

# ANNEXES

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## **Annex 1      Forms**

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**Monthly Meeting Report (page 1)**

**Monthly Meeting Report**

1. Name of Group and Community: \_\_\_\_\_

2. Date of Monthly Meeting: \_\_\_\_\_

3. Extension Worker in charge of group: \_\_\_\_\_  
\_\_\_\_\_

4. Facilitator of the meeting: \_\_\_\_\_

5. Attendance by Group Members:

Total	Women	Men

6. Attendance by Project personnel:

Total	Women	Men

7. Total Active Members:

Total	Women	Men



### Monthly Meeting Report (page 3)

**9. Evaluation of Short-Term (Momentary) Activities by the Group** (Training, tours, workshops, lectures, construction, etc.)

(PD: Participatory Development, Ex: Extension, EE: Environmental Education, Mk: Marketing).

N°	Activities Implemented	Evaluation by the Group		Transference	Comments
		Good		Yes	
		Normal		No	
		Poor			
		No Answer			
		Good		Yes	
		Normal		No	
		Poor			
		No Answer			
		Good		Yes	
		Normal		No	
		Poor			
		No Answer			
		Good		Yes	
		Normal		No	
		Poor			
		No Answer			
		Good		Yes	
		Normal		No	
		Poor			
		No Answer			

### Monthly Meeting Report (page 4)

**10. Report on Activities NOT Implemented during the month by Components and Units**

(PD: Participatory Development, Ex: Extension, EE: Environmental Education, Mk: Marketing).

N°	Pending Activities	Components and Units	Reason (identify the problems)

**11. Review of the Records**

Record	Status of Record	Remarks to improve the Record
List of attendance	Correct Incomplete Not brought	
Record of Production	Correct Incomplete Not brought	
Cashbook	Correct Incomplete Not brought	

**12. Treasurer's Report**

Balance of previous month	Expense	Income	Current Balance
Details			







**Monitoring by monthly meeting**

<b>Aspect</b>	<b>Remarks</b>
Strengthening of organization (basic attitude) (administration of group)	
Environmental Aspect (management of planning, conservation and sustainable production)	
Economic Aspect (economic coordination of group)	



### Material Request Form

Project for Community Development and Integrated Management of the Alhajuela Lake Subwatershed (ANAM-JICA)

#### Material Request (No.            )

Group Name: \_\_\_\_\_ Date: \_\_\_\_\_ (mm)        (dd)        (yy)

No.	Material	Quantity	Unit Price	Total	Place where the requested material will be used	Signature of applicants (Coordinators of the activities)	Approval
1							
2							
3							
4							
5							
6							
7							
Grand Total							

The group requests the above-mentioned material.  
 Signature of President: \_\_\_\_\_  
 Signature of Secretary: \_\_\_\_\_

Signature of the extension worker in charge: \_\_\_\_\_  
 Comments:

The request has been approved.  
 Signature of counterpart: \_\_\_\_\_ Signature of Expert: \_\_\_\_\_  
 Amount approved: \_\_\_\_\_ Dollars  
 Approval date: \_\_\_\_\_ (mm)        (dd)        (yy)  
 Comments:

#### Acceptance of Material (No.            )

The group received the above-mentioned material in order.  
 Signature of President: \_\_\_\_\_  
 Signature of Secretary: \_\_\_\_\_  
 Date received: \_\_\_\_\_ (mm)        (dd)        (yy)  
 Comments:



### Extension Sheet

**Project for Participatory Community Development and Integrated Management of the Alhajuela Lake Subwatershed (ANAM – JICA)**

#### Document for Technical Extension and Activity Support

Community Name:		Date:
Time when extension worker started:	Time when extension worker finished:	

Details of the extension and support provided:

Number of participants in the group activities:	Total (    ) Men (    ) Women (    )		
Details of the activities carried out  (Write down the numerical data as well)	<ul style="list-style-type: none"> <li>● Infrastructure</li> </ul>		
	<ul style="list-style-type: none"> <li>● Working in the plots according to the AAP and FUP</li> </ul>		
	<ul style="list-style-type: none"> <li>● Other types of work</li> </ul>		
Technical problems needing attention:			
Tools and material delivered to the community:			
Name of extension workers who gave the assistance:			

Plan for next extension and activity support:

Next visit:	Date: (day) _____	(month) _____	(year) _____	Time: (at _____ o'clock)
Issues to be addressed by extension and activity support:				
Tools and material needed in the next visit:				
Responsible technician				
Comments:				

Signature of Extension staff: \_\_\_\_\_ Signature of group: \_\_\_\_\_

**Farmland Use Plan**

<b>FUP Form 1. General Information of the Farm</b>	
Date plan was made	Day:                      Month:                      Year:
Name of Community	
Name of Beneficiary	
ID Number	
Name of Group	
Area of the farm (hectares)	
Coordinates of the farm (Measuring point: _____)	Northing: _____ Easting: _____ Datum and Zone: (                      )
Inside or outside the Chagres National Park	Inside                      Buffer zone
Other information (socio-economic data, access route, property rights on the land, corregimiento, district, etc.)	

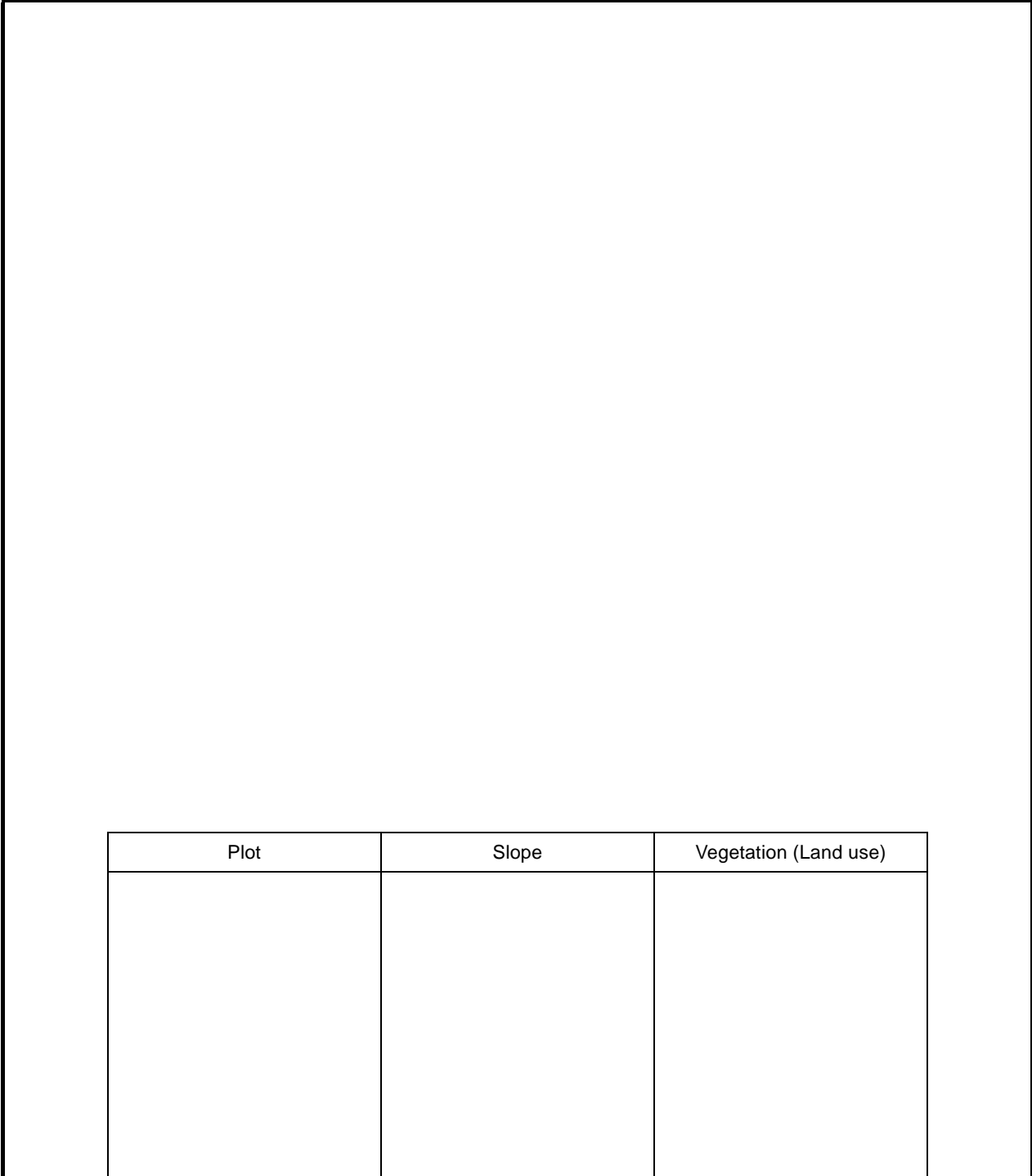
**Person responsible for the planning**

**Name** \_\_\_\_\_

**Signature** \_\_\_\_\_

**Farmland Use Plan**

**FUP Form 2. Map of current land use**      Date created: \_\_\_\_\_



Plot	Slope	Vegetation (Land use)

