvest; and,
5. Climate Change contributes in the decrease of rice production due to unpredictable weather conditions.

The poverty incidence felt by the people in Ifugao drives them to migrate outside the province or country to look for better job opportunities .Aside from out migration, younger generations also refuse or are not interested to work in the rice fields resulting to the non-cultivation of some terraces areas. Thus, there is a need to train the remaining farmers in the terraces on organic farming practices, and other packages of technologies to help address the problem on high cost of inputs and low production, and uplift the living standards of terraces farmers. In relation to the Agriculture and Fisheries Modernization Act of 1997 concerning food security, poverty alleviation, social equity, income enhancement and profitability, competitiveness, and sustainability, Community-Based Agri-Industry Program is essential and must be implemented to address agricultural problems in the terraces communities.

**General Objective:**

To improve the socio-economic status of all stakeholders through Community Based-Agri-Industry Programs.

**Specific Objectives:**

- To sustain or increase the volume of quality products of high commercial value of “tinawon” from 10-15 tons yearly for international and local markets;
- To expand the development of other potential products, like coffee, root crops and other crops into industrial goods;
- To enhance and sustain major agri-industrial and marketing centers supported by mini-Agri-Industrial Centers;
- To increase productivity of the rice terraces by reconstructing and re-cultivating idle and abandoned rice fields, rehabilitating damaged rice terraces, improving soil fertility, and controlling pests and diseases;
- To train stakeholders on organic farming system towards the preservation of the rice terraces; and,
- To motivate stakeholders to actively participate in planning, managing, implementing and sustaining their livelihood enterprises.

## **Project Components**

- **Product Development and Marketing**

Product Development and marketing is crucial in a highly competitive local and global market. Cheap and locally available resources must be used to produce quality products which are unique to Ifugao ingenuity. It must have competitive edge over other products. Product enhancement training that includes proper labelling, packaging, and designing of the product is, therefore, essential. The label contains the manufacturer itself, contact number, nutritional facts, health benefits, and a brief history of the products. The package will preserve safely the product, and to make the product more attractive and affordable to consumers.

Marketing strategies/systems and support facilities, on the other hand, must be well studied taking into consideration marketing Ifugao products to high-end market outlets nationwide and abroad, and the procurement or development of necessary technology, facilities and equipment for mass production of goods to meet huge market demands. The usual marketing strategies of promotion through trade fairs and advertising, and the conduct of value chain analysis of marketing will continue to be employed. As rice terraces stakeholders, all LGUs and government agencies should be enjoined to actively patronize Ifugao products, specially the Tinawon Rice and Coffee identified as Ifugao's primary commodities. Aside from being served mostly in hotels, inns and restaurants, government offices should, likewise, serve tinawon and brewed coffee and other Ifugao processed goods to office clients and during official functions. While the cost is a little bit higher than the commercial rice and coffee, the quality in terms of nutrition and safety is much better. Hence, there is a need to institutionalize the consumption of said Ifugao prime commodities in government agencies through provincial and municipal Ordinances to ensure government support to business/enterprise establishments and in the promotion and marketing of Ifugao products.

- **Organic Agriculture and Productivity Improvement Program**

Organic Agriculture is a system that relies on ecosystem management rather than external agricultural inputs. It is a system that begins to consider potential environmental and social impacts by eliminating the use of synthetic inputs, such as synthetic fertilizers and pesticides, veterinary drugs, genetically modified seeds and breeds, preservatives, additives and irradiation. These were replaced with site-specific management practices that maintain and increase long-term soil fertility and prevent pest and diseases. Organic Agriculture is adopted as a method to improve household food security and to achieve reduction of input costs. The implementation of the Organic Agriculture Program in the Province is on-going. Trainings on organic fertilizer, pesticides formulation, livestock production, vegetable production and Palay Check FFS on rice using the organic method are being conducted in the different Municipalities. However, there is a need to strengthen those trained farmers, and to expand to other barangays not being reached or covered by the program. This is in pursuant to RA 10068 known as the Organic Agriculture Act of 2010.

- **Research and Capability Building**

This activity will be implemented province-wide to develop appropriate profitable farming technologies which enhance technical and managerial skills of stakeholders. Farmers' Field School on Rice Production must be implemented in the different heritage sites of Ifugao. This method is very important for farmers to learn and discover other practices and see the actual

results of the technologies applied in their field. To maximize the use of the golden apple snail and eel, a training should be conducted on how to ferment and use them as organic fertilizer in the field and as source of protein for animal consumption.

- **Climate Change Adaptation**

This component shall employ the following activities:

- Early transplanting of tinawon rice to increase tillering capability of rice plants and to shorten maturity period. Seedbed preparation should commence on the 2<sup>nd</sup> week of January after the cool month of December since cool conditions suppresses growth and development of young seedlings. Seedlings should be transplanted at the earliest day from seedling emergence at least 7-10 days or until 15-20 days at most. It should be transplanted 2-3 leaf stage. The leaf stage can be indicators for the time of transplanting in cool elevated areas where seedling development is low. Transplant the seedling with the original soil in the seedbed to reduce stress on the seedlings. Seedlings should be transplanted singly in a distance of 30cm x 30 cm or 30cm x 15 cm. Wide row spacing minimizes pest as sunlight can penetrate into the base of the plants. After planting, the field should not be flooded especially at the early stage of rice planting. If possible, irrigation should be intermittent as drier field in the vegetative stage results in better yield. It is during the panicle initiation stage that the field can be flooded.
- Introducing the rice-based cropping system is seen to increase the income-generation potential of the farms. Rice-vegetables, rice-ducks, rice-fish and rice-taro should be tested and promoted. The sorjan cropping system can be adopted in response to farmers' reluctance to periodically drain their fields. Sorjan is a series of sinks or canals alternating with raised beds. Rice or fish usually in sinks and wide-variety of vegetable is grown in the raised beds. The use of a sorjan as one component of integrated rice farming system results in higher and regular income for the farmers.
- Intensify application of organic fertilizer  
Maximizing the use of rice straws and indigenous materials, like azolla, wild sunflower, weeds, etc. found in the rice field can be sources of nitrogen-fertilizer for the plants.

Rice Straws - Instead of burning it, rice straws, when incorporate in the soil, at least, two to three weeks before transplanting, will release nitrogen needed by the young plants. By the time the rice seedlings have been transplanted, the rice straws would have completely decomposed. For a better nutrient management, it could also be combined with other organic materials like chicken manure, green manure from azolla, legumes and sunflower.

Azolla, known as green manure crop or fertilizer for rice plants, produces nitrogen-fertilizer. It can be applied by gathering it from nearby sources, and dried and broadcast it over the entire rice paddies, at least, 20 days before transplanting.

Wild sunflower has a nitrogen content of 2.9 %. It decomposes easily and hastens decomposition of other plants when mixed for composting. Sunflowers can be applied by gathering the top leaves with soft stems about 6-8 inches from the tip, depending on the age of the plant. It needs 15-25 pieces of sunflower tops to fertilize a square meter of the fields. Transplanting of rice panicles should be done immediately after 3-5 days.

### **Project Management Support**

This activity consists of involving concerned local and foreign institutions (GOs and NGOs) advocating the Community Based-Agri Industry programs and in the preparation, implementation and evaluation of the plan. It also includes manpower and other support services. There should be a project monitoring team to facilitate the implementation, review and monitoring of the project.

## **C.3.2 SUSTAINABLE TOURISM DEVELOPMENT**

### **Rationale**

Tourism, which is among the world's largest industries, is an important driver of economic development, both in developed and less-economically developed countries. In 2007, the industry was estimated at USD 7.1 trillion and is predicted to sustain its growth in the future, generating at least one (1) in every twelve (12) jobs or a total of about 262.6 million jobs in 2017 (Edgell, Allen, Smith, & Swanson, 2008). While foreign tourist arrivals in the Philippines is relatively low compared to its ASEAN neighbors, foreign tourist arrivals continued to increase in the country in the past five years, reaching 3.9 million in 2011 (Department of Tourism, 2011). At present, the Philippine Government is endeavoring to achieve its target of attracting ten (10) million foreign visitors by 2016 (SONA, 2012). With this objective of the national government, it is imperative that the Province of Ifugao establishes its tourism development plan for the next decade to maximize the benefits from the industry. This is also to safeguard the IRT World Heritage Site (WHS) destination, which is vulnerable to the adverse impacts of unplanned and uncoordinated tourism development.

Because of the presence of the world-renowned Ifugao Rice Terraces (IRT), which is Ifugao's main tourism resource, the province had been receiving a significant share of domestic and foreign visitors. Generally, tourist arrivals to the province had been increasing over the past ten years from 53,277 in 2001 to 103,470 in 2010. However, it significantly decreased by 38.7% in the last three years from 103,470 in 2010 to 63,381 in 2012, which raises a concern considering that national foreign tourist arrivals steadily increased during the period. Nevertheless, the local tourism industry in Ifugao still constitutes a substantial part of the province's economy.

Drawing from the results of series of consultative meetings with the IRT communities conducted by the ICHO as well as from the monitoring reports of experts from UNESCO and ICOMOS in 2013, the key issues concerning the local tourism industry in Ifugao could be synthesized into one central theme – the public and private tourism stakeholders are generally not operating within the context of sustainable tourism. Overall, the concept of sustainable tourism takes into account and gives equal importance to the socio-cultural, economic, and environmental dimensions of a host destination. It also encourages the active participation of all key stakeholders in tourism development and policymaking. The lack of understanding and integration of sustainable tourism principles by stakeholders in their operations may result in adverse consequences and various setbacks.

**In the case of Ifugao, the identified key issues are as follows:**

- Weak link of tourism and conservation (Conservation Fund)
- Lack of strategy to share tourism benefits equitably to farmers



- Infrastructure (Lack, inappropriate, sporadic, no Ifugao touch)
- Lack of policies concerning tourism infrastructures
- Absence of a more holistic and systematic visitor management scheme
- Weak link with travel intermediaries
- Weak utilization of online channels for promo
- Lack of destination brand
- Lack of public-private partnership (weak tourism councils)
- Limits of Acceptable Change (LAC) not established
- Inadequate knowledge and skills of tourism front liners [heritage interpretation, IKS, (encourage specializations), etc., (annual convention of front liners)].

While the tourism initiatives of various stakeholders are commendable, emphasis has been on tourism as a driver of economic growth, and less attention has been given to the socio-cultural and environmental aspects. Whilst the emphasis has been generally economic, the inequitable distribution of monetary benefits among the stakeholders is identified as a major issue, especially by the IRT farmers who generally expressed receiving almost no direct income benefit from the industry.

To maximize the benefits from the local tourism industry, it is imperative that the tourism public and private stakeholders operate within the context of Sustainable Tourism. This is especially critical considering the characteristic of the IRT destination being a fragile 'living cultural landscape', which is vulnerable to the adverse impacts of unplanned and uncoordinated tourism development. The IRT encompasses tangible and intangible cultural aspects, which require conservation to ensure its sustainability. Sustainable Tourism advances the maximization of socio-cultural economic, and environmental benefits from tourism for the local communities and encourages the involvement of all key stakeholders in tourism development.

Presently, tourism initiatives in the province are fragmented, thus the industry's potential socio-cultural, economic, and environmental benefits to the Ifugao communities has not been maximized.

**Sustainable development (TOEs and gov't tourism programs not explicitly operating within the context of sustainable tourism)**

- Tourism benefits not equitably distributed
- Tourism infrastructure is sporadic and are built not in accordance specifications that jive with the natural environment and the character of the place as a WHS
- Environmental concerns not considered
- Revitalize cultural practices/ should encourage deeper appreciation and understanding of the Ifugao culture
- Commoditization/ commercialization of culture
- Weak involvement and support of key tourism stakeholders in the tourism in tourism development (policy making and implementation)
- Weak provincial tourism office organizational structure for the advancement of sustainable tourism
- Weak linkage of tourism public and private sector
- Farmer's not benefitting
- Lack f strategy to share tourism benefits equitably to farmers
- Enhancement of Capability and knowledge of service providers
- Lack of specializations of tour guides
- Visitor Management
- Lack of a provincial visitor centre (centralized ticketing system, orientation, film viewing, display centre)
- Not maximized used of social media for promo
- Weak link with travel intermediaries
- Fragmented local tourism industry
- Safety measures
- Lack of policies concerning tourism infrastructures
- Lack of brand
- Lack of public-private partnership (weak tourism councils)
- Very limited allocation of public funds for tourism development
- Weak provincial tourism office

**General Objective:**

To develop sustainable tourism in Ifugao that aids in the conservation of Ifugao culture and the Rice Terraces Ecosystem and gives satisfaction to enlightened visitors and empowered host communities.

**Specific Objectives:**

- To develop tourism products that enhances tourism experiences and increase household incomes
- To develop tourism sites, taking into consideration the Ifugao modern and indigenous knowledge, systems and procedures
- To promote and market Ifugao in a responsible and fitting manner
- To develop a strong policy environment that will help a culture of tourism and conservation
- To bring together the World Heritage Site for packaging to maximize resources and harness/spread benefits

- To educate tourism stakeholders on sustainable tourism principles, i.e proper behavior of visitors, visitor management for site managers, and skills improvement of service providers.

### **Strategies:**

- Incentives to the farmers/community through the establishment of a Rice Terraces Conservation Fund
- Centralization/systematic management through linkage and networking of Ifugao World Heritage Sites/GIAHS
- Maximized benefits of tourism through establishment of innovative and entrepreneurial tourism products that are community-based and –managed.
- Strengthening of tourism councils at all levels
- All tourism activities, projects, programs and products should pass a sustainable tourism criteria
- Strengthen public-private partnership

### **Program Components**

- **TOURISM PRODUCT DEVELOPMENT**

To fully harness the benefits of tourism, Ifugao has to develop new, innovative and entrepreneurial tourism products and enhance the existing ones. Products have to conform to the principles of sustainable tourism, going under a set of sustainable tourism criteria. Subjecting tourism products to agreed criteria will ensure that new and existing tourism products are sustainable and aid in the conservation of the Ifugao culture and/or rice terraces eco-system.

- **SITE DEVELOPMENT**

In the context of sustainable tourism, site development must take into consideration the indigenous knowledge, systems and procedures of the Ifugaos, fusing it with modern technology.

This component should also take into consideration the Physical Infrastructure Program of the different municipalities, to address accessibility problems, communications and other basic infrastructures such as water supply, electrification, sanitation and waste management.

Site Facilities Development Program will be a sub-component, which should address specific cluster/site development requirement for tourism development such as the array of accommodation facilities and support infrastructure, site enhancement projects and other tourism products to be established in each cluster/site identified. Land use planning is a critical consideration of this component.

Another consideration for site development is the enhancement of visitors' experience through deliberately giving a sense of place and place attachment in the locality. This could be done by ensuring that the Ifugao culture is manifested either through sculptures, architecture, decorations, sounds, etc.

- **PROMOTIONS AND MARKETING**

The right promotion and marketing program is needed to put across the right message and image of Ifugao. A branding program would help carry the Ifugao identity of excellence and ethnicity, and this could be awarded and earned by products and sites.