*This map does not guarantee the legal validity of the land border nor property rights.*

**Farmland Use Plan**

**FUP Form 3. Map of future land use**

Date created: \_\_\_\_\_

Plot	Slope	Vegetation (Land use)

*This map does not guarantee the legal validity of the land border nor property rights.*



**Farmland Use Plan**

**FUP Form 4. Estimation of resources needed and Work schedule (for group farm)**

Plot (area)	Future Use	Species or Variety	Quantity	Conservation Techniques	Work Schedule			Inputs from the beneficiary	Inputs from Outside	% for sale
					Year 1	Year 2	Year 3 -			
<b>Area for conservation</b>										
<b>Land for structures</b>										
<b>Potential Farming Area</b>										
<b>Other Area</b>										

**(Special Note)** Other activities that do not use the farm land:

**FUP Form 4. Estimation of resources needed and Work schedule (for individual farm)**

Future Land Use												
Name of Plot	Area (m <sup>2</sup> )	Slope	Technique for Conservation						Crops			
Inputs needed												
Material	Quantity	Unit Price (B/.)	Cost (B/.)	Inputs by Beneficiary	Outside Inputs	Inputs of material by the project						
<b>TOTAL</b>												
Schedule (Year 1 = )												
Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Schedule (Year 2 = )												
Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Schedule (Year 3 = )												
Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec



**Farming Record**

Group Name :
Crop :
Plot Number :

Seed / Seedling	Quantity:
Method of acquisition:	

Sowing or transplanting in the plot (not in the nursery or seedbed)	
Date:	Quantity:
Area sowed (m2) :	

Harvest date	Total Amount Harvested	Amount for Own Consumption	Amount for Selling	Income
Total (Fill in at the end of the harvest)				

Other products applied (fertilizers, chemicals, etc):
---

Comments:
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Date when the farm production or work was finished:
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## Annual Activity Plan

<b>AAP (1) Activities on the group farmland plots.</b>		<i>* This section (1) should be done for each plot.</i>											
Name of the plot:		Plot Size: square meters											
Crops, Begin preparation, Months for planting, Months for harvesting, Conservation techniques to be applied, Crop production goal, Sales goal, Contribution from the group, Contribution from the project,													
<b>AAP (2) Infrastructure</b>													
Location of Infrastructure:													
Type of infrastructure, Type of work, Dimension of the infrastructure, Month for doing the work, Contribution from the group, Contribution from the project													
<b>AAP (3) Animal husbandry</b>													
Location of the area for animal husbandry:													
Species, Month for beginning, Month for harvesting, Production goal, Sales goal, Contribution from the group, Contribution from the project													
<b>AAP (4) Organization</b>													
Types of activities, Months for doing the activities, Contribution from the group, Contribution from the project													
<b>AAP (5) Business and Fund</b>													
Types of activities, Months for doing the activities, Contribution from the group, Contribution from the project													
<b>AAP (6) Reinvestment</b>													
Types of inputs, Quantity needed, Months for acquiring supplies, Means of acquisition													
<b>AAP (7) Various</b>													
Types of activities, Months for doing the activities, Contribution from the group, Contribution from the project													

Group:		Year:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Activities on the group farmland plots	Plot:	Crop:												
		Crop:												
	Plot:	Crop:												
		Crop:												
Infrastructure														
Animal husbandry														
Organization														
Business and Fund														
Reinvestment														
Various														

Responsible persons: Project \_\_\_\_\_ Group \_\_\_\_\_

**List of Potential Beneficiaries for Individual Farms**

List of beneficiaries determined by the group

*Extension staff in charge:*

Name	ID	Land	Signature
		<input type="checkbox"/> Own <input type="checkbox"/> Associated with ( )	
		<input type="checkbox"/> Own <input type="checkbox"/> Associated with ( )	
		<input type="checkbox"/> Own <input type="checkbox"/> Associated with ( )	
		<input type="checkbox"/> Own <input type="checkbox"/> Associated with ( )	
		<input type="checkbox"/> Own <input type="checkbox"/> Associated with ( )	
		<input type="checkbox"/> Own <input type="checkbox"/> Associated with ( )	
		<input type="checkbox"/> Own <input type="checkbox"/> Associated with ( )	
		<input type="checkbox"/> Own <input type="checkbox"/> Associated with ( )	
		<input type="checkbox"/> Own <input type="checkbox"/> Associated with ( )	
		<input type="checkbox"/> Own <input type="checkbox"/> Associated with ( )	

**Directors' board of the Group** \_\_\_\_\_ **declares that the members mentioned above have sufficient responsibility to fulfill the promises to be beneficiary of the assistance by Alhajuela Project for development of the individual farms, in accordance with the rules established and agreed upon between Alhajuela Project and the group.**

Date: \_\_\_\_\_ Community: \_\_\_\_\_ Group: \_\_\_\_\_

Signature (2 directors): President \_\_\_\_\_ Secretary \_\_\_\_\_ Treasurer \_\_\_\_\_

Approval by Alhajuela Project: (Panamanian side) \_\_\_\_\_ (Japanese side) \_\_\_\_\_

**Monitoring of Individual Farms**  
**Monitoring Sheet for Individual Farms**

Name of Community		Date:
Name of Beneficiary(ies):		
Technical staff in charge:		

**Remarks**

Achievement of Farmland Use Plan	● Adequate use of provided materials	
	● Beneficiaries' own contribution (inputs)	
	● Development of techniques and crops	
Relation with the group	● Mutual help among the members	
	● Contribution to the group's business	
Problems which need special measures or consulting with Project team		
Products obtained by beneficiaries' creativity and intelligence (if any)		

## Annex 2. List of available guides and manuals on conservation and environment-friendly farming techniques

### 2.1 Available guides and manuals

The following informations are available in PDF format on the official website of Alhajuela Project. Please refer to the “Existing data on watershed conservation”.

(<http://www.jica.go.jp/project/spanish/panama/2515031E0/data/index.html>)

Nº	Title (in Spanish)	Year	Publishing Organization
1	Manual de AGROFORESTERÍA	2000	ANAM / CEMARE / JICA
2	Manual de VIVEROS FORESTALES	2000	ANAM / CEMARE / JICA
3	Manual de PLANTACIONES FORESTALES	2000	ANAM / CEMARE / JICA
4	Manual de MANEJO DE BOSQUES NATURALES	2000	ANAM / CEMARE / JICA
5	ÁRBOLES DE INTERÉS FORESTAL EN PANAMÁ	2000	ANAM / CEMARE / JICA
6	MANUAL DE CAMPO EN SILVICULTURA Y AGROFORESTERÍA	2005	ANAM / PROCCAPA / JICA
7	AGRICULTURA ORGÁNICA	2005	ANAM / PROCCAPA / JICA
8	ARROZ EN FANGUEO	2005	ANAM / PROCCAPA / JICA
9	MANEJO DE FRUTALES	2005	ANAM / PROCCAPA / JICA
10	PRODUCCIÓN DE CARBÓN Y VINAGRE DE CARBÓN	2005	ANAM / PROCCAPA / JICA
11	MANUAL DE CONSERVACIÓN DE SUELOS Y AGUAS	N.D.	ANAM / CEDESAM
12	PROCESO de Extensión de Técnicas Apropriadas para Pequeños Productores	2006	INA / PROCESO / JICA
13	Abonos Orgánicos	2006	INA / PROCESO / JICA
14	Conservación de Semillas	2006	INA / PROCESO / JICA
15	Conservación de Suelos	2006	INA / PROCESO / JICA
16	Insecticidas Orgánicos	2006	INA / PROCESO / JICA
17	La Bomba Ariete	2006	INA / PROCESO / JICA
18	Plantas Medicinales	2006	INA / PROCESO / JICA
19	Ricipiscicultura con Patos y Azola	2006	INA / PROCESO / JICA
20	Rotación de Pollos Asociado con Cultivos	2006	INA / PROCESO / JICA
21	Tracción Animal	2006	INA / PROCESO / JICA
22	Abono Humus	2006	INA / PROCESO / JICA
23	Cría de Conejos	2006	INA / PROCESO / JICA
24	Tracción Animal	2006	INA / PROCESO / JICA
25	La Bomba Ariete	2006	INA / PROCESO / JICA
26	Ricipiscicultura	2006	INA / PROCESO / JICA
27	Establecimiento de lineamientos técnicos, sociales y económicos para el desarrollo sostenible de actividades de agricultura ecológica, agroforestería y la reforestación en la cuenca hidrográfica del canal de panamá	2007	CATIE / DES-EX / NATURA (CICH)