- **POLICY DEVELOPMENT AND INSTITUTIONALIZATION**

The formulation of sound policies is needed to put in place the development of sustainable tourism. Guidelines and setting up of parameters will help establish systematic, organized and coherent ways on the management of tourism in Ifugao, which includes the equitable sharing of the economic benefits of tourism and the sensitive area of cultural conservation and commodification, among others.

This component will help create a conducive policy environment and acquire capabilities and resources to implement and manage a coordinated multi-sectoral effort for tourism development including encouraging private sector participation, formulation of codes of conduct and tourism codes. This component will thus be instrumental in creating a culture of tourism and conservation.

- **WORLD HERITAGE SITES NETWORK**

The World Heritage Sites of Ifugao would do well to work together, harnessing their resources to get maximum benefits. These sites are encouraged to specialize in certain forms of sustainable tourism, depending on the resources locally available. The site could use their differences and similarities to create different and complementary tourism products. A holistic experience for the visitors will result from the different tourism products.

A system of centralizing the payment of fees (entrance, heritage, and environmental fees) is needed for the convenience of visitors.

A system too for the networking of service providers, especially tour guides, is needed to establish profit sharing (i.e. Banaue guides to turn over guests to Hungduan guides when in Hungduan).

To help in establishing these networking activities, a Visitor Center is needed. Ifugao should invest on a heritage-cum-visitors center where tourists could see (through exhibits, print and audio-visual materials) how the rice terraces and other Ifugao activities look like during other times of the year and how the World Heritage Sites differ and complement each other. The facility could include an exhibit area, audio-visual room, souvenir shop/corner, heritage museum, tourist information counter, as well as a training center for service providers.

- **TOURISM EDUCATION, RESEARCH AND DEVELOPMENT**

Tourism education is what distinguishes the new forms of tourism (ecotourism, heritage tourism, green tourism, etc) from mass tourism. Both guests and hosts interact and learn from each other.

If Ifugao is to use the principles of sustainable tourism, the tourism stakeholders need to know more about it. As host communities, they should be well versed on the concepts of carrying capacity, limits of acceptable change and other tools.

Using sustainable tourism as an approach would also be a vehicle for educating the tourists on Ifugao culture and conservation. Aside from these, tourist should be informed on appropriate tourism behavior and how they could partner with the locals in the conservation movement.

Research is needed to measure visitor perception, impacts, market/economic studies, willingness-to-pay and other such tools needed to improve and enhance strategies, approaches and programs.

The Heritage Center proposed under the World Heritage Site Network Component could be a tourism education center.

## **C.4 SUPPORT SYSTEM COMPONENT**

### **C.4.1 INFRASTRUCTURE SUPPORT PROGRAM**

#### **Rationale:**

The Ifugao Rice Terraces remains to be unique in its own way, not just for its aesthetic beauty but more so for its great contribution to sustainability of life. The stone-walled rice terraces may have been engineered by the ancient Ifugaos who had no formal education, yet it has captured the attention and curiosity of the world and never ceases to amaze the international scientific community of its complex architectural and engineering system and functionality. This is because the traditional knowledge systems used to build and sustain the rice terraces and its ecosystem are time-proven through trial and error method. It has served as the backbone of the rice terraces through the centuries allowing it to withstand the tests of time. The eradication of these indigenous knowledge systems from infrastructure processes and procedures being done in the terraces areas would only mean the collapse of the heritage property.

Indigenous Knowledge systems, particularly the ones doable and practical in today's modern time, therefore, should be incorporated in all infrastructure support programs. The management of infrastructure programs shall be extended within the community with proper procedures and maintenance founded on the traditional system that built and sustained the rice terraces. The monitoring and evaluation of infrastructure projects must be conducted to make sure it is feasible enough, as to the project location or site, whether the area is in danger zone (prone to sinking or fault lines) before plans and designs are made.

Beneficiaries, Stakeholders, partner agencies and other concerned organizations shall do their part for the improvement and maintenance of all infrastructure projects specially the irrigation system for continuous functionality of the rice fields.

It is also important to note the effects of climate change and how it affects the infrastructure program. It is crucial that a climate change adaptation system be incorporated in infrastructure construction processes and procedures to make infrastructure facilities become more resilient to climatic changes. It is also important to note that a study of climate change aspects needs time, specially for data gathering necessary for a feasibility study. However, awareness of this matter will alert stakeholders to be always prepared for possible circumstances, changes and challenges that may arise in the future.

**Objective:**

To support and maintain effective and efficient infrastructure program utilizing technical design for long-term use, projection and preservation to achieve positive impact.

**Project Component**

- **Tourism Infrastructure Development**

This component shall include construction of infrastructure facilities in support to the development of potential tourist spots and other tourism adventures, as well as, repairs and enhancement of existing tourist destinations to boost tourist arrivals in the province and increase local economy from local tourism industry.

- **Technical Assistance for Infrastructure Development**

Capability building trainings and workshop shall be provided to technical staff and support technical core group. The latter can be formed among involved barangays, municipalities and other organizations to enhance their capacities and capabilities for better delivery of services.

The monitoring and evaluation of infrastructure projects needs the community's assistance, participation and services in assisting assigned technical staff/groups. Consultation meetings and IEC with community-beneficiaries shall be conducted for them to be informed and for their approval.

- **Construction and Rehabilitation of CIS**

This component shall focus on the construction, improvement, development and rehabilitation of Communal Irrigation Systems. Destroyed and leaky irrigations shall be prioritized to maintain sufficient irrigation water supplying the rice paddies and ensure increase in rice production.

- **Restoration of Abandoned and Collapsed RT Stone walls**

This component shall focus on the restoration of abandoned rice terraces and collapsed Rice Terraces stone walls. The restoration of collapsed walls should be done by skilled worker to maintain the originality of the rice terraces stone walls.

- **Other Infrastructure Program**

This shall include the improvement of farm to market roads, the roads interconnecting the heritage sites, footpaths, the installation of tramlines, improvement/construction of more native houses and other helpful facilities that support infrastructure development program and projects.

- **Project Programming and Preparation**

Project proposals shall be submitted for approval especially in selecting major priority projects. Evaluation, validation and assessment shall be undertaken before preparing the technical plans and program of works.

- **Project implementation**

This component shall depend on the inclusion of funded priority projects for infrastructure. Also, this shall depend on the validation and assessment of the project condition.

#### **C.4.2 BUFFER ZONES DEVELOPMENT PROGRAM**

##### **Rationale:**

Rice Terraces exist in most of the Barangays in the Province of Ifugao. The UNESCO inscribed parts of these rice terraces as World Heritage Sites are found in the municipalities of Banaue, Hungduan, Mayoyao and Hungduan. These inscribed rice terraces are referred to as the Core Zones of the rice terraces. The area of the Core Zones follows that of the political boundaries of the barangays. The rice terraces not included as core zones are generally referred to as the Buffer Zones and they mostly surround the Core Zones.

While there is a designated Core Zones and Buffer Zones of the rice terrace on the basis of the inscription, these terraces are mostly contiguous to each other. The contiguity is through terrace to terrace, the irrigation system, and the watersheds (pinugo/muyong, inalahan). These rice terraces are interconnected to each other and share common features that describe the Ifugao Rice Terraces. Moreover, the practices, rituals and agricultural production system are practically similar. The interconnection to each other is critical to the sustainable existence of the rice terraces.

The complexity of the rice terraces is recognized upon the understanding of the interplay of factors that has kept the rice terraces to exist up to the present. The ingenuity of the rice terraces builders has analyzed the interconnection of the physical structures, the rice plant, bio-diversity, water, weather, forest, gravity and other factors and integrating them to develop the sustainable rice terraces ecosystem. Serving as the micro-buffer zones are the areas that surround the rice terraces and paddies including rivers, creeks, gullies, irrigation canals, woodlots (pinugo/muyong).

The designated Buffer Zones play a vital function as to the preservation of the inscribed heritage sites. Preservation programs for the buffer zones ensure the conservation and protection of the core zones. While recognizing the importance of programs to the preservation and conservation efforts for the core zones, these development programs and concepts have to be first exerted to the buffer zones.

##### **General Objective:**

To preserve the World Heritage Sites through the development and implementation of Buffer Zone conservation plans and programs.

##### **Specific Objectives:**

- To develop a program for the micro-buffer zones of the rice terraces in the core zones.
- To develop a program for the macro-buffer zones that surround or in contiguity with the core zones.

- To delineate expansion areas, settlement areas and service centers in the buffer zones and identify appropriate programs and projects that cater to the population requirements.

### **Program Components:**

- **Identification of the Buffer Zones with its Land Use Zoning**

The buffer zones of each municipality shall be identified especially within the four heritage municipalities or barangays bordering the inscribed sites. The basis will be the map prepared by NAMRIA. The barangays that is directly in contiguity with the core zones should be made a mandatory buffer zones, or a part of the buffer zone on the basis of its direct continuity with the core zones.

In the buffer zones, the expansion for settlement areas will be delineated incorporating the adoption of policies/ordinances, or understanding that settlement areas should not include critical watershed areas and the rice terraces vis-a-vis the current situation wherein build-up houses along the roads continue to increase. The zoning will include the delineation of areas for some infrastructure buildup, such as schools, rural health units/hospitals, office buildings among others, not to be constructed within the rice terraces areas.

Identified buffer zones should delineate the critical watersheds and ensure that irrigation canals that cross the settlement areas should be cleared from obstruction at all times to enable irrigation water to flow smoothly from the source to the rice fields.

There is also a need to consult the provinces of Benguet and Mountain Province relative to the inclusion of some part of their territories as buffer zones with the end in view of adopting an agreement allowing some of their areas as part and parcel of the rice terraces buffer zones.

- **Development Plans for the Micro-Buffer Zones within the Core Zones**

Micro-buffer zones within the context of the master plan refer to the areas immediately surrounding the rice terraces. These areas include the woodlots (pinugo/muyong), gullies, creeks, rivers, irrigation canals, the walls of roads and areas below the roads.

The conservation of woodlots immediately above including those that surround the rice terraces is geared at developing them to act as immediate micro-buffer areas. The adoption of a policy that will limit the impact of extremely destructive infrastructure projects in the micro buffer zones, such as the dumping of soil from road widening excavation activities to areas with rice terraces, irrigation canals, and watershed beneath the dumping area shall be pursued.

Conservation programs for the micro-buffers zones, such as enrichment programs for endemic and indigenous flora and fauna aims to minimize the proliferation of invasive flora and fauna species. Thorough studies/research on the impact of new species for introduction prior to actual introduction into the rice terraces will be pursued to determine whether the new species are friendly or destructive to the indigenous plant and tree species. Information drive of the importance of the faunas in the rice terraces and in the watershed eco-system will also be undertaken for the conservation of indigenous fauna species.



In addition, planting of betel nut trees in appropriate areas of the micro-buffer zones will be encouraged to provide additional source of income for the farmers. This is to take advantage of the growing market demand created by the fast increasing number of betel nut chewing people not only in Ifugao but even outside the province.

Prevention of the flow of animal and human excrement directly into the irrigation canals/gullies/creeks/rivers is another concern this program aims to address. While there are no commercial livestock and poultry industry found in most of the municipalities with rice terraces, the accumulated volume of waste from backyard raisers can be disturbing when directly drained into the irrigation canals, creeks, and rivers that supply irrigation water to the rice terraces.

In connection with the infrastructure programs, such as the irrigation system canals, the rehabilitation of the gullies and creeks for equal water distribution during the rainy season shall be given attention. This is critical to minimize the volume of flow of water in one area that sometimes causes slides and wash out of rice terraces walls.

Promotion of traditional agricultural practices, such as the production of vegetables at the outer side of the dike (in'hoh/inhok) will be revived or strengthened.

- **Identification and improvement of the primary or critical watersheds in the buffer zones as component of the Core zone conservation approaches.**

Critical to rice farming and prevention of rice terraces destruction is the sustainable availability of irrigation water. Critical or primary watersheds should be identified in each of the buffer zones. These identified watersheds should be delineated with the appropriate policy support to conserve them. It will also be of great importance for identified primary watersheds to be enriched with indigenous and endemic watershed tree species.

As a watershed area, there should be a collaborative efforts or system among the Provincial, Municipal and Barangay LGUs to ensure the province's watersheds' conservation and protection with the barangay LGUs to take the lead role in this undertaking. The PLGU and MLGUs, on the other hand, will provide the necessary support and assistance. Every buffer zone program shall identify and delineate the primary or critical watershed areas.

- **Identification of an area for plantation of trees for timber needs**

Trees are an important commodity to the Ifugaos. Its importance is in its necessity for house construction materials, wood carvings and firewood. The continuous construction of new and modern houses require more lumbers for construction materials. One of the major indigenous products of the Ifugaos is wood-carved products. Wood carving industry is a major source of income not only for the carvers but for the traders and those that are hired to work on the finishing touches of the products. Likewise, fire-woods are still being utilized as fuel for cooking among the Ifugaos, especially with the increasing price of Liquefied Petroleum Gas (LPG), and particularly in the far-flung villages.

Consistent with the program of conserving the primary watersheds is the identification of an area for planting of identified timber trees. Identification of the timber plantation area should be in consultation with the community to draw up a system for the utilization of trees, especially if the trees would be planted in communal lands. This program can be done in collaboration with DENR on their

Forest Management Project (FMP), an approach that can be adapted in the micro-buffer zones of core zones where an area is identified for timber tree plantation.

The delineation of a planting area is to prevent the integration of these timber tree species in the watershed areas to prevent the destruction of indigenous water-bearing trees during the harvest of the timber trees. Likewise, the development and establishment of a timber tree plantation in buffer zones (including the micro-buffer zones) will prevent or minimize the harvesting of indigenous and endemic trees in the primary watersheds.

- **Development program for the non-World Heritage municipalities as service and commercial centers, industrial areas and major agricultural production areas.**

Vital to the conservation of the rice terraces is the formulation of development plans for the municipalities of Lagawe, Lamut, Aguinaldo and Alfonso Lista as agricultural production areas, industrial/commercial areas, and settlement expansion areas. The development of the potentials of these municipalities into income-generating opportunities will minimize the impact of overcrowding in the core and buffer zones and provide support in terms of agricultural production and market linkages to the other provinces. The development of these municipalities as agro-industrial hubs will also minimize the impact of reduced farm labors as job opportunity created by these programs will prevent outmigration among the Ifugaos to other places. Proximity to their home-terraces communities will increase the probability of them returning home to work in the rice terraces during every agricultural cycle as compared to having jobs in the NCR or other regions.

To enhance development in the municipalities of Lagawe as the service center of the province, Lamut as the gateway to Ifugao and market link to the province of Nueva Vizcaya, Alfonso Lista as the trading post for agricultural products and market link to the province of Isabela, and Aguinaldo as the major animal production area and has the potential for development as timber wood production area in the province will support buffer zones development and ensure the conservation of the rice terraces core zones. These municipalities will be a major livestock, poultry and fishery production areas for semi-commercial and commercial production. It will be the areas for large scale infrastructure requirements of the province such as industry, sports complex, high rise buildings, and tertiary hospitals, among others.