28	MANUAL TÉCNICO "Conservación y Recuperación de Suelo"	2007	Proyecto J-Green / MAG / UNA (Paraguay)
29	ABONOS VERDES	2007	Proyecto J-Green / MAG / UNA (Paraguay)
30	PRODUCCIÓN DE MUDAS DE CÍTRICOS	2007	Proyecto J-Green / MAG / UNA (Paraguay)
31	HORMIGAS CORTADORAS	2007	Proyecto J-Green / MAG / UNA (Paraguay)
32	PRODUCCIÓN DE MUDAS DE MANGO	2007	Proyecto J-Green / MAG / UNA (Paraguay)
33	HUERTA FAMILIAR	2007	Proyecto J-Green / MAG / UNA (Paraguay)
34	CONSTRUCCIÓN DE CURVAS DE NIVEL	2007	Proyecto J-Green / MAG / UNA (Paraguay)
35	PRODUCCIÓN DE FORRAJES	2007	Proyecto J-Green / MAG / UNA (Paraguay)
36	USO SEGURO DE PLAGUICIDAS	2007	Proyecto J-Green / MAG / UNA (Paraguay)
37	CULTIVOS HORTICOLAS PROTEGIDOS	2007	Proyecto J-Green / MAG / UNA (Paraguay)
38	USO DEL KUMANDÁ YVYRAÍ	2007	Proyecto J-Green / MAG / UNA (Paraguay)
39	OBRAS FÍSICAS PARA EL CONTROL DE LA EROSIÓN	2007	Proyecto J-Green / MAG / UNA (Paraguay)
40	VIVERO FORESTAL	2007	Proyecto J-Green / MAG / UNA (Paraguay)
41	MANEJO DEL COCOTERO	2007	Proyecto J-Green / MAG / UNA (Paraguay)
42	CRÍA DE CONEJOS	2007	Proyecto J-Green / MAG / UNA (Paraguay)
43	LOMBRICULTURA	2007	Proyecto J-Green / MAG / UNA (Paraguay)
44	CONSTRUCCIÓN DEL ESTERCOLERO	2007	Proyecto J-Green / MAG / UNA (Paraguay)
45	PISCICULTURA	2007	Proyecto J-Green / MAG / UNA (Paraguay)
46	ALMACENAMIENTO DE GRANOS	2007	Proyecto J-Green / MAG / UNA (Paraguay)
47	ALIMENTACIÓN Y SANITACIÓN DE AVES Y CERDOS	2007	Proyecto J-Green / MAG / UNA (Paraguay)
48	CULTIVO DE HORTALIZAS DE HOJAS	2007	Proyecto J-Green / MAG / UNA (Paraguay)

49	CARTILLA 2 PLAN DE MANEJO FORESTAL Cuidados de los árboles	2007	Proyecto J-Green / MAG / UNA (Paraguay)
50	Manual de Reforestación Cuenca Hidrográfica del Canal de Panamá Volumen 1	2006	ACP (Unidad de Sensores Remotos)
51	Manual de Reforestación: Especies Maderables Tradicionales Cuenca Hidrográfica del Canal de Panamá Volumen 2	2007	ACP (Unidad de Sensores Remotos)
52	Manual de Reforestación: Especies Maderables No Tradicionales Cuenca Hidrográfica del Canal de Panamá Volumen 3	2008	ACP (Unidad de Sensores Remotos)
53	Iguana Verde (Iguana iguana) GUÍA DE PROCEDIMIENTOS PARA INSTALAR ZOOCRIADEROS	2009	GOBIERNO NACIONAL / ANAM
54	Conejo Pintado (Agouti paca) GUÍA DE PROCEDIMIENTOS PARA INSTALAR ZOOCRIADEROS	2009	GOBIERNO NACIONAL / ANAM
55	PRODUZCA LAS MEJORES SEMILLAS ORGÁNICAS PARA SU FINCA	2006	AECI
56	El Injerto Para el Manejo de Frutales	2009	USAID / The Nature Conservancy / MEF / ANAM / FUNDACIÓN SMITHSONIAN DE PANAMÁ / AUDUBON / Fundación Natura
57	Guía del Manejo Integrado de Plagas (MIP) para técnicos y productores Versión 1	2010	MINSA / MIDA / MEDUCA / JICA
58	Proyecto Silvopastoril Subcuenca del Río Gatuncillo Propuesta Perfil Técnico	2003	USAID / ARD / GEMAS

## 2.2 Relation between the techniques and existing guides and manuals

<b>Basic preparation</b>	<b>Guides / Manuals</b>
Preparation of soil (manual preparation; draft animal; use of cultivator)	21, 24
Germination seedbed	1, 12, 14
Reproduction and conservation of seeds	2, 12, 14, 46
Appropriate irrigation methods	25
Fence with live plants	1
Preparation of beds or furrows	48
<b>Soil and water conservation</b>	<b>Guides / Manuals</b>
Making and using the "A Level"	11, 15
Planting on a level line (and three pins)	11, 15, 28, 34, 39
Contour planting	27
Erosion barriers (live barriers; inert barriers)	1, 11, 12, 15, 28, 39
Alley cropping	1
Agroforestry and cultivation under tree shade	1
Terraces (individual terrace; narrow terrace; bench terrace; etc.)	1, 11, 15, 28, 39
Ditches / trenches / drainage canals for water seepage	1, 15, 28, 39
Minimal tilling	11
Live or dead vegetation cover	1, 12, 28
Taungya system agroforestry	1
Gully restoration (vegetation wall, fill in with rocks, etc.)	27, 28, 39
<b>Improved productivity</b>	<b>Guides / Manuals</b>
Crop rotation	12, 15, 20, 28
Associated crops	27
Intercalated crops	27
Making and applying organic fertilizer (bokashi; earthworm cultures; plant compost; etc.)	1, 7, 12, 13, 22, 26, 28, 29, 43, 44
Incorporation of green fertilizer (mucuna; canavallia; mani forrajero ( <i>arachis pintoi</i> ); balo; etc.)	1, 12, 28, 29
Making and applying natural insect repellents (extraction from preventive plants; etc.)	6, 7, 16
Improved fallow	1
Integrated pest management (control of insects, leaf-cutter ants, nematodes, weeds, fungi, etc.)	12, 27, 31, 57
Greenhouse cultivation	37
Crop diversification (non-traditional and profitable crops; improved varieties)	12, 18, 28, 55
Making and applying wood vinegar	10
Rice paddy cultivation	6, 8, 12, 19
Managing fruit trees (pruning; grafting; etc.)	6, 9, 30, 32, 56
Small animal husbandry or Animal cage (iguana; rabbits; quail; fish; etc.)	1, 8, 19, 23, 42, 45, 53, 54
<b>Tree planting</b>	<b>Guides / Manuals</b>
Establishing a nursery	2
Producing tree seedlings	2
Planting tree seedlings	3, 51, 52
Caring for the planted trees	3, 49
Collecting seeds from trees	5
<b>Others</b>	<b>Guides / Manuals</b>
Silvopastoral system in cattle farms (using tree species inside and around the farm; protein bank; rotation of pastureland; making a drinking trough and saltlick; etc.)	1, 27, 58
Reducing canal grass (using mucuna; using guandu ( <i>cajanus cajan</i> ); planting trees; etc.)	50
Home gardens	1, 33
Windbreak	1
Improving pasture and forage species on cattle farms	1, 27

### **Annex 3. List of available guides and manuals on farm planning**

The following informations are available in PDF format on the official website of Alhajuela Project. Please refer to the “Existing data on watershed conservation”.