- **Rice Terraces and Cultural Preservation Programs for the Buffer Zones**

The critical role that the rice terraces in the buffer zones play in the conservation and preservation of the core zones warrants a program towards its own preservation. The programs aside from those identified under the buffer zones should be modeled to the activities and programs of the core zones. The schedule of the intervention will be distributed in the buffer zones in the span of the 10 years. The programs will be developed per municipalities for inclusion in their annual investment plans. Likewise, the adaptation of the “Chawwa”/”Umapya” System, “Bachang”, and Adapt-a-Terrace Program, will be evaluated, developed or modified to address current situations in the terraces areas.

### **Program Management**

The BLGU and MLGU in coordination and collaboration with the PLGU shall be responsible in the project management. The concerned BLGUs and MLGUs shall provide the needed data and information relevant to their land use plan, zoning plans, pertinent ordinances and relevant

investment plans concerning the aforementioned program components. The PLGU through its rice terraces development program implementing office, ICHO shall consolidate and prepare or assist in the formulation of programs, proposals, and documents for the identified program components.

The programs and projects to be implemented by the BLGUs, MLGUs and PLGU, respectively, as well as, lead implementer and support institution for each program shall be identified. In the provincial level, ICHO will be the over-all coordinator for all programs being the Provincial Government's implementing arm for rice terraces and cultural conservation programs in the province. In the municipal and barangay levels, the line of coordination is required to be strengthened between and among the MLGUs, BLGUs and the PLGU to include the appointment and designation of focal offices/staff as the counterparts of ICHO in the municipal and barangay levels.

The PLGU, MLGUs and BLGUs shall seek assistance from the National Government Agencies, private corporations, Non-Government Organizations, and International Institutions for the technical and financial requirements of the buffer zone development programs and projects.

### **Program Benefits:**

#### **Outcome:**

1. Macro Buffer Zone Development Plan/Programs
2. Micro-Buffer Zone Development Plan/Programs
3. Development Plans for settlement expansion areas, industrial areas, agricultural production areas, especially in the low-lying areas, and infrastructure build-up areas

#### **Impact:**

1. Rice Terraces Buffer Zones conserved and utilized sustainably;
2. Core Zones are conserved and protected;
3. Developed terraces communities and enhanced development of urbanized town centers in the province; and,
4. Improved socio-economic status of terraces communities and other non-terraces communities in the province.

## **C.4.3 INSTITUTIONAL AND POLICY SUPPORT DEVELOPMENT PROGRAM**

### **Rationale**

Institutionalization of cultural development programs in all stakeholders' structural organizations at every level is crucial to the success of the implementation of the conservation plan for the rice terraces and culture. This development component focuses on lobbying with the various stakeholders to create and institutionalize a cultural heritage structure in their respective organizations and agencies. The community-based stakeholders with existing cultural heritage structures, like the Rice Terraces Owners' Organization and other similar organizations need only to be strengthened as potential partners in the community level. Formulation of policies putting in place/outlining parameters for implementation of development projects and activities in the rice terraces areas is of utmost importance to regulate negative impact of development on the core

zones. It is also imperative that a monitoring and evaluation system be developed to aid stakeholders in determining the efficiency and effectiveness of developmental interventions and as a basis to make necessary changes to improve programs and strategies unresponsive to the situation or identified problems affecting the rice terraces and communities.

### **Lists of Existing and Functional Civic Organizations Supporting Cultural Heritage Conservation**

As of December 2013, there are 18 existing non-government, People's Organization, RTOOs and Cooperatives in Ifugao that are operating province-wide or community-wide, whose services are directly or indirectly helping in the preservation and restoration of the rice terraces. Below are the tabled lists of said organizations.

**Table 6: List of NGOs and POs**

	<b>NAME OF ORGANIZATION</b>	<b>OFFICE ADDRESS</b>	<b>CHAIRPERSON/PRESIDENT</b>
1	Federation of Responsive Associations for Magat Ecology (Frame) Inc.	DENR Compound, Bannit, Payawan, Lamut, Ifugao	LEONORA C. MALAMBOT
2	Ifugao Federation of Senior Citizens	Captiol Compound, Lagawe, Ifugao	MIGUEL D. DIMALNAT, SR.
3	Ifugao Network of Dev't. NGOs & POs	Lamut, Ifugao	NENITA T. FONTANILLA
4	Ifugao Retirees Association Inc.	Lamut, Ifugao	RAYMUNDO BINBINON
5	Integrated Bar of the Philippine	Lamut, Ifugao	ATTY. LYNDA B. CHAGUILE
6	Malnutrition Alert Ifugao (MAI)	Lagawe, Ifugao	DR. FELIXBERTO D. AYAHAO
7	Ifugao Federation of Persons with Disabilities (PWD)	Lagawe, Ifugao	ARIEL SUMEG-ANG
9	41 CD Maharlika Neighborhood Association and Multi-Purpose Cooperative, Inc.	Lagawe, Ifugao	RAYMUNDO BINBINON
15	Noah's Ark Ministries	Ligligan, Viewpoint, Banaue, Ifugao	MICHAEL COLUMNNA
16	Muaythai Association of the Phil.- Ifugao Chapter	Poblacion South, Lagawe, Ifugao	JOEL TULTOG
17	National Auxilliary Chaplaincy Phil. Inc.	Lagawe, Ifugao	REV. JOHNNY C. TILLAY
18	Ifugao Federation of Overseas Filipino Workers	Hingyon, Ifugao	DELFIN BULIGON

**Table 7: List of Rice Terraces Owners Organizations in World Heritage Sites**

Municipality	Name of Organizations
Banaue	Bangaan Conservation Expert Farmer's Organization
	Batad Farmer's Organization
	Tukbuban Farmer's Association
Mayoyao	Bongan Farmer's Organization
	Chaya Farmer's Organization
	Chumang Farmer's Organization
	Mayoyao Proper Farmer's Organization
Hungduan	Maduntog Irrigator's and Farmer's Organization
	Baang Terraces Owner's Organization
	Hapao Irrigator's (Minaangan) Producers Association
	Nunggulunan Farmer's Organization
Kiangan	Julungan Organic Rice Terraces Farmer'
	Nagacadan Farmer's Organization

Source: ICHO, Lagawe, Ifugao

**Table 8: Private Sectors (Operating Cooperative), Ifugao: As of December 2013**

Name of Cooperative	Location/Address	Type	Contact Person
<b>AGUINALDO</b>			
Aguinaldo Marketing & Dev't Cooperative**	Ubao	MP-Agri	Alma Maguiwe
Aguinaldo Pomhochan MPC (APO MPC)**	Poblacion	MP-Agri	Maribel Latiyan
Aguinaldo Teachers & Employees Credit Cooperative	Aguinaldo Central School	Credit	Paquito Omanhan
Butac Multi-Purpose Cooperative	Butac	MP-Agri	Marcos Latugan
To-Ayong Bunag MPC	Butac	MP-N-Agri	Dominga Taluyan
<b>ALFONSO LISTA</b>			
Alfonso Lista Development Cooperative**	Poblacion	Credit	Irene Prudenciano
Alfonso Lista Government Employees MPC	Municipal Hall	MP-N-Agri	Jupiter Agbayani
Evergreen Multi-Purpose Cooperative	Namillangan	MP-Agri	Ricardo Allig
Saranay Multi-Purpose Cooperative	Catholic Rectory Cpd.	Credit	Margarita B. Ngittit
SRT Alfonso Lista Coop of Ifugao	Potia	MP-Agri	Judith F. Gaffud
United Family MPC	Santa Maria	MP-Agri	Margarita Uyan
<b>ASIPULO</b>			
Hojap Multi-Purpose Cooperative**			
Panubtuban Multi-Purpose Cooperative			
<b>BANAUE</b>			
Banaue Savings and Development Cooperative (BSDC)**	Banaue	Credit	Andres Dunuan Sr.
BNHS Teachers MPC	BNHS Ducligan	MP-N-Agri	ablo C. Biniahan

Ladies Savings & Credit Cooperative (LSCC)**	Imbatugan	Credit	Bonifacia Yapyapon
Rice Terraces Farmers MPC	Poblacion	MP-Agri	
Savings & Loans Group MPC	Paypayan, Bocos	MP-N-Agri	Julie Tung-al
Tam-an Multi Purpose Cooperative**	Tam-an	MP-Agri	Jose Tomas Sr.
Unique Savings & Credit Cooperative**	Poblacion	Credit	Carolina Dominong
<b>HINGYON</b>			
Piwong Multi-Purpose Cooperative	Hingyon	MP-Agri	Marcelina Lunag
<b>HUNGDUAN</b>			
Hapao Multi-Purpose Cooperative**	Hungduan	MP-Agri	Angelina Gano
Hungduan Employees Multi-Purpose Cooperative	Poblacion	MP-N-Agri	Florence Gano
Hungduan Micro Finance Development Cooperative**	Lubina, Hapao	Credit	Andres Ordillo
<b>KIANGAN</b>			
Kiangan Community Multi-Purpose Development Cooperative (KCMDC)**	Poblacion	MP-Agri	Julienne Dumangeng
Kiangan Municipal Employees MPC	Mun. Gov't Cpd., Poblacion	MP-N-Agri	Edwin Dincog
<b>LAGAWE</b>			
DILG-Ifugao Multi-Purpose Development Cooperative	DILG-Lagawe	MP-N-Agri	Carol C. Cabanayan
IFELCO Employees Credit Coop**	IFELCO Office	Credit	William Cacliong
Ifugao Federation of Development Cooperatives (IFEDECO)	Lagawe	Federation	Winnie Ladimo
Ifugao Global Entrepreneurs MPC (IGEMCO)**	Rizal Avenue, Poblacion	MP-N-Agri	Godfrey Dominong
Ifugao Multi-Purpose Development Cooperative**	Poblacion East	MP-N-Agri	Flora Guyguyon
Ifugao Public Servants MPC**	Lagawe	MP-N-Agri	Virgilio T. Marquez
JL Life Saver MPC	Poblacion East	MP-Agri	
Lagawe Multi-Purpose Development Cooperative (LMDC)**	Lagawe	MP-N-Agri	Evangeline N. Jasmin
Lagawe Public School Teachers & Employees Credit Coop	Lagawe	Credit	Simplicia Espedido
Lumingay Savings & Credit Cooperative	Poblacion North	Credit	Marjorie Malingan
Natuwolan Credit Cooperative	Natuwolan, Cudog	Credit	William Bolla
<b>LAMUT</b>			
Ifugao Countryside Development Cooperative (ICDC)	DAR Provincial Office	MP-Agri	Leonor Bascos
ISCAF Multi Purpose Cooperative	Nayon	MP-Agri	Judito S. Latap
Lamut Grassroots Savings & Development Coop**	Lamut	MP-Agri	Conchita Gamboa

Talipa Multi Purpose Development Cooperative	Pugol	MP-Agri	
<b>MAYOYAO</b>			
Goodwill Multipurpose Cooperative	Bato-Alatbang	MP-N-Agri	Sylvia Bakichan
Mayoyao Environmental Savings & Development Coop	Balangbang	MP-N-Agri	Adela Banawan
Mayoyao Micro Finance Cooperative	Bato-Alatbang	Credit	Marie Grace Lumayna
Solid Rock Multi Purpose Cooperative**	Bato-Alatbang	MP-Agri	John L. Martin
<b>TINOC</b>			
Kalanguya Cultural Community MPC**	Poblacion	MP-N-Agri	Epifania Binwihan
Sto. Niño Development Cooperative	Tabuyan, Poblacion	Consumers	
Tinoc Community MPC	Poblacion	MP-N-Agri	Agustin Calyaen
Tinoc District Hospital MPC	Panta, Impugong Tinoc	MP-N-Agri	Victor Bandao

**\*\*Millionaire Cooperatives**

Source: CDA, Lamut

### **General Objectives:**

To institutionalize and mainstream rice terraces and cultural conservation programs in all stakeholders' development plans.

### **Specific Objectives:**

- Lobby for the creation and institutionalization of cultural heritage units/structures in the different organizational levels of government and non-government organizations;
- Set-up effective management systems and linkages;
- Strengthen Rice Terraces Organizations, stakeholders and other related institutions who will undertake responsibilities in the restoration programs;
- Ensure the enactment and implementation of laws and policies that are supportive to the conservation of the rice terraces and culture at all levels.

### **Program Component**

#### **• Community Organizing and Capability Building**

This program strategy is aimed at building the capability and capacity of barangay LGUs and people's organizations to become conduits and partners for local, national and international programs and undertakings. The program strategies are as follows:

- Conduct of community organizing activities in areas that are not yet organized;

- Assess the functionality of existing RTOOs, Farmer's Organizations and other related organizations and strengthen non-functional organizations by providing technical assistance through the conduct of organizational and or managerial training seminar to non-functional organizations;
- Strengthen linkages with all stakeholders.
- **Institutionalization of the rice terraces restoration and conservation, and cultural heritage preservation programs.**

The Ifugao Cultural Heritage Office (ICHO) shall be the implementing arm for the programs and policies and projects related to tourism and culture in the province. It shall endeavor to lobby with all stakeholders for the institutionalization of cultural heritage conservation programs and the creation of cultural heritage structures, including organizational positions, to implement cultural heritage development programs on their end.

- **Policy Development and Advocacy**

National laws such as IPRA law and local ordinances and all relevant policies geared towards the restoration and preservation of the rice terraces and culture shall be enacted, formulated, advocated and implemented. The policy directions to be adopted are as follows:

- Full implementation of the IPRA law in the rice terraces communities;
  - Pursue the adoption of a national legislation declaring the world heritage property as an environmentally critical area;
  - Enactment and implementation of laws and policies that are related to the conservation and preservation of the rice terraces and culture, as follows:
    - a. Implementation of the Ifugao Tourism and Cultural Codes;
    - b. Implementation of Community-Based Land Use and Zoning Ordinance in all rice terraces communities;
    - c. Enactment of policies related to rice terraces restoration and cultural preservation that includes but not limited to the following:
      - A provincial ordinance granting special leaves to government employees who are rice terraces owners in the province
      - Barangay ordinance synchronizing rice planting in the rice terraces communities
      - Implementation of Infrastructure Guidelines for the Rice Terraces Heritage Sites in Ifugao.
- **Capability Building and Empowerment**

Trainings and seminars on management, human resources, bookkeeping and other relevant trainings shall be conducted to community-based civic organizations to equip them with the necessary technical-know-how and skills in running, operating and managing their organizations, especially in the implementation and management of cultural development programs and projects in their communities. The Provincial Government through ICHO in partnership with other stakeholders concerned shall continue to provide technical assistance and enhancement trainings/seminars until trained civic organizations are fully empowered to run their own organizations.