(<http://www.jica.go.jp/project/spanish/panama/2515031E0/data/index.html>)

Nº	Title (in Spanish)	Year	Publishing Organization
1	PLANIFICACIÓN AGRÍCOLA ECONÓMICA A NIVEL DE FINCA	1991	MEDA (Bolivia)
2	Manual de Fincas Diversificadas	N.D.	PROESA (El Salvador)
3	10 Lecciones Aprendidas en el Manejo Integrado de las Subcuencas de los Ríos Los Hules-Tinajones y Caño Quebrado	2006	CICH / USAID / ACP
4	Caracterización zootécnica y ambiental de fincas ganaderas en las subcuencas de los ríos Hules Tinajones y Caño Quebrado	2004	CICH / USAID / AED

### **Annex 4. List of available guides and manuals on organizational strengthening**

The following informations are available in PDF format on the official website of Alhajuela Project. Please refer to the “Existing data on watershed conservation”.

(<http://www.jica.go.jp/project/spanish/panama/2515031E0/data/index.html>)

Nº	Title (in Spanish)	Year	Publishing Organization
1	80 Herramientas para el Desarrollo Participativo	2000	IICA (Gelfus, F.)
2	Manual para el Nivel de Campo, Programa de Análisis Socio Económico y de Género	2002	FAO
3	Manual de Facilitación en Actividades Grupales para la Conservación de Cuencas	2003	ANAM / PROCCAPA / JICA
4	DIAGNOSTICO RURAL PATICIPATIVO	2003	ANAM / PROCCAPA / JICA
5	GÉNERO	2003	ANAM / PROCCAPA / JICA
6	Herramientas y Dinámicas del Taller Participativo para las Escuelas de Campo	2006	INA / PROCESO / JICA
7	Capacitación de Promotores/as Rurales para las Escuelas de Campo: Experiencia del Proyecto PROCESO	2006	INA / PROCESO / JICA
8	Evaluación Participativa de las Técnicas Apropriadas en las Escuelas de Campo: Experiencia del Proyecto PROCESO	2006	INA / PROCESO / JICA

9	Dinámicas para la Cooperación Grupal	2006	INA / PROCESO / JICA
10	El Taller Participativo - Herramienta para Facilitar Desarrollo Sostenible -	2006	INA / PROCESO / JICA
11	PROYECTO FOMENTO DE MICROEMPRESAS AUTOSOSTENIBLES PARA MUJERES EN LA ZONA RURAL "MeM" Gestión de un Promotor de Microempresa Rural Manual 01	2008	Mem / JICA / PRAF / INFOP
12	PROYECTO FOMENTO DE MICROEMPRESAS AUTOSOSTENIBLES PARA MUJERES EN LA ZONA RURAL "MeM" Monitoreo de Indicadores de Empoderamiento Manual 02	2008	Mem / JICA / PRAF / INFOP
13	PROYECTO FOMENTO DE MICROEMPRESAS AUTOSOSTENIBLES PARA MUJERES EN LA ZONA RURAL "MeM" Organización de la Microempresa Manual 04	2008	Mem / JICA / PRAF / INFOP
14	PROYECTO FOMENTO DE MICROEMPRESAS AUTOSOSTENIBLES PARA MUJERES EN LA ZONA RURAL "MeM" Registros, Análisis Contable y Costos Manual 05	2008	Mem / JICA / PRAF / INFOP
15	PROYECTO FOMENTO DE MICROEMPRESAS AUTOSOSTENIBLES PARA MUJERES EN LA ZONA RURAL "MeM" Evaluación de la Microempresa Rural Manual 06	2008	Mem / JICA / PRAF / INFOP
16	PROYECTO FOMENTO DE MICROEMPRESAS AUTOSOSTENIBLES PARA MUJERES EN LA ZONA RURAL "MeM" Ciclo de la Gerencia Manual 07	2008	Mem / JICA / PRAF / INFOP
17	Principios Básicos de la administración	2008	MIDA
18	Guías y Manuales Para el Desarrollo Rural Sostenible, basado en la Conservación del Suelo Documento 4 MANUAL DE TÉCNICAS PARTICIPATIVAS	2007	Proyecto J-Green / MAG / UNA (Paraguay)
19	GÉNERO SOCIEDAD Y AMBIENTE	2006	USAID / ACP
20	GUÍA ADMINISTRATIVA Y CONTABLE PARA EMPRENDEDORES	2008	GOBIERNO NACIONAL / ampyme
21	INICIE SU NEGOCIO Micro Empresa, Aquí y Ahora	N.D.	GOBIERNO NACIONAL / ampyme

## **Annex 5. List of available material on creating environmental awareness of farmers and providing environmental education to students**

The following informations are available in PDF format on the official website of Alhajuela Project. Please refer to the “Existing data on watershed conservation”.

(<http://www.jica.go.jp/project/spanish/panama/2515031E0/data/index.html>)

### **5.1 Material available for increasing environmental awareness of farmers**

#### **5.1.1 Material for facilitators**

Nº	Title (in Spanish)	Year	Publishing Organization
<b>Concepts of environment, natural resources and watershed; Watershed environment in which beneficiaries live</b>			
1	Indicadores Ambientales de la República de Panamá 2006	2006	ANAM / Contraloría
2	Informe del Estado Ambiental de la Cuenca Hidrográfica del Canal de Panamá	2007	CICH
3	La Cuenca del Canal: deforestación, urbanización y contaminación	1999	STRI / ANAM / USAID
4	Guía Canal de Panamá	2007	Ediciones Balboa
5	PARQUE NACIONAL CHAGRES PLAN DE MANEJO	2005	ANAM / USAID / TNC
6	Sistema Nacional de Áreas Protegidas / Parque Nacional Chagres	N.D.	ANAM
7	Módulos y Guía Metodológica para Educación Ambiental No Formal en el Parque Nacional Chagres y su Zona de Amortiguamiento	2005	SONDEAR
8	Directorio de Instancias Involucradas en el Parque Nacional Chagres y su Zona de Amortiguamiento con Experiencia en Educación Ambiental	2005	SONDEAR
<b>Importance of the region's biodiversity; Environmental regulation and citizen participation</b>			
9	Jaguares para siempre	2006	Wildlife Conservation Society
10	Ley No. 18, del 10 de abril de 2002: que declara el Águila Harpía como ave nacional.	N.D.	ACP
11	Corregidores y corregidoras por un ambiente sano en sus corregimientos	N.D.	ANAM / USAID
12	DELITOS CONTRA EL AMBIENTE Y EL ORDENAMIENTO TERRITORIAL / TEXTO ÚNICO CÓDIGO PENAL DE LA REPÚBLICA DE PANAMÁ / Adoptado por la Ley 14 de 2007, con las modificaciones y adiciones introducidas por la Ley 26 de 2008 / TITULO XIII	2008	ANAM

### 5.1.2 Material for farmers

Nº	Title (in Spanish)	Year	Publishing Organization
<b>Concepts of environment, natural resources and watershed; Watershed environment in which beneficiaries live</b>			
13	Documentales: Conservación para el desarrollo sostenible (DVD)	2007	ANAM
14	Canal de Panamá (DVD)	N.D.	ACP
15	Guía de Visitantes: Parque Nacional Chagres	N.D.	ANAM
16	Charla ambiental material N°1 Cuenca degradada y cuenca conservada	2009	Proyecto Alhajuela ANAM-JICA
<b>Importance of water-soil-forest resources and their conservation; Impact of human activities on the environment</b>			
17	EL AGUA: Si queremos tenerla, debemos cuidarla	N.D.	ANAM
18	MISIÓN # 1 Calidad de Agua	N.D.	ANAM / ACP / MEDUCA
19	Día Mundial del Árbol	N.D.	ANAM
20	Cuidad del Árbol	2007	ACP / Universidad de Panamá
21	SEMILLAS DE CONOCIMIENTO	2010	ANAM
22	INVENTARIO E IDENTIFICACIÓN DE ÁRBOLES Y ARBUSTOS DEL PARQUE RECREATIVO OMAR	2009	ANAM
23	Consejos Útiles para Cuidar el Ambiente desde el Hogar	N.D.	ANAM
24	Guía de Reciclaje de residuos sólidos domiciliarios	2008	ANAM
25	El Reciclaje	2000	ANAM
26	El Deshielo, un Tema Candente	2008	ANAM / PNUMA
27	Charla ambiental material N°2 Agricultura orgánica y agricultura convencional	2010	Proyecto Alhajuela ANAM-JICA
<b>Importance of the region's biodiversity; Environmental regulation and citizen participation</b>			
28	Águila Harpía: Ave Nacional de Panamá	N.D.	ANAM
29	Primer Audiovisual de un Águila Harpía en su Habitat Natural (DVD)	N.D.	ANAM / NHK
30	Conoce tus derechos y deberes con el ambiente	N.D.	ANAM / USAID
31	¿Cómo presentar una denuncia ambiental?	N.D.	ANAM / USAID
32	Delitos contra el Ambiente	N.D.	ANAM / PGN
33	Programa de Voluntarios y Voluntarias Ambientales	2005	ANAM
34	Espacios de Participación Ciudadana	2006	ANAM