## PART III

### PLAN IMPLEMENTATION AND FINANCING

#### A. PLAN IMPLEMENTATION

##### A.1 Organization and Management

Pursuant to the mandate of the Ifugao Provincial Government from the President of the Republic of the Philippines for the over-all management and coordination of the Ifugao Rice Terraces Restoration and Preservation Program, the organization and management structure shall proceed from the Office of the President to the Provincial Government down to the municipal and barangay local government units as prescribed to the Local Government Code through special dedicated structures at each level as shown in **Diagram 9**. A national support body and office shall assist the Ifugao Provincial Government for the restoration and preservation program pursuant to the commitment of the National Government to its international obligation for the preservation of the World Heritage Sites.

Lead actors for the restoration and preservation of the rice terraces shall be the Ifugao households in the rice terraces communities themselves. Over-all management and coordination shall be the responsibility of the Ifugao Provincial Government through the Ifugao Cultural Heritage Office (ICHO). Municipal and Barangay LGUs shall ensure that development efforts in Rice Terraces conservation in their respective areas of responsibility are consistent with the Master Plan. Financial and technical support of the National Government Agencies and all concerned local, national and international sectors whether public or private.

The Ifugao Cultural Heritage Office (ICHO) which is currently a Division under the Provincial Planning and Development Office (PPDO) shall spearhead the coordination and implementation of the master plan. It is currently headed by the Project Coordinator. A Provincial Culture and Tourism Department is being proposed in the 2015 Re-organizational Structure. **Diagram 10** presents the current structure of the ICHO and **Diagram 11** shows the Functional Chart.

##### A.2 Roles of Stakeholders

Major stakeholders and their roles are as follows:

##### Ifugao Rice Terraces and Cultural Heritage Office (IRTCHO)

The office is officially linked with the regular structures and departments of the Provincial Government and coordinates the program. The Provincial Government as main coordinator of the program shall provide its own local counterpart to ensure the realization of the program.

**Municipal Program Management Committees**

At the municipal level, the Municipal Program Management Committee under the Municipal Mayor shall assist the Provincial government in the management and coordination of the master plan in the municipality. It shall establish and mobilize Technical work groups as appropriate to assist the ICHO and the barangays.

**Barangay Program Management Committees**

At the level of the barangay, the Barangay Program Management Committee under the Punong Barangay shall manage and coordinate the operationalization of the master plan of the barangay. It shall assist the Municipal Program Management Committees and the ICHO in the management and coordination of the master plan.

**Agro-eco District Conservation and Management Organization**

An agro-eco district is a well defined micro watershed hosting terraces clusters. It may cover a village constituting a sitio in a barangay or expand to an area covering more than one barangay. In case of the latter, the agro-eco district shall be under the municipal government. Through the Institutional Development Program, the agro-eco district shall be instituted and capacitated into conservation and management organization comprising all stakeholders in the district.

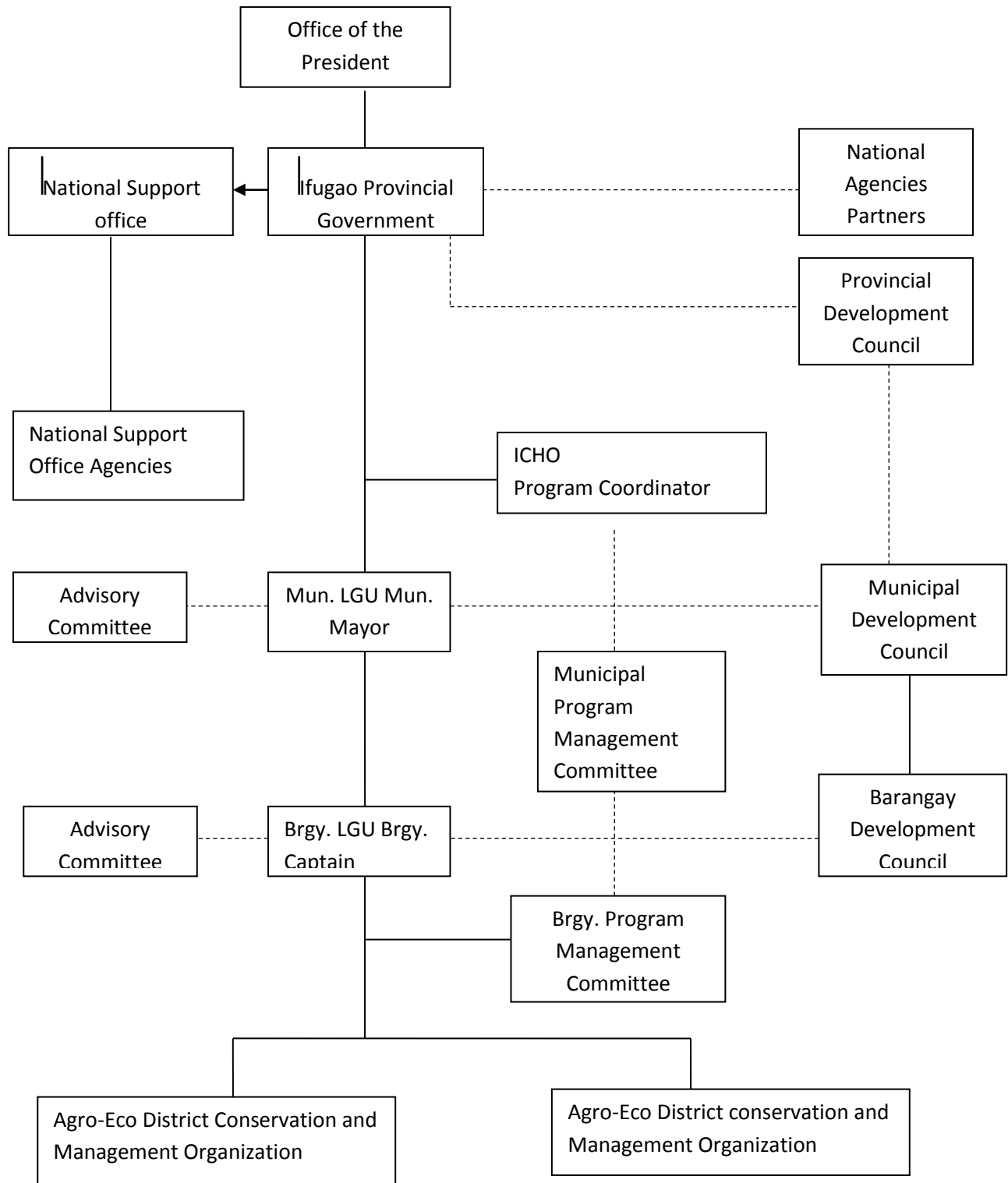
**Advisory Committees**

Advisory committees, constituted from the program stakeholders and program partners shall advise the ICHO, the Municipal Program Committees and the Barangay Program Committees of the management and condition of the master plan.

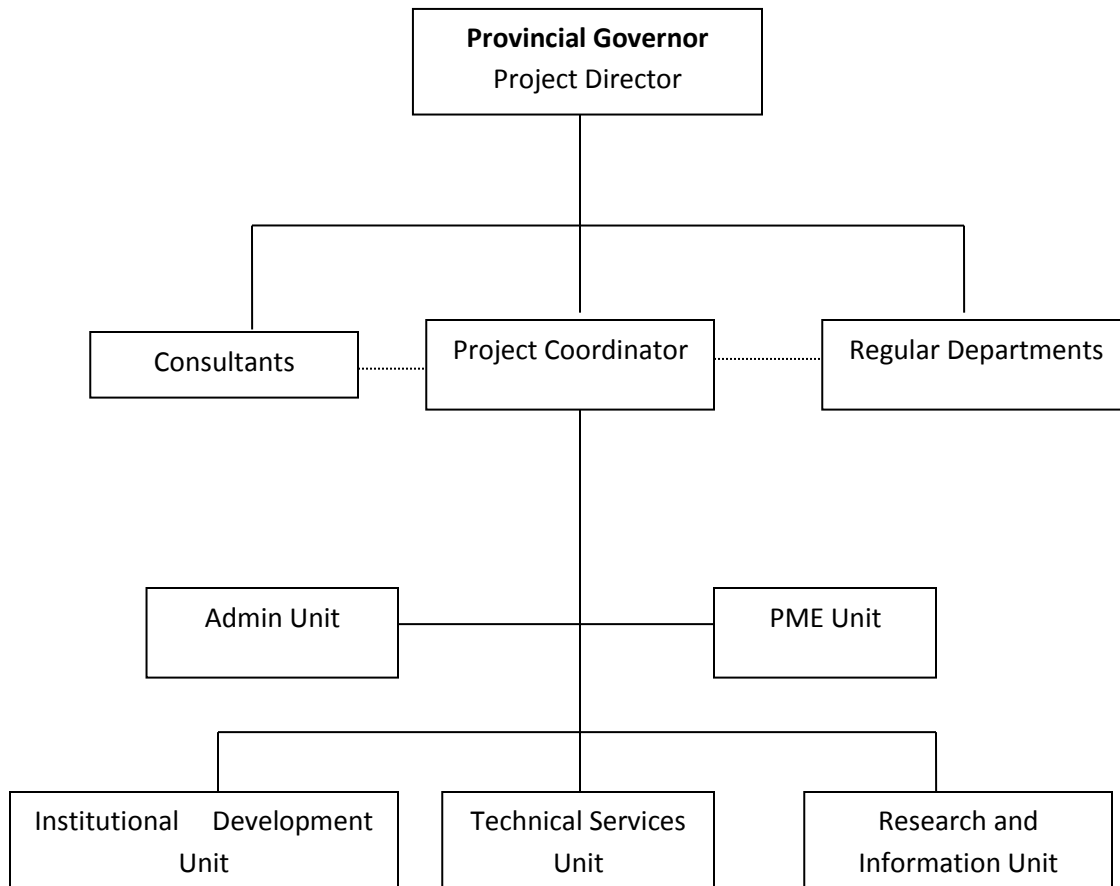
**National Support Body and Office**

The National Support Body shall be an-inter agency body with appropriate office or office serving as a secretariat dedicated either solely for the rice terraces or for all Heritage Sites in the country as the case maybe. It may take the form of cabinet cluster, Authority or Commission. The Secretariat can be an appropriate national agency or separate office established for the purpose.

The National Support body and office shall serve to operationalize the national government's commitment for the restoration and preservation of rice terraces through its support to the Ifugao Provincial Government. It shall mobilize policy, financial and technical support to the program.

**Diagram 9: PROGRAM ORGANIZATIONAL STRUCTURE**

**Diagram 10: ICHO ORGANIZATIONAL STRUCTURE**



**DIAGRAM 11: ICHO FUNCTIONAL DESCRIPTION**

<b>OFFICE UNIT</b>	<b>FUNCTIONS</b>
<u>Project Director</u>	<ul style="list-style-type: none"> <li>➤ Provides over-all management directions and strategies to ensure attainment of project goals and objectives</li> </ul>
<u>Project Coordinator</u>	<ul style="list-style-type: none"> <li>➤ Supervise/coordinates the planning design and executions of irrigations, roads, agricultural and forestry projects.</li> <li>➤ Coordinates/undertakes institutional efforts, livelihood enhancement and hazard management.</li> <li>➤ Conduct monitoring and evaluation</li> <li>➤ Ensure efficient administrative support services</li> </ul>
<b>Project/Planning and monitoring Evaluation unit</b>	<ul style="list-style-type: none"> <li>➤ Design/plans an effective planning, monitoring and reporting system</li> <li>➤ Evaluate projects to conform to plans and specifications</li> <li>➤ Prepare regular and special reports on the project</li> </ul>
<u>Administrative Unit</u>	<ul style="list-style-type: none"> <li>➤ Provide administrative support to all units with respect to finance, communications, logistics, security and personnel</li> </ul>
<b>Research and Information Unit</b>	<ul style="list-style-type: none"> <li>➤ Generates/compiles. Disseminates information or data regarding the project, the beneficiaries, implementers and other stakeholder.</li> <li>➤ Analyzes/study problems encountered in the process of project implementation and make recommendations</li> </ul>
<b>Community/Institutional Development Unit</b>	<ul style="list-style-type: none"> <li>➤ Conduct management/organizational Training and other capability building activities</li> <li>➤ Resolves right-of-way problems</li> <li>➤ Organizes beneficiaries and provides other community organizing services</li> </ul>
<b>Technical/Engineering Services unit</b>	<ul style="list-style-type: none"> <li>➤ Project identification and validation of irrigation, roads, forest resource development and agricultural projects</li> <li>➤ Prepares/designs plans of projects as well as schedules and other parameters of implementation</li> <li>➤ Implement/execute projects according to plans</li> </ul>
<b>Regular Department Concern (Implementing Unit)</b>	<ul style="list-style-type: none"> <li>➤ Undertake direct supervision of projects by providing technical services as to planning execution.</li> </ul>

## B. MONITORING AND EVALUATION

Plan Monitoring and Evaluation shall be the primary function of the Ifugao Cultural Heritage Office (ICHO) with assistance from the PPDO and MPDOs. Implementing agencies however shall do monitoring at their respective levels. The attached **logical framework and monitoring matrix** shall be the primary basis for monitoring and evaluation.

The following shall form part of plan M and E:

**Social Validation** – It should be scheduled within the first semester after finalizing the plan to assess the social and cultural acceptability of the plan especially to areas where sensitive cultural practices is still active. This is very important in project implementation to get the full support of the community. This will be done as needed throughout the time duration of the plan.

**Technical Evaluation** - The Technical Working Group (TWG) shall do regular annual evaluation of the plan and assess progress indicators as defined in the logical framework. Parameters that are already obsolete or not valid should be changed with appropriate indicators in measuring the attainment of objectives. Monitoring and evaluation tools or instruments shall be developed by the TWG to aid in measuring the efficiency and effectiveness of interventions and services. Monitoring tools will determine whether administrative and technical services are efficient in addressing challenges confronting the rice terraces. Evaluation tools, on the other hand, will determine the effectiveness of programs, projects and activities in the resolution of rice terraces conservation concerns. Results of monitoring and evaluation shall be used to correct strategies not responsive to the identified problems and improve efficiency and effectiveness of services and interventions.

Project interventions by other agencies and organizations that were contributory in attaining the objectives of the plan will also be studied by the TWG and make recommendations on how to integrate them into the plan and get them involved in the implementation of the plan.

**Consultation Meetings** - Semi-annual stakeholders' consultation meetings will be conducted to present status and progress reports, and to provide an avenue for a more in-depth discussion on issues and concerns. Recommendations and suggestions during consultation meetings will be thoroughly documented. Adequate time will be allocated to adjust strategies and interventions of programs and make appropriate actions for the following semester.

**Midterm Review** – This will be conducted on the first semester during the 6<sup>th</sup> year of implementation. Local and national professional experts on infrastructure and architectural or spatial designing shall be employed to provide technical assistance in evaluating the overall progress and immediate impacts of the program. This will provide a balance evaluation of attaining progress and justifications in adjusting the parameters of the program objectives.

**Final Evaluation** – This will be conducted on the 2<sup>nd</sup> semester in the last and final year of implementation. The evaluation will be done by external evaluators with local counterparts. A comprehensive assessment report will be prepared and presented to all the stakeholders.

## C. FINANCING

Funding for the implementation of the Master Plan shall come from regular local government funds specifically from the 20% Development Fund. Foreign funding, national government funding and other non-government organizations funding may be availed through the preparation and submission of proposals.

At present in the Provincial Government, the Rice Terraces Conservation Fund is established from the income being generated from the operations of the Ambangal Mini-Hydro Power Plant. A second Mini-Hydro (Likud MHPP) is under construction.

### C.1 Strategies for Financing

Financing the plan shall include the following strategies:

- Explore private sponsorships like corporations, cooperatives and private individuals and entities;
- Use of the 70% of the DRRM Fund in all LGU levels to include funding Disaster Risk Reduction Management and Climate-Change Adaptation Program in the Rice Terraces Communities;
- Advocate for the “chaw-wa” system in other municipalities with rice terraces (MLGU will fund the restoration and cultivation and keeps the harvest for a certain number of years depending on the expenses and years of abandonment);
- Lobby for more local enterprise development projects, like the Ambangal MHPP, where income from the enterprise funds rice terraces preservation projects;
- National agencies and DA to fund rehabilitation and construction of more small/communal irrigation systems (most abandonment are due to lack of water reaching the rice paddies);
- Explore the establishment of conservation fund at the level of the municipalities (ordinances/local policy on collection of environmental fee and conservation fee from tourists and businesses operating in the area that benefits from tourism); and
- Project development and project proposal preparation for submission to funding agencies.

### C.2 Investment Program and Budget Estimates

Along the 4 major components of the IRTMP, activities and corresponding output indicators were identified (**please refer to attached Investment Program**). Needed investments totals seven hundred forty-nine million two hundred forty nine thousand two hundred pesos (P 749,249,200.00) broken down as follows:

COMPONENTS	Y1 (2015) Target	Y2 (2016) Target	Y3 (2017) Target	Y4 (2018) Target	Y5 (2019)Target	Y6-10(2020-2024)	GRAND TOTAL
Component: Bio-Physical Component	11,395,000	15,465,000	14,650,000	14,095,000	14,225,000	34,152,500	103,982,500
Component: Socio-Cultural Component	9,790,000	10,760,000	11,440,000	10,860,000	11,010,000	64,925,000	118,785,000
Component: Economic Development Component	8,052,500	12,546,400	14,574,600	10,412,200	7,232,200	25,518,800	77,336,700
Component: Support System Component	68,735,000	87,185,000	61,625,000	48,600,000	42,550,000	140,450,000	449,145,000.00
<b>IRTMP 2015-2014 GRAND TOTAL</b>							<b>749,249,200.00</b>

**PART IV****ANNEXES****A. LOGICAL FRAMEWORK AND MONITORING AND EVALUATION FRAMEWORK**

	<b>Narrative Summary</b>	<b>Indicator (OVI's)</b>	<b>Data Source (MOV)</b>	<b>Data Collection Methods</b>	<b>Frequency of data collection</b>	<b>Unit in Charge</b>
<b>IMPACT</b>	Strengthened cultural identity					
	Food sufficiency and poverty reduced	Zero Households who are food poor and households who are considered poor				
<b>GOAL</b>	IRT remains to be a living cultural heritage	RT remains in the World Heritage List	List of world heritage sites	Google Search, Social Media	Annual	ICHO
	Restored and Sustained IRT	Municipalities with preserved/ sustained RT	Inventory of RT per Barangay/ sitio with indicated area of RT	Direct observation, Collection of MAO Reports	Annual	PAENOR, ICHO
<b>General Objectives</b>						
	1. Balanced Ecosystem	1.1. Enriched and conserved biodiversity	- Inventory of Flora and Fauna - List of restored species previously endangered	Collect reports of PAENRO, DENR, ICHO, MLGUs	Annual  Annual	ICHO  PAENRO



		<p>1.2. Reforested and preserved watershed areas</p> <p>1.3. RT areas, other production areas, protected and settlement areas properly identified and delineated</p> <p>1.4. Resilient rice terraces communities</p>	<p>- List of reforested areas (PAENRO, DENR, ICHO, IFSU)</p> <p>- List of protected/WS areas/NIPAS and DENR report</p> <p>IRT community land use plans, CLUP, Zoning ordinances</p> <p>Report of BDRRM, MDRRM, and PDRRM</p>	<p>Inventory</p> <p>Collect BDRRM, MDRRM and PDRRM reports</p>	<p>Annual</p> <p>Semi-annual reports</p>	<p>PPDO</p> <p>PDRRMO</p>
	2. Conserved Culture	<p>2.1. Strengthened tangible and intangible cultural heritage</p> <p>2.2. Rice terraces and cultural conservation programs institutionalized and maintained</p>	<p>Studies and Researches</p> <p>Development plans of stakeholders</p>	<p>Collect of inventories</p> <p>Collect inventory</p>	<p>Annual</p> <p>Annual</p>	ICHO
	3. Sufficient Income of RT Farmers	3.1. Income of Rice Terraces farmers increased to above				

		the poverty thresh hold	Survey Results	Collect survey results	Annual	ICHO
		3.2. Increased number of economic activities for RT farmers				
	4. Adequate Support Systems for IRT	4.1. In-placed support systems	Reports	Collect report	Annual	ICHO
<b>Specific Objectives</b>						
<b>BALANCED ECOSYSTEM</b>	1.1. a. Restore endangered species and protected endemic species	- No. of endangered species restored - No. of endemic species protected - Germplasm center established	Inventory of flora and fauna  - Written documentation	Collect Inventories	Annual	PAENRO
	1.1.b. Prepare and implement biodiversity and conservation plan	- 1 provincial biodiversity and conservation plan prepared and implemented	Biodiversity and conservation plan	Check inventory , Library Inventory	Annual	PPDO
	1.1.c. Judiciously utilize biological resources as income source	No. of biological resources developed as income source	Reports from PAENRO	Collect PAENRO reports	Semi- annual reports	PAENRO
	1.1.d. Develop policies to regulate bio piracy and entry of exotic species	No. of policies developed on bio-piracy and regulation of exotic species	Report and policies formulated	Conduct Inventory	Annual	ICHO
	1.1.e. Strengthen the practice of organic farming	No. of RT farmers practicing organic farming	Survey reports and inventory	Collect PAENRO, ICHO reports	Annual	PAENRO, ICHO

	1.2.a. Reforest denuded forest areas	Area of reforested forestland	Reports from PAENRO and DENR	Consolidate report of PAENRO and ICHO	Annual	PAENRO
	1.2.b. Capacitate IRT owners on sustainable forest management	No. of RT owners capacitated in no. of RT communities.	Reports	Consolidate	Annual	PAENRO, ICHO
	1.3.a. Prepare community land use plans/ assess existing plans	No. of community land use plans prepared and assessed	Reports	Inventory of plans	Annual	PPDO
	1.3.b. Enact zoning ordinances for RT communities	No. of community zoning ordinances prepared  No. of RT owners signing/ accepting land use plans	Reports and ordinances passed  Reports and ordinances passed	Inventory	Annual	ICHO
	1.3.c. Implement zoning ordinances	No. of community zoning policies implemented	Reports and plans	Inventory of plans	Annual	PPDO
	1.4.a. Make functional community DRR councils with in-placed DRR management plans and policies	- No. of functional BDRRMC in RT communities - No of BDP in RT communities integrating DRR and CCA - No of IRT communities with BDRRMP	BDP Plans	Inventory of Plans	Annual	PPDO
	1.4.b. Implement mitigating measures especially in Infra projects in RT	No. of implemented infra mitigating measures ( No. of slope protection measures and no. of	Reports and BDRRM plans	Collect BDRRM Reports	Annual	PEO, ICHO

	communities	flood control projects in RT communities)				
	1.4.c. Ensure that agriculture development are in line with CCA strategies	No of development projects integrating CCA strategies	Project lists	Collect project lists	Annual	PAENRO
<b>CONSERVED CULTURE</b>	2.1. Foster strong cultural identity and national pride	- Cultural Regulatory Boards and cultural organizations established - No. of cultural products developed and promoted - No. of festivals and events institutionalized	EOs and Ordinances  Reports and Documentations and Product Certification	Collect list of EOs and Ordinances	Annual	ICHO
	2.2 Document and publish indigenous knowledge systems, cultural Arts and Tangible Cultural Heritage	No. of written and video documentaries on IKs published	CDs, Videos, written documentation	Collect Inventories	Quarterly	ICHO
	2.3 Develop and establish cultural database	1 cultural database developed and established	Database	Physical Check	Annual	ICHO
	2.4. Develop IKs and tangible, cultural heritage as a tool for holistic development	No. of IKS and Tangible Cultural Heritage developed into sustainable enterprises	Stakeholder's reports	Collect Stakeholders Reports	Semi-annual	ICHO
	2.5. Nurture indigenous knowledge thru IKs transfer	- No. of IKS transfer program conducted	Reports and Documentations	Collect Accomplishment reports	Semi-annual	ICHO
	2.6. Promote cultural practices	- No. of new culture bearers	Inventory of Culture Bearers	Review of Inventories	Semi-annual	ICHO

<b>3. SUFFICIENT INCOME</b>	<b>3.1. Tourism Development:</b>					
	3.1.a. Develop tourism product	Increase in number of tourism products developed	Reports from stakeholders	Review of reports	Semi-annual	ICHO-Tourism
	3.1.b. Promote and market Ifugao in a responsible and fitting manner	Increase in number of websites, blogs, brochures, videos produced and disseminated	Reports and Inventory	Collect reports	Semi-annual	ICHO-Tourism
	3.1.c. Bring together WHS for packaging to maximize resources and spread benefits	Increase in number of inter-municipality tours developed  Increase in number of visitor centers established	Reports	Collect reports	Semi-annual	Tourism
	3.1.d. Develop tourism sites	Number of tourism sites improved	Reports and Inventory	Collect inventories	Semi-annual	Tourism
	3.1.e. Develop strong policy environment for tourism culture and conservation	Increase number of local policies on tourism formulated and made operational by LGUs	Reports and Inventory	Collect of inventory	Semi-annual	ICHO
	3.1.f. Educate tourism stakeholders on sustainable tourism principles	Increased number of trainings conducted, educational materials and modules formulated and implemented	Reports, documentation and inventory	Collect reports	Semi-annual	Tourism

	<b>3.1 On Agri-industry</b>					
	3.1.g. Sustain and increase volume of Tinawon for sale from 15 to 20 tons per year	Volume of Tinawon production increased and sustained	BAS and PAENRO Report	Collect BAS, PAENRO Reports	Semi-Annual	PAENRO
	3.1.h. Expand development of agricultural products	Number of other agricultural products developed	Annual report from PAENRO	Collect report from PAENRO	Annual	PAENRO
	3.1.i. Enhance and sustain major agri-industrial marketing centers	Major agri-industrial and marketing centers enhanced and sustained	Reports and Inventories	Collect reports	Semi-annual	PAENRO
	3.1.j. Increase RT productivity	RT productivity increased thru number of rice fields re-cultivated and restored	Reports	Collect reports	Semi-annual	ICHO
	3.1.k. Empower/ capacitate RT farmers on organic farming system and good agricultural practices (GAP)	Number of RT stakeholders trained/capacitated on organic farming system and good agricultural practices	Report from PAENRO	Collect MAO, PAENRO Report	Semi-annual	ICHO
	3.1.l. Motivate stakeholders to actively implement and sustain livelihood enterprises	Number of RT stakeholders actively implementing and sustaining livelihood enterprises.	Inventory and reports	Review of reports	Semi-annual	ICHO
<b>SUPPORT SYSTEM</b>	4.1.A Improve and maintain effective and efficient infra support services	Increased length (km) of tourism/ FMRs roads improved	Reports from DPWHS, PEO	Collect reports	Annual	PEO
		Increased number and length of CIS constructed	Report from NIA, ICHO, PAENRO, PEO	Collect reports	Annual	ICHO

		Increased number and length of CIS improved	Report	Collect reports	Semi-annual	ICHO
		Area of RT rehabilitated/ restored	Reports	Collect reports	Semi-annual	PAENRO/ PEO
		Increase number of other infra support (tramline, footpaths, native houses, restrooms, view decks)	Reports	Collect reports	Semi-annual	PEO, ICHO, Tourism
	4.1.b. Make functional institutional support services	1 department of culture and tourism created, funded and made functional in the PLGU	Ordinance and report	Collect reports	Annual	HRMO
		Increased number of stakeholders supportive/ involved in IRT conservation	Report and inventory	Collect reports	Semi-annual	ICHO
		Increased number of private individuals, organizations and CSOs actively engaged in RT conservation	Report and inventory	Collect reports	Semi-annual	ICHO
		Increased number of functional Rice Terraces owners organizations	Report and inventory	Collect reports	Semi-annual	ICHO
		Number of TA provided	Reports	Collect reports	Semi-annual	
	4.1.c. Enact, advocate and implement relevant policies supportive to RT conservation	IPRA Law implemented in RT communities	Reports and inventory	Collect reports	Annual	NCIP
		WH as environmentally critical area declared thru national legislation	Ordinance and National law	Inventory	Annual	ICHO
		Ifugao Tourism and	Reports	Inventory	Annual	ICHO

		cultural codes implemented				
		Number of local policies enacted related to RT conservation	Reports and inventory	Inventory	Annual	ICHO
	4.1.d. Implement a Buffer Zone Development Program	- Critical Watershed identified	Reports from DENR	Collect report	Annual	PAENRO
	4.1.e. Develop and maintain RT data base system	1 RT database system developed and maintained	Database	Physical check	Annual	ICHO
	4.1.f. Fund and access financial support for RT conservation	Increase in investments in RT conservation	Reports from stakeholders	Inventory	Annual	ICHO



## **B. LOGICAL FRAMEWORKS OF PROGRAM COMPONENTS**

## 1. BIO-PHYSICAL COMPONENT

### 1.1 Bio-diversity Restoration and Conservation Program

	Objectively Verifiable Indicators of Achievement	Sources and Means of Verification	Assumptions
<b>Overall Objectives</b>			
Balanced ecosystem	Enriched and conserved biodiversity	- Inventory of Flora and Fauna - List of restored species previously endangered	
<b>Specific Objectives</b>			
1. Restore endangered species and protected endemic species	- No. of endangered species restored - No. of endemic species protected - Germplasm center established	Inventory of flora and fauna - Written documentation	Violators are dealt with accordingly
2. Prepare and implement biodiversity and conservation plan	- 1 provincial biodiversity and conservation plan prepared and implemented	Biodiversity and conservation plan	Stakeholders abide in the programs approved by different implementers
3. Judiciously utilize biological resources as income source	No. of biological resources developed as income source	Reports from PAENRO	
4. Develop policies to regulate bio piracy and entry of exotic species	No. of policies developed on bio-piracy and regulation of exotic species	Report and policies formulated	
5. Strengthen the practice of organic farming	No. of RT farmers practicing organic farming	Survey reports and inventory	