## 5.2 Material available for environmental education of students

### 5.2.1 Material for facilitators and teachers

Nº	Title (in Spanish)	Year	Publishing Organization
<b>General guidelines on various issues</b>			
1	Guía Didáctica de Educación Ambiental: Nivel de Educación Inicial	2002	MEDUCA / ANAM
2	Guía Didáctica de Educación Ambiental: Primer Grado	2002	MEDUCA / ANAM
3	Guía Didáctica de Educación Ambiental: Segundo Grado	2002	MEDUCA / ANAM
4	Guía Didáctica de Educación Ambiental: Tercer Grado	2002	MEDUCA / ANAM
5	Guía Didáctica de Educación Ambiental: Cuarto Grado	2002	MEDUCA / ANAM
6	Guía Didáctica de Educación Ambiental: Quinto Grado	2002	MEDUCA / ANAM
7	Guía Didáctica de Educación Ambiental: Sexto Grado	2002	MEDUCA / ANAM
8	Guía Didáctica de Educación Ambiental: Marina	2002	MEDUCA / ANAM
9	Manual de Alternativas Pedagógicas (Folleto)	2004	
10	Manual Didáctico - Pedagógico para la Educación Ambiental en la Cuenca del Canal	2005	MEDUCA / ACP
11	Guía Didáctica de Educación Ambiental: Nivel de Educación Inicial	2007	MEDUCA / ANAM
12	Guía Didáctica de Educación Ambiental: Primer Grado	2007	MEDUCA / ANAM
13	Guía Didáctica de Educación Ambiental: Segundo Grado	2007	MEDUCA / ANAM
14	Guía Didáctica de Educación Ambiental: Tercer Grado	2007	MEDUCA / ANAM
15	Guía Didáctica de Educación Ambiental: Cuarto Grado	2007	MEDUCA / ANAM
16	Guía Didáctica de Educación Ambiental: Quinto Grado	2007	MEDUCA / ANAM
17	Guía Didáctica de Educación Ambiental: Sexto Grado	2007	MEDUCA / ANAM
18	Guía Didáctica de Educación Ambiental: Marina	2007	MEDUCA / ANAM
19	Guías Didácticas de Educación Ambiental	2006	MEDUCA / ANAM
20	Manual de Educación Ambiental	2007	J-Green / MAG / UNA (Paraguay)
<b>Importance of water-soil-forest resources and their conservation; Impact of human activities on the environment</b>			
21	Guía de la Misión #1 Análisis de la calidad del agua	2003	MEDUCA / ACP/ ANAM
22	Guía de la Misión Ambiental "Sensibilización y prevención sobre uso de agroquímicos"	2007	ACP / USAID / CICH



## 5.2.2 Material for students

Nº	Title (in Spanish)	Year	Publishing Organization
<b>Concepts of environment, natural resources and watershed; Watershed environment in which beneficiaries live</b>			
23	Mes de los recursos naturales y el ambiente	2005	JICA / ANAM / PROCCAPA
24	Guardianes de la Cuenca: Aprendamos a respetar y cuidar el ambiente	N.D.	ANAM / ACP / MEDUCA
25	Aprendo Jugando EN LA CUENCA Y EN EL CANAL DE PANAMÁ	2007	ACP / MEDUCA
26	¡Hola! Somos tus compañeros y compañeras del grupo "Guardianes de la Cuenca". Te invitamos a apoyar nuestra labor de conservación del ambiente natural de nuestra escuela y comunidad.	N.D.	ANAM / ACP / MEDUCA
27	¡Hola! Me llamo Sargentín, soy un pez que vivo en el Lago Gatún, en la Cuenca del Canal de Panamá...	N.D.	ANAM / ACP / MEDUCA
28	¡Intentémoslo! Educación Ambiental hacia la armonía con la naturaleza	2008	JICA
<b>Importance of water-soil-forest resources and their conservation; Impact of human activities on the environment</b>			
29	Fichas Ambientales: El Agua	N.D.	MEDUCA / ACP
30	Usos del Agua / El Agua es Vida	N.D.	ACP / MEDUCA
31	El Agua...Es Vida (rompecabeza)	N.D.	ACP
32	Usos del Agua (rompecabeza)	N.D.	ACP
33	Cristalina La Gotita de Agua	2009	ANAM
34	¡A SALVAR EL AGUA!	2003	ANAM / CBMAP
35	EL SUELO MILAGROSO	1995	MEDUCA / ANCON / INRENARE
36	Renace un Bosque	2006	ANAM
37	Convivamos con el Bosque	N.D.	ACP / MEDUCA
38	Los Agroquímicos son sustancias venenosas jugar con ellos puede ser mortal ¡EVÍTALOS!	N.D.	ACP / USAID / CICH
39	Agroquímicos + Salud: Trabajemos juntos con los guardianes para cuidar el agua de cuenca del canal	N.D.	ACP / USAID / CICH
40	Los Agroquímicos afectan la Salud y el Ambiente	N.D.	ACP / USAID / CICH
41	El Sueño que Cambió una Comunidad	2006	ANAM
42	Globo terráqueo Mágico	2006	ANAM
43	Fichas ambientales: La Basura	N.D.	MEDUCA / ACP
44	La basura tiene vida Reduzcamos y Reciclemos Guía de acción ambiental para estudiantes y comunidades	2007	ALCALDIA DE PANAMA / ASEO
45	La Basura: Un problema de todos	2009	USAID / TNC / MEF / ANAM / FUNDACIÓN SMITHSONIAN / AUDUBON / NATURA
46	EL CAMBIO CLIMÁTICO	2009	ANAM

Importance of the region's biodiversity; Environmental regulation and citizen participation			
47	Biodiversidad	2006	ANAM
48	Los Sapitos dicen Túngara	2006	ANAM
49	Guía de la Naturaleza para obtener colores	2008	ANAM / MEDUCA
50	2o CONCURSO DE DIBUJO DEL MES DE LOS RECURSOS NATURALES RENOVABLES Y EL AMBIENTE 2004	2004	PROCCAPA / ANAM / JICA
51	3er CONCURSO DE DIBUJO DEL MES DE LOS RECURSOS NATURALES RENOVABLES Y EL AMBIENTE 2005	2005	PROCCAPA / ANAM / JICA
52	4to CONCURSO DE DIBUJO Y CUENTOS AMBIENTALES DEL MES DE LOS RECURSOS NATURALES Y EL AMBIENTE 2006	2006	ANAM / JICA

### 5.3 Selected Issues from the Teachers' Guide to Environmental Education (versión 2007)

Main Issues      *Concepts of environment, natural resources and watershed;  
Watershed environment in which beneficiaries live*

Grade, Subject Matter	Title of the Activity	Objective of the Lesson
III    Math    7.1	Nature's Store	Use coins and fractions to solve operations and problems based on environmental aspects.
III    SS      1.1	We Share Natural Resources	Identify the distinct products from different regions of the country.
III    NS      1.2	The Natural Resources of My Province	Identify the natural resources of a province and their use.
IV    Tech    9.3	A Watershed	Describe what a watershed is and the importance of protecting it. Compare the effects of rain on deforested and forested watershed models.
V     NS      11.1	Sustainability of Natural Resources	Explain the significance of "sustainable development" through a game that demonstrates the importance of conserving natural resources for future generations.
VI    SS      3.1	Natural Resources	Inculcate the importance and the benefits of the (renewable and non-renewable) natural resources of the Americas.
VI    SS      5.3	The Canal Watershed	Present the causes of the high level of deforestation in the Canal watershed. Propose some alternatives for reducing deforestation in the Canal watershed.