Programs, Projects and Activities	Objectively Verifiable Indicators	Target Areas	Time Frame
A. Biodiversity 1. Inventory of flora and fauna	No. of flora and fauna endangered species	Ifugao Province	2015-2024

2. Rehabilitation and Propagation of Extinct Forest tree species in the area	No. of seedlings produced	Ifugao Province	
3. Enrichment of planting to watershed areas	Increased forest cover	Ifugao Province	
4. Monitoring	No. of monitoring conducted and number of reports prepared	Ifugao province	
5. . Actions, species status focused on Heritage sites	No. of research studies implemented	Ifugao Province	
6. Integrating Biodiversity conservation to Local development plans through an ordinance	No. of ordinance enacted	Ifugao Province	
B. Regulatory 1. Strengthening the implementation/enforcement of Laws • Solid Waste Management • Clean Air Act • Organic Farming Wildlife Act		Ifugao Province	
C. Soil and Water Conservation	Sloping Agricultural Land Technology implemented	Ifugao Province	

### 1.2 Community-based Forest Management Program

	Objectively Verifiable Indicators	Sources and Means of verification	Assumptions
General Objective:			
Balanced Ecosystem	Reforested and preserved watershed areas	- List of reforested areas (PAENRO, DENR, ICHO, IFSU) - List of protected/WS areas/NIPAS and DENR	

		report	
<b>Specific Objectives:</b>			
1. Reforest denuded forest areas	Area of reforested forestland (9,038 hectares of land reforested, 100 hectares of land rehabilitated/enriched)	Reports from PAENRO and DENR	
2. Capacitate IRT owners on sustainable forest management	No. of RT owners capacitated in no. of RT communities.	Reports	

<b>Program, Projects and activities</b>	<b>Objectively Verifiable Indicators</b>	<b>Covered Areas</b>	<b>Timeframe</b>
A. Community- Based Forest Management.			
1. Social Preparation		Ifugao province	
a. Coordination Meeting	100 meetings conducted		2015-2024
b. Identification of Stakeholders	Stakeholders identified/ listed		
c. PO/ Farmers Association	50 POs formed/ strengthened		
d. preparation and Signing of MOA	50 MOAs prepared and signed		
2. Site Development Project		Ifugao Province	2015-2024
a. Site Validation and Survey	Clear and defined boundaries of CBFM Projects		
b. Reforestation Project	9,500 hectares . Reforested		
c. Enrichment of Muyong	100 hectares Enriched and rehabilitated		
d. Agro-forestry	1,995 hectares. Of land planted		
e. Soil and Water Conservation	2,400 hectares. SWC		
B. Regulatory			
1.. Protection and Law enforcement	LGU's awareness of forest protection increased	Ifugao province	2015-2024
C. Technical Assistance and Monitoring	Forest protection in LGU's mainstreamed	Ifugao Province	2015-2024

### 1.3 Community-based Land Use Planning and Zoning Implementation Program

	<b>Narrative Summary</b>	<b>OVI</b>	<b>MOV</b>	<b>Assumptions</b>
<b>Goal</b>	Well-maintained and preserved rice terraces			
<b>General Objectives</b>	Preserved rice terraces through proper delineation of the use of the land identifying protected production rice terraces areas	<ul style="list-style-type: none"> <li>• Number of rice terraces communities with maintained area for rice terraces as indicated in the land use plans</li> </ul>	Monitoring visits, ICHO records	
<b>Specific Objectives</b>	To assess the implementation of community-based land use plans prepared and come-up with recommendations for the updating of land-use plans;	<ul style="list-style-type: none"> <li>• # of assessed and updated land use plans</li> </ul>	ICHO records, community interviews	
	To prepare community land use plans for rice terraces areas that are non-world heritage sites;	<ul style="list-style-type: none"> <li>• # of new community land use plans prepared</li> </ul>	ICHO records, community interviews	
	To enact zoning ordinances for rice terrace communities with no zoning ordinances;	<ul style="list-style-type: none"> <li>• # of community zoning ordinances prepared</li> </ul>	ICHO records, community interviews	
	To advocate the concept of community land use management to community members especially rice terraces owners; and	<ul style="list-style-type: none"> <li>• # of rice terraces owners signing land use plans</li> </ul>	ICHO records, community interviews	
	To implement zoning laws.	<ul style="list-style-type: none"> <li>• # of community zoning laws implemented</li> </ul>	Monitoring visits	Rice terraces owners are willing to follow policies

<b>Programs and Projects</b>	<b>OVI</b>	<b>Covered Areas</b>	<b>Time Frame</b>
<b><i>Policy and Technical Support and IEC</i></b>			
- Updating of PDPFP and CLUPs of MLGUs as policy support to rice terraces communities	4 CLUPS and 1 PDPFP that integrates rice terraces conservation considering international standards and indigenous knowledge and culture	4 MLGUs with Heritage Areas, 1 PLGU	2014-2017
- Provision of TA in the assessment, preparation and/or updating of community land use plans and barangay zoning ordinances and monitoring and evaluation of land use plans	# of rice terraces communities ably provided with technical assistance	Heritage Barangays with land use plans	2015-2018
- Conduct of IEC to rice terraces communities on the implementation of zoning laws	# of rice terraces communities and # of rice terrace communities given IEC on community land use management and soliciting support and implementation of zoning laws	All rice terraces communities	2015- 2023
<b><i>Community-Based Land Use and Zoning Ordinance Workshops</i></b>			
- Conduct of assessment workshops and updating of community land use plans	# of assessment workshops and updating workshops conducted in # of rice terrace communities with previous land use plans and/or zoning ordinance	Heritage Barangays with Land Use Plans	2015-2018
- Conduct of community land use plan workshops for rice terraces communities with no plans	# of workshops conducted in # of rice terraces communities	Rice Terraces Communities and Heritage Barangays w/o Land Use Plans	2018-2020
- Conduct of workshops for the preparation of community zoning ordinances	# of workshops conducted in # of rice terraces communities	Rice Terraces Communities	2015-2020
<b>Capacity Building for Implementation of Community Land Use Plans and Zoning Ordinances</b>			

- Conduct of orientations and trainings, mechanisms for implementing zoning ordinances like designating protected areas, partnerships and negotiating skills	# of trainings conducted in # of rice terraces communities to # of community leaders and # of rice terrace owners	Rice Terraces Communities	
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#### 1.4 Disaster Risk Reduction Management and Climate-Change Adaptation Program in the Rice Terraces Communities

	Narrative Summary	OVI	MOV	Assumptions
<b>Goal</b>	Well-maintained and preserved rice terraces			
<b>General Objectives</b>	Preserved rice terraces that are not vulnerable to disaster risks and climate change and rice terraces communities that are highly resilient to climate change	<ul style="list-style-type: none"> <li>- Maintained areas that are being tilled even with landslides</li> <li>- Maintained level of production of rice terraces areas even with climate change</li> <li>- Incorporated local knowledge in mitigation measures with # of local knowledge on DRRM and CCA documented and integrated in rice terraces conservation efforts</li> </ul>	Survey, Community Interview, ICHO and MLGU records	
<b>Specific Objectives</b>	To make functional community disaster-risk reduction councils including in-placed disaster risk reduction management plans and policies	<p>Number of functional Barangay Disaster Risk Reduction Management Councils in rice terraces communities</p> <p>Number of rice terraces communities with BDRRMP</p> <p>Number of Barangays with Barangay Development and Land Use Plans that integrates Disaster Risk Management and Climate Change Adaptation</p>	Barangay Validation, Monitoring Visit	

	To implement mitigating measures especially in infrastructure projects in rice terraces communities	Number of implemented infrastructure mitigating measures in rice terraces areas susceptible to flooding and landslides (# of flood control projects in rice terraces communities # of slope protection projects in rice terraces areas)	ICHO, BLGU and MLGU records	
	To ensure that agricultural development projects are in line with climate change adaptation strategies	# of agricultural development projects integrating CCA strategies	MAO, PAENRO records	

Programs and Projects	OVI	Covered Areas	Time Frame
<b><i>Disaster Risk Reduction Mitigation and Preparedness Program in Rice Terraces Areas</i></b>		All IRT Communities	
- Conduct of trainings for BDRRMC in rice terrace communities	Number of trainings on disaster preparedness and response, search, rescue and retrieval operations conducted to # members of the BDRRMC		2015-2024
- Conduct of workshops for BDP that integrated CCA and DRRM	# of workshops conducted to # of BDC of rice terraces communities		
- Screen and monitor new technologies and species and implementation of containment measures	Number of new species screened (either approved or rejected)  Number of new farming technologies screened		
- Strengthen mechanical and vegetative measures in sloping farms	Area of sloping farms in rice terraces communities with mechanical and vegetative measures implemented		
- Develop and institutionalize of	# of rice terraces barangays with		



an early warning system in the BDRRMC especially for incoming strong winds, strong rains, projections of drought, flooding and other hazards	established system in the BDRRMC for early warning systems		
- Conduct education campaigns for farmers at risk	Number of farmers at risk with education campaigns conducted		
<b>Delineation and Stabilization of Hazard Zones</b>		IRT Communities	2015-2024
- Identify, delineate and map hazard areas in rice terraces communities	# of hazard areas identified and mapped and integrated in land use plans		
- Incorporation of stabilization measures in restoration projects	Number of infrastructure projects (CIS, FMRs, pathways) that incorporate hazards mitigation strategies in the design and construction		
<b>Crop Resiliency Program</b>		IRT Communities	2015-2024
- Use of improved rice strain	Number of rice terrace farmers using improved rice strain		
- Revitalization project for indigenous tree species	Number of indigenous tree species in rice terraces watershed areas		
- Establish seed banks in rice terraces areas prone to flooding	Number of seed banks established in rice terraces areas prone to flooding		
- Establish system for disease outbreak	Number of BDRRMSs with established system for pest and disease outbreak forecasting and early warning		
<b>Indigenous Aqua-food Species Revitalization Project</b>		All rice terraces communities	
Revitalization project for indigenous aqua food species	Number of rice terraces barangays with revived indigenous aqua food species		

## 2. SOCIO-CULTURAL COMPONENT

### 2.1 Indigenous Knowledge Systems and Cultural Development

	<b>Narrative Summary</b>	<b>OVI</b>	<b>MOV</b>	<b>Assumptions</b>
<b>Goal</b>	Well-maintained and preserved rice terraces			
<b>General Objectives</b>	Preserved Culture	Strengthened tangible and intangible cultural heritage  Rice terraces and cultural conservation programs institutionalized and maintained	Studies and Researches  Development plans of stakeholders	
<b>Specific Objectives</b>	Foster strong cultural identity and national pride	- Cultural Regulatory Boards and cultural organizations established - No. of cultural products developed and promoted - No. of festivals and events institutionalized	EOs and Ordinances  Reports and Documentations and Product Certification	
	Document and publish indigenous knowledge systems, cultural Arts and Tangible Cultural Heritage	No. of written and video documentaries on IKs published	CDs, Videos, written documentation	
	Develop and establish cultural database	1 cultural database developed and established	Database	
	Develop IKs and tangible, cultural heritage as a tool for holistic	No. of IKS and Tangible Cultural Heritage developed	Stakeholder's reports	

	development	into sustainable enterprises		
	2.5. Nurture indigenous knowledge thru IKs transfer	- No of IKS transfer program conducted	Reports and Documentations	
	2.6. Promote cultural practices	- No of new culture bearers	Inventory of Culture Bearers	

<b>Programs and Projects</b>	<b>OVis</b>	<b>Covered Areas</b>	<b>Time Frame</b>
Cultural Events and Product Development and Marketing	No. of Cultural festivals/events conducted Increase no. of Ifugao Certified Products No. of Cultural Heritage Councils established	Province Wide	2015-2019 2016-2019 2015
IK Transfer Program Establishment	No. of SLTs conducted in world heritage sites and non world heritage sites No. of schools, MLGUs and BLGUs that have institutionalized SLTs as a program No. of skills trainings conducted No. of learning centers established No. of experiential learnings conducted	Province wide	2015-2019  2015-2019  2015-2017 2016-2017 2016
Agricultural Productivity Enhancement	No. of rice terraces farmers equipped with the necessary skills and knowledge on farming and new and emerging farming technology No. of researches conducted	Province wide  Province wide	2015-2019  2016-2017
Mainstreaming indigenous knowledge in formal education and development agencies	Awareness on the inter-relationship of IK with modern and scientific knowledge and emerging technologies No. of schools and agencies that have integrated IK in their programs		

Database System Development	One (1) database system developed	Province wide	2015-2016
Cultural Mapping	Topographic map showing the location of the rice terraces, IK holders, SLTs, historical and cultural sites and etc	Province wide	2015-2016
	Inventory of tangible and intangible cultural heritage		2015-2016
IEC/ Advocacy Program	No. of IECs conducted Increase awareness of youth and children about their Ifugao identity and cultural practices	Province wide	
Stakeholder's Capability Building	No. of trainings attended No. of field exposures attended and participated		2015-2019 2015

### 3. ECONOMIC DEVELOPMENT COMPONENT

#### 3.1 Community-Based Agri-Industry Program

	<b>Narrative Summary</b>	<b>OVI</b>	<b>MOV</b>	<b>Assumptions</b>
<b>Goal</b>	Well-maintained and preserved rice terraces			
<b>General Objectives</b>	Sufficient Income of RT Farmers	Income of Rice Terraces farmers increased to 15K per capita.  Increased number of economic activities for RT farmers	Survey Results	
<b>Specific Objectives</b>	Sustain and increase volume of Tinawon production from 10-15 tons per year	Volume of Tinawon production increased and sustained	BAS and PAENRO Report	
	Expand development of agricultural products	Number of other agricultural products developed	Annual report from PAENRO	
	Enhance and sustain major agri-industrial marketing centers	Major agri-industrial and marketing centers enhanced and sustained	Reports and Inventories	
	Increase RT productivity	RT productivity increased thru number of rice fields re-cultivated and rehabilitated	Reports	
	Empower/ capacitate RT farmers on organic farming system	Number of RT stakeholders trained/capacitated on organic farming system	Report from PAENRO	

	Motivate stakeholders to actively implement and sustain livelihood enterprises	Number of RT stakeholders actively implementing and sustaining livelihood enterprises.	Inventory and reports	
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<b>Programs and Projects</b>	<b>OVis</b>	<b>Covered Areas</b>	<b>Time Frame</b>
1. Conduct of Farmers Field School on Rice	No. of FFS conducted	Banaue, Hungduan, Mayoyao, Hingyon, Kiangnan, Aginaldo	2015-2023
2. Monitoring of tinawon rice production areas	No of tinawon rice production areas monitored	Banaue, Hungduan, Mayoyao, Hingyon, Kiangnan, Aginaldo	2015-2023
3. Enterprise Development Training and assistance a. entrepreneur training on rice, coffee, root crops based processing b. Agribusiness planning	No. of entrepreneur trainings conducted  No. of entrepreneur trainings conducted	All MLGUs	2015-2023
4. Assistance on product labeling and packaging	No. of products packaged	All MLGUs	2015-2023
5. Nutritional fact analysis	No. of products tested	All MLGUs	2015-2023
6. Participation to National or Regional Fairs for market promotion	No. of fairs participated	All MLGUs	2015-2019
7. Assistance to top 3 best performing BFTs province wide	3 top best performing BFTs assisted	All MLGUs	
8. Monitoring of Barangay Food Terminals (BFTs, Display Centers)	No. of BFTs and Display Centers monitored	All MLGUs	2015-2023
9. Rehabilitation of damaged rice terraces	No. of damaged rice terraces rehabilitated	Banaue, Kiangnan, Hungduan, Mayoyao, Hingyon	2015-2019
10. Re-cultivation of abandoned rice terraces thru CHAWA program	No .of abandoned rice terraces re-cultivated	Banaue, Kiangnan, Hungduan, Mayoyao, Hingyon	2015-2019

11. Conduct of trainings on a. Organic Farming System b. Internal Control System on Organic Agriculture	No. of trainings conducted No. of ICS conducted	All MLGUs	2015-2019 2015-2019
12. Organic Products certification	No. of products certified as organic		2015-2023
13. Orientation on Good Agricultural Program	No. of orientation on GAP conducted	All MLGUs	2015-2016
14. Conduct of Internal Control System on GAP	No. of ICS on GAP conducted		2015-2019
15. GAP products certification	No. of GAP products certified		2015-2023
16. Cross visit to organic farms	No. of organic farms visited	Provincewide	2015-2017

### 3.2 Sustainable Tourism Development

	<b>Narrative Summary</b>	<b>OVI</b>	<b>MOV</b>	<b>Assumptions</b>
<b>General Objectives</b>	To develop sustainable tourism in Ifugao that aids in the conservation of Ifugao culture and the Rice Terraces Ecosystem and gives satisfaction to enlightened visitors and empowered host communities	<ul style="list-style-type: none"> <li>Provincial and municipal LGUs draw up their sustainable tourism plans</li> <li>Increase in the number of tourist arrivals</li> <li>Increase in the number of accredited and licensed service providers</li> </ul>	Sustainable Tourism Plans at the provincial and municipal levels, surveys and studies, visitor/guest log books	Inclusion of programs that support sustainable tourism by other agencies and organizations in the impact evaluation
<b>Specific Objectives</b>				
	1.To develop tourism products that enhance tourism experiences and increase household incomes	Increase in the number of tourism products developed	Tour packages, brochures, tourism plans, tourism councils, surveys, studies	Private and government initiatives to be included in the impact evaluation
	2. To promote and market Ifugao in a responsible and fitting manner	Increase in the number of websites, blogs, FB accounts, brochures, videos produced		International, national and local promo materials included

	3. To bring together the World Heritage Site for packaging to maximize resources and harness/spread benefits	Increase in the number of inter-municipality tours developed, visitor center established and centralized system of ticketing		
	4.To develop tourism sites, taking into consideration the Ifugao modern and indigenous knowledge, systems and procedures	Number of tourism sites improved	Site inspection, surveys, studies, municipal plans	Inclusion of programs of international, national agencies and organizations
	5.To develop a strong policy environment that will help establish a culture of tourism and conservation	Increased number of local policies formulated, adopted and made operational by LGUs	Written policies and ordinances, reports, studies and surveys	
	6.To educate tourism stakeholders on sustainable tourism principles, i.e proper behavior of visitors, visitor management for site managers, and skills improvement of service providers	Increased number of trainings conducted, signages made, educational materials and modules created	Municipal plans, studies, signages established, written modules and educational materials, documentaries	
Programs and Projects		OVis	Covered Areas	Time Frame
<b>COMPONENT 1: TOURISM PRODUCT DEVELOPMENT PROGRAM</b>				2015-2024
Development/enhancement of eco-tourism products	Increase in the number of eco-tourism products including trekking, biking, rice-cycle tours and photo safaris		Four Heritage Municipalities, Aginaldo and Lagawe, Asipulo	
Development/enhancement of Heritage Tourism products	Increase in the number of heritage tourism products including craft demonstrations, indigenous cuisine, festivals, theatrical/creative performances		Four Heritage Municipalities, Asipulo	
Development of Adventure Tourism products	Increased in the number of adventure tourism products such as spelunking, wake surfing, rappelling, ziplines		All interested municipalities	



Market Targeting Products	Increase in the number of tour programs/packages intended for OFWs and their friends/families, educational tour packages and homestay tour packages	Heritage municipalities, other IRT communities	
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<b>COMPONENT 2: TOURISM SITE DEVELOPMENT PROGRAM</b>			
Access development	Tourism roads, footpaths, trails, foot bridges Support facilities along roads i.e restrooms, eating places	Ifugao Province	
Site Improvement	Site Development plans, Interpretative signages, support services	Ifugao Province	
Develop standard designs/ prototypes that consider indigenous KSPs	Access facilities Buildings i.e Restrooms	Ifugao Province	
Disaster preparedness/risk reduction in tourism sites	Handrails, community preparedness (first responders),	Ifugao Province	

<b>COMPONENT 3: PROMOTIONS AND MARKETING</b>			
On-Line Presence	Increase in the number of websites on Ifugao, facebook accounts, blogs and other internet tools regarding Ifugao, tourism and culture	Ifugao province	
Branding Program	Increase in the number of products and sites using accepted and recognized, World Heritage Site brands/ GIAHS brands	Ifugao Province	
Production of conservation-oriented promotions materials	Presence of a slogan and other identity icons for Ifugao culture/ tourism	Ifugao Province	

	Increased number of directory of service providers, brochures, and video of attractions/tour packages		
Networking Program	Increase in the number of networks established with travel agencies, tour operators, government and non-government agencies to promote Ifugao through familiarization tours for media, school heads, and opinion leaders, sisterhood ties with other tourist towns within and outside the Philippines Travel Mart and road show participation	Ifugao province	

<b>COMPONENT 4: POLICY DEVELOPMENT AND INSTITUTIONALIZATION</b>			
1. Establish a Rice Terraces Conservation Fund Program	Policies/ordinances regarding a rice terraces trust fund are formulated	Heritage Municipalities	
2. Municipal Tourism Codes that advocate sustainable tourism and conservation	Tourism Codes are formulated	Tourism municipalities	
3. Codes of conduct among service providers that adheres to sustainable tourism principles	Each sector of the tourism industry has a Code of Conduct that adheres to Sustainable Tourism principles	Ifugao Province	
4. Profit sharing system among service providers	Service providers such as tour guides and drivers has formulated a system for profit sharing i.e Banaue tour guides to pass visitors to Hungduan tour guides when in Hungduan	Ifugao Province	
5. Sense of Place and Place attachment through inclusion of Ifugao icons and symbols in new and existing facilities	Establishment of culture codes and tourism codes, infrastructure guides, ordinances and policies that promotes the use of Ifugao icons and symbols and IKSP in new and existing facilities and structures	Ifugao Province	

<b>COMPONENT 5: WORLD HERITAGE SITES NETWORK</b>			
Establish a centralized ticketing system	A centralized ticketing system is established through a printed ticket/passport and online booking/reservation/info for the Heritage Municipalities	For Ifugao Province	
Federation of Service Providers Association	An increased number in the number of associations for the service provides and federation of these associations	For Ifugao Province	
Ifugao Heritage Visitor Center	A centralized heritage visitor center is established or the heritage towns have improved visitor centers	For Ifugao Province	

<b>COMPONENT 6: TOURISM EDUCATION, RESEARCH AND DEVELOPMENT</b>			
Sustainable Tourism	1) Number of training modules on sustainable tourism created 2) Number of trainings regarding sustainable tourism conducted for policy-makers, and service providers 3) Number of trainings on proper tourism management for service providers i.e. getting number of arrivals, conduct perception studies, etc.	For Ifugao Province	
Visitor Education	1) Number of infomercials created regarding appropriate tourist behavior  2) Number of signages and other tools to put across infomercials in appropriate areas	1) For Ifugao Province 2) All municipalities, Baguio City, Manila bus terminals and other appropriate areas	
Capability building of service providers	1) Increased number of basic and advance skills trainings conducted	For Ifugao Province	

	2) Number of Accredited and licensed service providers 3) Increased number of service providers with specialization		
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#### 4. SUPPORT SYSTEM COMPONENT

##### 4.1 Infrastructure Support Development

	<b>Narrative Summary</b>	<b>OVI</b>	<b>MOV</b>	<b>Assumptions</b>
<b>General Objectives</b>	Adequate Infrastructure Support System for IRT	In-placed infrastructure support system		
<b>Specific Objectives</b>	4.1.A Improve and maintain effective and efficient infra support services	Increased length (km) of tourism/ FMRs roads improved	Reports from DPWHS, PEO	
		Increased number and length of CIS constructed	Report from NIA, ICHO, PAENRO, PEO	
		Increased number and length of CIS improved	Report	
		Area of RT rehabilitated/ restored	Reports	
		Increase number of other infra support (tramline, footpaths, native houses, restrooms, view decks)	Reports	

<b>Programs and Projects</b>	<b>OVI</b>	<b>Covered Areas</b>	<b>Time Frame</b>
Construction, Improvement and Rehabilitation of CIS in the WHS	No. of CIS improved/rehabilitated Linear meter completed	Banaue, Hungduan, Kiangan and Mayoyao	2015-2024
Restoration of Abandoned and Collapsed RT Stone walls in the WHS	No. or area of rice terraces restored	Banaue, Hungduan, Kiangan and Mayoyao	2015-2024

Construction of World Heritage site marker	No. of marker constructed No. of sites located	Mayoyao and Kiangan	2015-2024
Construction of Nursery shed	No. of nursery constructed/established	Mayoyao, Hungduan, Kiangan and Banaue	2015-2024
Barangay-based plant nursery (indigenous tree species, rattan, fruit bearing trees)	No. of endemic/endangered species propagated No. of endemic/endangered plants planted No. of plants survived	Mayoyao, Hungduan, Kiangan and Banaue	2015-2024
Construction of FMRs	No. of kilometers constructed	Province Wide	2015-2024
Improvement of FMRS	No. of kilometers improved	Province Wide	2015-2024
Other Infrastructure Program			

#### 4.2 Buffer Zones Development Program

	Narrative Summary	OVI	MOV	Assumptions
<b>General Objectives</b>	Preserved IRTs through the development and implementation of plans and programs for the buffer zones.	# of development plans and programs prepared and implemented	Monitoring Visit, BLGU/MLGU and ICHO Records	
<b>Specific Objectives</b>	<ul style="list-style-type: none"> <li>To develop a program for the micro-buffer zones of the rice terraces in the core zones</li> <li>To develop a program for the macro-buffer zones that surrounds or are in continuity with the core zones</li> <li>To delineate expansion areas, settlement areas and</li> </ul>	<ul style="list-style-type: none"> <li># of programs prepared and implemented</li> <li># of programs prepared and implemented</li> <li>area identified, delineated and mapped identified in the land</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring Visits, Records</li> <li>Monitoring Visits, records</li> <li>Land Use Plan/Zoning</li> </ul>	

	service centers in the buffer zones and identify appropriate programs/projects that caters to the population requirements	use zoning # of projects/program prepared and implemented	Monitoring Visits and Records	
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Programs and Projects	OVis	Covered Areas	Time Frame
<b>Identification of Buffer Zones with its Land Use</b> <ul style="list-style-type: none"> <li>Identify and delineate the buffer zones</li> <li>Delineate the infrastructure build up areas</li> <li>Prepare and adopt policy in the barangay, municipal and provincial level in support of the buffer zone development/conservation programs/activities</li> <li>Consultation with the province of Benguet and Mountain Province for the inclusion of part of their territory as buffer zones</li> </ul>	# of buffer zones(barangays) identified and map of buffer zones prepared and adopted  # of build-up areas identified and mapped and incorporated in the land use zoning  # of ordinances, resolutions, executive orders passed and implemented.  Memorandum of Agreement prepared	Land Use Plan/Records  Land use plan  BLGU/MLGU/PLGU Records  PLGU records	2015-2017
<b>Development Plans for the Micro-Buffer Zones within the Core Zones</b> <ul style="list-style-type: none"> <li>Prepare conservation activities, projects/proposal/programs in the micro buffer zones</li> </ul>	# of activities/projects/programs undertaken/implemented	Monitoring visits and records	2015-2017

<ul style="list-style-type: none"> <li>▪ Prepare and adopt policy in the barangay, municipal and provincial level in support of the micro-buffer zone conservation programs/activities</li> </ul>	# of ordinances, resolutions, executive orders passed and implemented	BLGU/MLGU/PLGU Records	
<b>Identification and improvement of the primary or critical watershed in the buffer zones</b> <ul style="list-style-type: none"> <li>▪ Identify and delineate the primary/critical watershed areas and the areas</li> <li>▪ Prepare and adopt policies in support for the delineation of the watershed and timber wood production area</li> </ul>	# hectares of primary watershed area identified and delineated  # of ordinances passed and implemented	Survey records/Land use plans  BLGU/MLGU/PLGU Records	2017-2024
<b>Identification of an area and plantation of trees for timber needs</b> <ul style="list-style-type: none"> <li>▪ Identify the areas for timber wood plantation</li> <li>▪ Prepare and adopt policies in support for the delineation of timber wood production area</li> <li>▪ Prepare and implement timber wood production</li> </ul>	# hectares of timber wood plantation area identified and delineated # of ordinances passed and implemented  # of hectares planted with identified timber wood # of surviving trees planted in identified timber woods	Land use Plans  BLGU/MLGU/PLGU records  Survey records/monitoring visits	2015-2024
<b>Rice Terraces and Cultural Preservation Programs for the Buffer Zones</b>	# of programs/proposal/activities prepared and implemented in the buffer zones	BLGU/MLGU/PLGU Records	2015-2024
<b>Development program for the municipalities of Lagawe,</b>	# of programs prepared and implemented for other IRT	MLGU/PLGU Records and monitoring visits	2015-2024

<b>Aguinaldo, Tinoc, Hingyon and Asipulo</b>	communities # of service centers, agro-industrial hubs, and market linkages established		
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### 4.3 Institutional Development

	<b>Narrative Summary</b>	<b>OVI</b>	<b>MOV</b>	<b>Assumptions</b>
<b>General Objectives</b>	Sustained implementation of IRT and culture conservation programs through an effective management system, capacity building and in-placed policies	Effective management system  Functional Rice Terraces Owners Organizations  National and local laws and policies enacted and implemented		
<b>Specific Objectives</b>	Make functional institutional support services	1 department of culture and tourism created, funded and made functional	Ordinance and report	
		Increased number of stakeholders supportive/ involved in IRT conservation	Report and inventory	
		Increased number of private individuals, organizations and CSOs actively engaged in RT preservation	Report and inventory	
		Increased number of functional Rice Terraces owners organizations	Report and inventory	
		Number of TA provided	Reports	
	Enact, advocate and implement relevant policies supportive to RT conservation	IPRA Law implemented in RT communities	Reports and inventory	