Main Issues      *Importance of water resources and their conservation*

Grade, Subject Matter	Title of the Activity	Objective of the Lesson
II     NS      5.1	Water Purification and Water Usage	Recognize the conditions of drinking water.
III    NS      7.1	Water Poem	Identify the different sources of water and its benefits.
III    NS      7.2	Energy of Water	Describe the different states of water and why they change with the change in energy.
III    NS      7.3	Why is Water Important?	Appreciate the importance of water for human beings and understand how we are destroying this limited resource.
III    NS      10.1	How Much Water Do We Have?	Explain the importance of fresh water and the importance of protecting and conserving fresh water..
III    NS      10.3	The Water Cycle	Describe the water cycle. Present it in a diagram.

III	NS	10.7	Prevent Water Pollution	Describe the dangers of water pollution to our health. Explain the cause of water pollution. Present some steps to prevent it.
III	Art	16.1	I Am Water	Recognize the importance of water through a song.
IV	Tech	9.2	Polluted Water	Name the different types of water pollution. Describe the effects of each type pollution on plants and aquatic life. Identify polluted waters in the community and classify them..
V	NS	9.2	Water Gives Us Light	Appreciate the importance of water in generating electricity.
VI	NS	7.9	We are Losing Water	Recognize that there is a limited amount of water and that it is in danger of being polluted.

Main Issues      *Importance of soil resources and their conservation*

Grade, Subject Matter			Title of the Activity	Objective of the Lesson
IV	Tec	6.3	Protecting the Soil	Describe the causes and effects of erosion. Demonstrate how to protect the soil.
IV	Tec	6.4	The Soil is Not Magic	Identify the elements necessary for creating soil. Explain why it is difficult to replace the soil that is lost through erosion.
IV	Tec	6.5	Flat Land and Slopped Land	Determine the slope or incline of a terrain. Describe the most appropriate use of slopped terrain in order to prevent erosion.
IV	Tec	6.7	Will the Soil Stay or Go?	Describe the causes and effects of erosion. Demonstrate that the way of planting crops can control erosion.
IV	CN	6.9	Water Retention	Demonstrate the importance of roots for retaining water and sustaining the soil. Identify the environmental consequences of clearing the land of vegetation.
IV	Tec	10.2	Legumes and Nitrogen	Explain the importance of nitrogen for the growth of corn and other crops. Identify leguminous plants and the root nodules that fix nitrogen.
V	Tec	8.1	Abracadabra! Soil!	Identify the components of soil.
V	Tec	8.2	The Soil is Thirsty	Recognize the importance of the soil's absorption of water; the classifications of soil and their relationship to this function.
V	Tec	8.4	Soil and Soil	Recognize that the soil is composed of different kinds of material.
VI	Tec	1.5	Barriers	Explain why soil conservation is so important on a farm.
VI	Tec	4.7	Insects, Soil, and Plants	Explain the relationship between the soil and the organic matter necessary for its formation.

Main Issues      *Importance of forest resources and their conservation*

Grade, Subject Matter			Title of the Activity	Objective of the Lesson
III	NS	4.5	What Does the Forest Give Us?	Introduce the benefits provided by the forest.
IV	Tech	2.1	Forests are a Natural Medicine Cabinet	Recognize the value of plants in medicine.
V	NS	2.2	Altitude and Vegetation	Understand the characteristics of the coastal, lowland and highland vegetation.
V	NS	2.3	Canal Grass	Recognize the native and introduced plant species in the area of the Panama Canal.
V / IV	SS	3.3	Where are the Forests in Panama?	Identify what we can do to avoid the rapid destruction of natural resources.
VI	Span	3.3	It Depends on You	Express the impact of human beings on the rain forest through a skit.
VI	Math	7.2	Mathematics and Deforestation	Correctly solve problems of addition, subtraction, multiplication, and division related to the care of forests and reforestation of deforested areas.
VI	NS	8.3	Design a Plant	Show the Panamanian flora in a drawing. Recognize the characteristics of the tropical forest.
VI	NS	8.5	Trees of Panama	Describe the benefits of Panamanian flora for men and women.

IV	NS	11.1	When the Trees Disappear	Explain the importance of forests for animals and human beings. Describe the causes of the destruction of forests. Explain how we can prevent deforestation. Introduce the benefits provided by the forest.
III	NS	4.5	What Does the Forest Give Us?	

Main Issues      *Impact of human activities on the environment*

Grade, Subject Matter			Title of the Activity	Objective of the Lesson
II	SS	2.2	Once Upon a Time, in My Village	Identify the people who are a valuable source of information about the community's environment in the past and present.
III	SS	12.1	History of My Borough	Compare your borough's current environment with that of decades ago.
III	Tech	6.5	Agriculture With Trees	Establish the relationships between forests and rain, people, crops and wildlife.
IV	SS	7.1	Work in Our Country	Identify the distribution of the different types of work in Panama. Explain how Panamanians depend on the natural resources in their work.
V	SS	6.1		
V	Math	10.1	Agriculture and Mathematics	Recognize the farming methods that conserve the environment. Solve problems of subtracting fractions.
VI	NS	10.1	The National Parks of Panama	Locate the national parks of Panama according to their characteristics. Explain the importance of national parks.
VI	NS	10.4	Do We Need Parks?	Reaffirm the importance of conserving the flora and fauna.
VI	SS	1.1	History of My Town	Understand the relationship of the geography and history of a community.
VI	SS	5.1	New Roads: Are They Good or Bad?	Present the negative and positive aspects of new roads in rural areas through a skit.
VI	SS	12.1	Development in Your Community	Describe the changes in population, problems and available resources in the community during the last 10 years.
VI	Tech	1.4	What is Agroforestry?	Explain the different applications of agroforestry and their advantages
VI	Tech	3.4	History of Cattle Farming	Analyze the effects of cattle farming in the destruction of Panamanian forests. Locate the deforested areas on a map of Panama.

Main Issues      *Importance of the region's biodiversity*

Grade, Subject Matter			Title of the Activity	Objective of the Lesson
Ini	-	4.10	Organisms in Danger of Extinction	Emphasize that the destruction of tropical forests will destroy many plants and animals. Apply the concept of biodiversity in a game and art project.
Ini	-	4.11	An Outing in Nature	Observe and draw the natural objects that you find in the environment. Appreciate the diversity of living things.
Ini	-	4.12	Epiphytes, Epiphytes, Epiphytes	Create a variety of epiphytes. Apply the concept of plant biodiversity in an art project.
I	CN	3.3	Snakes and Mice	Understand that snakes are important in the balance of nature and are a help to men and women.
I	CN	3.4	Trees and Animals	Understand that one way to protect animals is to protect the places where they live, especially the forests.
II	CN	3.1	Animals: Are They Useful or Harmful?	Explain the relationships that exist between humans and animals.
IV	CN	11.4	Who am I?	Identify the animals that are in danger of extinction. Understand the role that human beings play in the extermination of animals.
VI	CN	9.2	Chains and Pyramids	Understand the inter-relationships that exist among living beings in a food chain.

Math (mathematics), SS (social science), NS (natural science), Tech (technology), Span (Spanish), Art (artistic expression)

#### 5.4 Dates Related to the Environment

Date	Activity
January 18	Park Ranger / Forest Ranger Day
February 2	World Wetlands Day
February 21	International Day for the Elimination of Racial Discrimination
March 8	International Women's Day
March 21	World Forest Day
March 22	World Day for Water
March 23	International Meteorological Day
April 7	World Health Day
April 22	Earth Day
April 28	World Day Against Noise
May 15	International Day of the Family
Third Friday of May	Arbor Day
May 31	World No Tobacco Day
Second week of May	International Migratory Bird Week
May 28	International Day of Action for Women's Health
Month of June	Natural Resources and Environment Month
June 5	World Environment Day
June 8	World Ocean Day
June 17	World Day to Combat Desertification and Drought
June 26	International Day for the Preservation of Tropical Forests
Second week of June	Ecology Week
Third week of June	Family Week
July 1	Anniversary of ANAM
July 11	World Population Day
August 24	National Day of National Parks
Month of September	Ocean Month
September 16	International Day for the Preservation of the Ozone Layer
Third Sunday of September	International Beach Clean Up Day
Third week of September	International Peace Week Clean Air Week
Last week of September	World Maritime Week
September 29	World Sea Day
October 1	International Water Day
First Monday of October	World Habitat Day
Second Wednesday of October	International Day for Natural Disaster Reduction
October 4	World Animal Protection Day
October 16	World Food Day
October 17	International Day for the Eradication of Poverty
October 19	World Rural Women's Day
Third week of October	Science Week
October 24	United Nations Day
October 25	No Smoking Day
December 1	International Day Against AIDS
December 3	International Day Against Pesticides
December 10	Human Rights Day
December 29	Biodiversity Day

**Annex 6. List of organizations and contact persons that provide personnel to conduct training sessions**

<b>Participatory Development / Organizational Strengthening</b>			
MIDA, Colon Regional Office	Rural Development Office	Obtaining legal status, Organizing fairs, etc.	Tel. 448 – 0215
INA	Department of Extension and Community Development	Organization of groups, Administration and work coordination	Tel. 976 – 1200 / 1123
Organized Groups from Capira District	“El Limon de Chica”	Coordinating educational tours	(Only cell phone)
	APRODECA (El Cacao community)	Facilitation in workshops, PRA	(Only cell phone)
	- “Nuevo Amanecer de El Jagua” - “Progreso de Bajo Bonito” - “Medalla Milagrosa”	Coordinating educational tours	(Only cell phone)
EMAUS		Offers services for training with lodging	Tel. 268 – 1209
Roxenkar		Economic sustainability of a group	(Only cell phone)

<b>Technical Extention</b>			
ANAM - CEDESAM	Headquarters in Rio Hato	Offers services for training with lodging,	Tel. 993 – 3585
	Sub-center in El Cacao	Agroforestry, Nursery	(Only cell phone)
MIDA, Colon Regional Office	Rural Development Office	Programs and technical assistance for agricultural and livestock development	Tel. 448 – 0215
INA	Department of Extension and Community Development	Technical transfer in the agricultural and livestock sector, Forming of technicians	(Only cell phone)
National Geographic Institute “Tommy Guardia”	Departments of Geodesy / Applied Geography	Land surveying and map making; Use of GPS and SIG	Tel. 507 – 9687 507 – 9689

<b>Marketing</b>			
AMPYME	Department of Operations	Programs for financial support, training for entrepreneurs	Tel. 500 – 5602
IPACOOOP	Provincial Offices	Counseling for cooperatives	Tel. 501 – 4416
ACOVIPA		Educational tour of the commercial chain	Tel. 236 – 2459 / 5968 236 – 5968
Community Councils		Collaboration in fairs and community events	(Only cell phone)

<b>Environmental Awareness Creation and Environmental Education</b>			
ANAM – DFCA (Directorate for Promoting Environmental Culture)	National Directorate - Department of Environmental Education - Department of Citizen Participation	Teacher Guides, Environmental events, Environmental Volunteers, National network of formal and informal environmental education, Environmental Advisory Council, etc.	Tel. 500 – 0874
	Colon Regional Office		Tel. 442 – 8348
	Panama Metro Regional Office		Tel. 500 – 0910
Administrative Office of Chagres National Park	Program for environmental communication, promotion and education	Environmental education and management of visitors to the Chagres National Park area	Tel. 320 – 7521 Cel. 6711 – 8512
MEDUCA	National Directorate of Environmental Education	Training of teachers, Holding of school events, etc.	Tel. 515 – 7390 Fax. 515 – 7317
ACP, Environmental Administration Division, Watershed Management Section	- Environmental Education Unit - Community Relations Unit - Remote Sensors Unit	Guardians of the Watershed, Local Committee and Advisory Council by sub-watershed, Reforestation programs (i.e. “Ciudad de Arbol”)	Environmental education: Tel. 272 – 2386 / 2392 Community relations: Tel. 276 – 2377 / 2964 Remote sensors: Tel. 272 – 5954
Panama University	Vice Rectorate of Extension	“Ciudad de Arbol” Project	Tel. 223 – 8870 Fax. 223 – 6166
Ecological Police	Gamboa sub-center	Environmental crimes	Tel. 314 – 9451 / 9439
SOMASPA		Protecting the jaguar	Fax. 271 – 1812
“Cerro la Gloria” Environmental Volunteer Group		Ecological trail	Tel. 448 – 2157

## Annex 7. List of organizations that provide support for obtaining outside funds

The following list is the result of a simple research; it is possible that there may be other cooperative organizations or support programs. The primary source of information is the web page of each organization, and the information was taken in March 2011. Programs or funds that have expired are not included.

<p>Organization: NATURA Foundation</p>	<p>Contact: Tel. 232 – 7615 / 7616 / 7617 Fax. 232 – 7613 info@naturapanama.org</p>
<p><b>Support Program and Requirements:</b> The NATURA Foundation is a private, non-profit organization legally established in 1991, which is dedicated to promoting plans and programs to protect and conserve the natural heritage of the Republic of Panama.</p> <p><b>(CHAGRES FUND)</b> Created in July 2003, the fund will be executable for 14 years for protecting, maintaining and recovering forests in Chagres National Park, its buffer zone, and initiatives by the civil society.</p> <p><u>What organizations may apply for the Chagres Fund?</u> <b>Non-profit organizations established according to Panamanian laws</b>, with objectives directed to the conservation, management and sustainable use of the forests and natural resources of Panama. Coalitions between organizations will be accepted as long as one of the parts of the coalition is the leader organization that will assume the contractual responsibility for executing the project.</p> <p><u>What activities are eligible to be financed by the Chagres Fund?</u></p> <ul style="list-style-type: none"> <li>● Restoration, protection and sustainable use of plant and animal species.</li> <li>● Protection, restoration and management of protected areas.</li> <li>● Practices of scientifically-based ecosystem management.</li> <li>● Research and identification of medicinal use of plants from tropical forests and forest prospecting.</li> <li>● Strengthening the institutional, technical and scientific capacity of beneficiary organizations.</li> <li>● <b>Supporting communities in developing environment friendly practices.</b></li> </ul> <p><u>Geographic areas covered by the Chagres Fund</u> Exclusively the area <b>inside the Chagres National Park</b> and the communities that are within 5 kilometers from the Park limits (in its <b>buffer zone</b>). This includes some communities in the Colon and Panama Provinces.</p> <p><b>(FIDECO)</b> With this fund, NATURA Foundation supports environmental initiatives of non-governmental organizations, educational entities and <b>community groups</b>, as well as the activities and operations of the National System of Protected Areas administered by ANAM. FIDECO's objective is to serve as a permanent source of financing and environmental initiatives with emphasis on initiatives inside the <b>Panama Canal watershed</b>. The <b>Donations Program</b> of FIDECO includes three components administered by NATURA Foundation:</p> <ul style="list-style-type: none"> <li>● Donations to Non-Governmental Organizations (NGO's) and related organizations.</li> <li>● Investment in Environmental Projects (requested and not requested).</li> <li>● Program for Strengthening the Capacity of NGO's and related organizations.</li> </ul> <p><b>(PRIVATE COMPANIES)</b> NATURA Foundation has a platform of private companies with social responsibility. Persons or organizations interested in searching for possible sponsors from the private sector may consult the Foundation.</p>	



<b>Organization:</b> AMPYME (Authority of Micro, Small and Medium Companies)	<b>Contact:</b> Tel. 500 – 1300 atencionalcliente@ampyme.gob.pa
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**Support Program and Requirements:**

**Seed Capital Program**

This is a **competitive fund** that seeks to promote and support the creation of new business initiatives and to strengthen the existing micro companies. AMPYME forms a public/private evaluation committee in each Province and/or Native Jurisdiction to which the applications are presented for seed capital that comply with the established requirements. The committee proceeds to evaluate the applications based on the technical and economic criteria, and selects the best business plans, which become creditors of a seed capital. The beneficiaries of the seed capital receive a disbursement of **up to one thousand dollars (\$1,000)**, which is done by opening a savings account in the *Caja de Ahorros* bank. This account is released once the updated estimates are received for the purchase of the goods and services required to start business. The *Caja de Ahorros* bank then proceeds to make a check to the supplier in order to carry out the purchase and guarantee the productive use of the resources. Furthermore, the beneficiaries receive follow-up visits as well as business orientation. **The requirements are as follows:** Panamanian citizenship; adult; completion of 20 to 40 hours of business administration training; possess a Notice of Operation; registration of the company in AMPYME; and, present the application for seed capital (application form, copy of personal I.D., copy of residential electricity, water and/or telephone bills, estimates for the material or equipment to be acquired, drawing of the place of business) and a **business plan**.