		WH as environmentally critical area declared thru national legislation	Ordinance and National law	
		Ifugao Tourism and cultural codes implemented	Reports	
		Number of local policies enacted related to RT conservation	Reports and inventory	
	Develop and maintain RT data base system	1 RT database system developed and maintained	Database	

<b>Programs and Projects</b>	<b>OVis</b>	<b>Covered Areas</b>	<b>Time Frame</b>
Community Organizing and Capability Building Program	# of rice terraces communities organized  # of existing RTOOs, Farmer's Organizations and other related organizations assessed  # of existing non-functional organizations assisted	Heritage and Buffer Zone Area	2015-2017
Institutionalization of the rice terraces restoration and conservation, and cultural heritage preservation programs	1 Ifugao Rice Terraces and Cultural Heritage Department established		2016
Policy Development and Advocacy	# of national and local laws implemented # of laws and policies enacted		2015-2024
Capability Building and Empowerment	# of relevant trainings conducted		2015-2024

## **C. INVESTMENT PROGRAM**

# IFUGAO RICE TERRACES MASTER PLAN INVESTMENT PROGRAM

Province: **IFUGAO**

Component: **Economic Development Component**

Priority Program/Project Activity	Project Location	Output indicator	Y1 (2015) Target		Y2 (2016) Target		Y3 (2017) Target		Y4 (2018) Target		Y5 (2019)Target		Y6-10(2020-2024)		Total Target		Responsible Agency	Funding Source
			Physical	Cost	Physical	Cost	Physical	Cost	Physical	Cost	Physical	Cost	Physical	Cost	Physical	Cost		
1. Community-Based Agri-Industry Program																		
Development of agricultural products	Province wide	No. of agri products developed			2	100,000	2	100,000	2	100,000	2	100,000	5	500,000	13	900,000	MLGUs, PLGU, DTI, IFSU	Riceplus, PLGU, MLGUs, DTI, DOST, IFSU
Enhancement of major agri-industrial and marketing centers	Buffer Zones	No. of agri-industrial and marketing centers developed					2	500,000	2 maintained	200,000	2 maintained	200,000	2 maintained	1,000,000	2	1,900,000	PLGU, MLGU, IFSU	PLGU, MLGU, DOST, DOT, DTI, DENR, DA
Increase productivity of RT thru number of rice fields recultivated and rehabilitated	World Heritage Sites	No. of RT rice fields recultivated and rehabilitated ( atleast 3 hec. per WHS Mun.)			2	200,000	2	250,000	2	250,000	2	250,000	4	800,000	12	1,750,000	PLGU, MLGU	PLGU, MLGUs, DENR, DA
Capacitate and train RT stakeholders	9 Municipalities w/ RTs	No. of RT stakeholders trained			2	64,800	2	64,800	2	64,800	2	64,800	10	388,800	18	648,000	MLGUs, PLGU-PAENRO, DTI, TESDA	MLGUS, PLGU
Establishment of a Tinawon Production Program	WHS	Tinawon rice production increased by 20 %			4	1,800,000		50,000		60,000		70,000		400,000	4	2,380,000	PLGU, MLGUs	MLGUs, PLGU, Riceplus, DA
Enhancement of Organic Agriculture program	WHS	No. of MLGUs w/ Organic Ordinance funded		939,300		741,800		552,400		1,790,000		50,000		3,350,000	0	7,423,500	MLGUs	PLGU, GPBP, DA-CAR
Conduct of skills training on product development, packaging, labelling, marketing of Agri products	Province wide	No. of skills training cnducted	6	350,000	5	250,000	3	130,000	2	70,000	1	50,000	5	250,000	22	1,100,000	PLGU-PAENRO, DTI, MLGUs, TESDA	DTI, DOT,DOST, Riceplus, MLGUs, PLGU
		No. of products developed and enhanced	6		5		3		2		1		5		22	-	PLGU-PAENRO, DTI, MLGUs, TESDA	DTI, DOT,DOST, Riceplus, MLGUs, PLGU
Organic product certification	Province wide	No. of organic products certified	3	313,200	2	354,800	1	222,400		32,400		32,400			6	955,200	PLGU, MLGUs, DTI, IFSU	PLGU, MLGUs, Riceplus, DTI, DA
Sub-total				1,602,500		3,511,400		1,869,600		2,567,200		817,200		6,688,800	0	17,056,700		

2. Sustainable Tourism Development																		
Component 1: Tourism product Development Program																		
Development/enhancement of eco-tourism products	WHS, Aguinaldo, Lagawe, Asipulo	Number of eco-tourism products developed	3	2,000,000	3	2,000,000	2	1,500,000	2	1,500,000	3	2,000,000	5	3,000,000	18	12,000,000	PLGU, MLGUs, SITMO, DOT	DOT, MLGUs, PLGU, SITMO, BuB
Development/enhancement of Heritage Tourism products	WHS Mun. and Asipulo	Number of heritage tourism products services developed and enhanced	2	500,000	2	500,000	2	600,000	2	600,000	2	600,000	2	600,000	12	3,400,000	PLGU, MLGUs, SITMO, DOT, PAFC, DTI, TESDA, IFSU	DOT, MLGUs, PLGU, SITMO, BuB, DTI, TESDA, IFSU
Development of Adventure Tourism products	All interested municipalities	Number of adventure tourism products developed and enhanced			2	1,000,000	2	1,000,000	2	1,000,000					6	3,000,000	PLGU, MLGUs, SITMO, DOT, PAFC, DTI, TESDA	DOT, MLGUs, PLGU, SITMO, BuB, DTI, TESDA
Market Targeting Products	IRT Communities	Number of tour programs/packages developed	5	1,250,000	5 maintained	150,000			5 maintained	200,000			5 maintained	500,000	5	2,100,000	MLGUs	MLGUs, NCCA, DOT, DTI
Sub-total				3,750,000		3,650,000		3,100,000		3,300,000		2,600,000		4,100,000		20,500,000		
Component 2: Tourism SITE Development Program																		
Access development (Tourism roads, footpaths, trails, foot bridges Support facilities along roads i.e restrooms, eating places)	Ifugao Province	(detailed on Infrastructure Support Component)																
Site Improvement (Site Development plans, Interpretative signages, support services)	Ifugao Province	No. of sites developed	2	800,000	2	750,000	3	600,000	3	1,200,000	2	800,000	6	2,880,000	18	7,030,000	MLGUs, PLGU, DOT, DPWH	PLGU, MLGUs, DPWH, DOT
Develop standard designs/prototypes that consider indigenous KSPs (Access facilities Buildings i.e Restrooms)	Ifugao Province	No. of Indigenous KSPs developed and enhanced	2	1,600,000	3	2,300,000	2	1,500,000	2	1,000,000	2	1,000,000	4	5,000,000	15	12,400,000	MLGUs, PLGU, DOT, SITMO, DTI, TESDA	PLGU, MLGUs, BuB, DOT
Disaster preparedness/risk reduction in tourism sites (Handrails, community preparedness (first responders)	Ifugao Province	No. of facilities and services developed and enhanced	1	200,000	1	220,000	1	230,000	1	250,000	1	260,000	3	1,000,000	8	2,160,000	PDRRC, MLGUs, BLGUs	PDRRC, MLGUs
	Ifugao Province	No. of responders trained	30	130,000	35	150,000	35	150,000					100 pax	500,000	100	930,000	PDRRC, MLGUs, BLGUs, PLGU, SITMO	PLGU, DOT, MLGU, BuB
Sub-total				2,600,000		3,270,000		2,480,000		2,450,000		2,060,000		9,380,000		22,240,000		

Component 3: Promotions and Marketing																		
On-Line Presence	Ifugao Province	Number of promotional websites, blogs, accounts for Ifugao developed and maintained			4	500,000		120,000		120,000		120,000		625,000	4	1,485,000	ICHO, Tourism Office, MLGUs, SITMO	PLGU, MLGUs, SITMO
Branding Program	Ifugao Province	Increase in the number of products and sites using accepted and recognized, World Heritage Site brands/ GIAHS brands			2	250,000	2	250,000			2	300,000	2	350,000	8	1,150,000	PAENRO, DTI, RTFC, MLGUs, TESDA	Riceplus, Bu B, DAR, DA, DTI. TESDA
Production of conservation-oriented promotions materials	Ifugao Province	No. of promotional materials/ signages/ markers developed			3	150,000		150,000		150,000		175,000	3	350,000	6	975,000	Tourism Office, ICHO, SITMO, MLGUS	PLGU, MLGUs, BuB, DOT
Networking Program	Ifugao Province	No. of network established	2	50,000	2	50,000	2	70,000	2	75,000	2	75,000	2	200,000	12	520,000	PLGU-Tourism, MLGUs, SITMO	DOT, PLGU, MLGUs
Sub-total				50,000		950,000		590,000		345,000		670,000		1,525,000		4,130,000		
Component 4: Policy Development and Institutionalization																		
1. Establish a Rice Terraces Conservation Fund Program	WHS Mun.	Policies/ordinances regarding a rice terraces trust fund are formulated			1 PLGU	100,000	2 WHS MUN.	100,000	2 WHS MUN.	100,000					5	300,000	MLGU Tourism Offices, DOT, BLGUs	PLGU, MLGU, DOT
2. Municipal Tourism Codes that advocate sustainable tourism and conservation	Toruism Municipalities	Tourism Codes are formulated and Updated			5	70,000	6	80,000							11	150,000	MLGU Tourism Offices, DOT, BLGUs	PLGU, MLGU, DOT
3. Codes of conduct among service providers that adheres to sustainable tourism principles	Ifugao Province	No. of sector in the tourism industry has a Code of Conduct that adheres to Sustainable Tourism principles					2	40,000	2	50,000	2	60,000	10	150,000			MLGU Tourism Offices, DOT, BLGUs	PLGU, MLGU, DOT

4. Profit sharing system among service providers	Ifugao Province	Service providers such as tour guides and drivers with formulated a system for profit sharing			1	20,000	2	40,000	3	50,000				100,000	6	210,000	PLGU, MLGUs, BLGU, Tour Operators, and all other Tourism Service Providers	DOT
5. Sense of Place and Place attachment through inclusion of Ifugao icons and symbols in new and existing facilities	Ifugao Province	Establishment of culture codes and tourism codes, infrastructure guides, ordinances and policies that promotes the use of Ifugao icons and symbols and IKSP in new and existing facilities and structures		50,000	1	50,000		50,000		50,000		50,000		150,000	1	400,000	PLGU, MLGUs	PLGU, MLGUs
Sub-total				50,000		240,000		310,000		250,000		110,000		400,000		1,060,000		
<b>Component 5: World Heritage Sites Network</b>																		
Establish a centralized ticketing system	Ifugao Province	One centralized ticketing system is established through a printed ticket/passport and online booking/reservation/info for the Heritage Municipalities					1	500,000		250,000		250,000		700,000	1	1,700,000	Transport Org, DOT, DTI, MLGUs, PLGU	
Federation of Service Providers Association	Ifugao Province	An increased number in the number of associations for the service provides and federation of these associations			2	25,000	2	25,000	1 federal	150,000		25,000		25,000	5	250,000	MLGUs, SITMO, PLGU	MLGUs, PLGU, SITMO, RTOs

Ifugao Heritage Visitor Center	Ifugao Province	One centralized heritage visitor center is established or the heritage towns have improved visitor centers					1	4,000,000							2	4,000,000	PLGU	PLGU, DOT
<b>Sub-total</b>					-			<b>25,000</b>		<b>4,525,000</b>		<b>400,000</b>		<b>275,000</b>		<b>725,000</b>		<b>5,950,000</b>
<b>Component 6: Tourism Education, Research and Development</b>																		
Sustainable Tourism	Ifugao Province	1) Number of training modules on sustainable tourism created			1	300,000									1	300,000	MLGUs, PLGU, DOT, SITMO, IFSU	MLGUs, PLGU, DOT, SITMO, IFSU
	Ifugao Province	2) Number of trainings regarding sustainable tourism conducted for policy-makers, and service providers					1	300,000							1	300,000	MLGUs, PLGU, DOT, SITMO	MLGUs, PLGU, DOT, SITMO
	Ifugao Province	3) Number of trainings on proper tourism management for service providers							1	350,000					1	350,000	MLGUs, PLGU, DOT, SITMO	MLGUs, PLGU, DOT, SITMO
Visitor Education	Ifugao Province	1) Number of infomercials created regarding appropriate tourist behavior			3	150,000	4	200,000	5	250,000			10	1,000,000	22	1,600,000	MLGUs, PLGU, DOT, IFSU	MLGUs, PLGU, DOT, IFSU
	Province wide and Bus Terminals and others	2) Number of signages and other tools to put across infomercials in appropriate areas					1	700,000			1	700,000	1	700,000	3	1,400,000	PLGU, DOT	DOT, NCCA
Capability building of service providers	Province Wide	1) Increased number of basic and advance skills trainings conducted			2	450,000	2	500,000	2	500,000			4	1,000,000	10	2,450,000	DOT, TESDA, DTI, PLGU, SITMO, DILG, IFSU	DOT, PLGU, MLGUs, DENR, IFSU, TESDA

	Province Wide	2) Number of Accredited and licensed service providers	70		90		110		120				150		540	-		
	Province Wide	3) Increased number of service providers with specialization													0	-		
Sub-Total				-		900,000		1,700,000		1,100,000		700,000		2,700,000		6,400,000		

**SUMMARY OF ECONOMIC DEVELOPMENT COMPONENT**

COMPONENT	Y1 (2015) Target	Y2 (2016) Target	Y3 (2017) Target	Y4 (2018) Target	Y5 (2019)Target	Y6-10(2020-2024)	TOTAL
1. Community-Based Agri-Industry Program	1,602,500	3,511,400	1,869,600	2,567,200	817,200	6,688,800	17,056,700
2. Sustainable Tourism Development							
Component 1: Tourism product Development Program	3,750,000	3,650,000	3,100,000	3,300,000	2,600,000	4,100,000	20,500,000
Component 2: Tourism SITE Development Program	2,600,000	3,270,000	2,480,000	2,450,000	2,060,000	9,380,000	22,240,000
Component 3: Promotions and Marketing	50,000	950,000	590,000	345,000	670,000	1,525,000	4,130,000
Component 4: Policy Development and Institutionalization	50,000	240,000	310,000	250,000	110,000	400,000	1,060,000
Component 5: World Heritage Sites Network	-	25,000	4,525,000	400,000	275,000	725,000	5,950,000
Component 6: Tourism Education, Research and Development	-	900,000	1,700,000	1,100,000	700,000	2,700,000	6,400,000
TOTAL PER YEAR	8,052,500	12,546,400	14,574,600	10,412,200	7,232,200	25,518,800	77,336,700





***IFUGAO RICE TERRACES MASTER PLAN***

***2015-2024***

***Province of Ifugao***

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