**Financing Program for Micro and Small Businesses (PROFIPYME)**

This is a **loan guarantee** program that backs the entrepreneurs and business persons of Micro and Small Businesses registered in AMPYME at the stage of obtaining financing for acquiring fixed assets and working capital. AMPYME **assumes a certain percentage of the guarantee** required by the banks from the entrepreneur (for agriculture and livestock loan: up to 80%, for industry: up to 70%, for commerce and services: up to 60%) and the entrepreneur assumes the rest. PROFIPYME grants financial approval for obtaining the loan from the Financial Entities that have signed an agreement to participate in the program. **The amount is determined according to** the percentages of coverage of the guarantee established by AMPYME for different economic activities (formal business: up to \$25,000, informal business: up to \$2,000). The guarantee granted by AMPYME is limited to the issuing of not more than one (1) simultaneous operation per natural person or legal entity. The loans that are backed by the guarantee may be used for the **acquisition of fixed assets, remodeling, installation of equipment, inventory, and operational capital** in the new or existing companies considered to be micro or small companies as established in Law N° 33 of July 25, 2000. The application process is as follows: (1) Register in the Company Registry of AMPME; (2) Contact the financial entity affiliated with the Program; (3) Notify them that of the registration in AMPYME and that you wish to receive the benefit of the loan guarantee; (4) Request the requirements for the loan (**the requirements** of these affiliated financial entities vary according to the loan policies of each entity, therefore you should consult the financial entity you selected.).

**Training and Technical Assistance Program**

AMPYME offers a variety of programs, including the following: Business training; Business opportunities; Mobile plants; Tourism, Reasons for creating a business; Business culture; Incubation system for developing businesses in the Republic of Panama; Centers for technical assistance in business.

<b>Organization:</b> BDA (Agricultural Development Bank)	<b>Contact:</b> Tel. 512 – 9000      credito@bda.gob.pa
<p><b>Support Program and Requirements:</b>          Activities in agriculture, cattle farms, agroforestry, agroindustry, agro-tourism, salt farms, aquiculture, apiculture, fishing and other activities related to the agriculture/cattle sector and included in the BDA Credit Regulation Manual can be financed through the <b>Agriculture/Cattle Farming Credit Program</b> without being considered as a priority. Debt payment as well as the purchase of land for agricultural/cattle farming use (established farms or with land-use rights) may also be financed. The beneficiaries include the following: <b>farmer organizations and cooperatives</b>; small and medium producers of the agricultural/cattle farming sector; agro-industrial projects promoted by MIDA; municipalities and community councils that develop agricultural/cattle farming, agro-industrial and fishing activities; natural persons and legal entities that develop activities compatible with the economic policy of MIDA.</p> <p><b>Financing includes the following:</b></p> <p>(WORKING CAPITAL) Working capital for financing the periodic expenses of the business including labor, technical inputs, and those related to commercialization process, which are within the framework of the Bank’s programs. Such payment is for periods of not more than 24 months.</p> <p>(FINANCING FOR FIXED CAPITAL) These are loans that are given for acquiring draft animals, reproducers, machinery and agricultural and agro-industrial equipment, sowing semi-permanent crops, fruit and forest trees, pastureland, pumping equipment, fences, electric networks, work vehicles, veterinarian equipment, cooling tanks, milking equipment and any investment needed for the normal execution of agricultural/cattle farming activity.</p> <p>(REAL ESTATE) Fixed capital oriented to the purchase of farms (land-use rights), land titles, permanent improvements, such as irrigation or drainage, construction of stables, repair shops, warehouses, sheds or other facilities necessary for the processing and transformation of the products obtained from the farm.</p> <p>(COMMERCIALIZATION) This shall be granted to facilitate the recuperation of working capital and is oriented to the purchase, sale or transformation of products derived from the agricultural/cattle farming activity.</p> <p>(LINES OF CREDIT) This is a credit modality that is used to offer greater ease to clients and to accelerate the renewal of working capital. This mechanism allows the client to use the resource in a rotational manner with less cost to him/her and to the institution. All natural persons or legal entities are subject to the lines of credit. The lines of credit shall be for an indefinite term as long as the client fulfills his/her contractual obligations.</p> <p>(MICRO-CREDIT) This is a credit program oriented to micro businesses (subsistence farming) which do not have access to commercialization channels, or to credit from financial entities. Any farmer who has land-use rights that can be used as guarantee to back the loan, or who uses leased land dedicated to agricultural/cattle farming whose characteristics comply with the requirements established by the Bank for this program, may apply for this type of loan. The amount of loan to be granted may be up to a maximum of \$4,000.</p> <p>(OTHER FINANCING) <u>Mixed</u>: This financing is oriented to granting credit for fixed working capital and commercialization capital in any combination. This may be needed, for example, for financing part of rice cultivation and the purchase of a harvester, or the purchase of male hogs and the construction of a hog shed, among other things. <u>Legalization of landownership</u>: Such as for topographical work, land demarcation, legal paperwork, land titling and the purchase of usufruct rights. <u>Technical assistance</u>: Technical Assistance may be financed according to the needs of the client and the nature of the project to be developed.</p> <p><b>The requirements are as follows:</b> (1) Authorize BDA to investigate your credit references by signing the document designed for such purpose; (2) Two copies of your Personal Identification Card (for a Natural Person, in the case of companies the ID of the person authorized to make a contract); (3) Processing Fee; (4) Audited Financial Statement created by a qualified accountant (for applications for loans greater than \$150,000); (5) For legal entities: General information about the company, notarized document granting contracting power, and an updated certification (maximum 6 months) of the company’s and its legal representative’s registration in the Public Registry; (6) <b>To develop projects in protected areas: islands, native areas, national parks, reserves or other areas of special administration:</b> written authorization is required from the Competent Authority for the period for which the loan will be in effect; (7) Other: Insurance, Income Tax Return, Stub book (copy); (8) The following may be offered as Guarantee: Real estate, Transferred goods, Houses or infrastructure, Owned equipment, Bovine cattle, Guarantee by AMPYME, Guarantee Fund; (9) By type of activity: <u>Loans for Cattle Farming</u>: Certificate of branding iron and payment receipt (City Hall); Sanitary Permit (Hog and poultry projects); Authorization from ANAM, ACP or other institution as needed</p>	

(Restricted areas). Agricultural Loans: Leasing contract with authenticated signatures (with land title or land-use right certification) for the period for which the loan will be in effect; Authorization from ANAM, ACP or other institution as needed (Restricted areas). Loans for Infrastructure and Equipment: Pro forms or estimates of the equipment to be purchased or of the infrastructure to be constructed. Commercialization: Purchase/Sale Contract and list of suppliers. Agro-industries: Sanitary and operation Permits (MINSAs and MICI).

<p>Organization: UNDP Panama (United Nations Development Program)</p>	<p>Contact: Tel. 302 – 4500 Fax. 302 – 4500 info@undp.org.pa</p>
<p>Support Program and Requirements:</p>	
<p><b>Small Grants Program of the Global Environment Facility</b></p>	
<p>These are projects that are developed through the Small Grants Program of the Global Environment Facility (GEF) administered by UNDP. In Panama, this program <b>finances initiatives by community groups and non-government organizations for protecting natural resources and reducing environmental degradation</b> for the purpose of improving the quality of life of the communities.</p>	
<p>The areas in which the program is focused are <b>climate change, biodiversity, land desertification and degradation, mitigation of climate change among others</b>. In Panama, the projects are administered and implemented by UNDP through a National Coordinator and a National Directive Committee, in which there are representatives from the government, NGO's, civil society related to the academic sector and others.</p>	
<p><b>Program for the Reduction of Emissions from Deforestation and Forest Degradation</b></p>	
<p>Called "UN REDD" in short, this is a joint program by UNDP, UNEP, FAO and the national government through ANAM. The period is from January 2011 to January 2014. One of its primary areas of work consists of offering opportunities to <b>organized community groups</b> so that they could develop <b>community investments and environmental businesses</b>, which would allow them to live together with the forest by developing productive activities that are harmonious with the potential of the natural resources in their surroundings, including forest management, ecotourism projects, use of non-wood products of the forest, agroforestry projects and reforestation. For more information consult with UNDP or ANAM.</p>	

<b>Organization:</b> Technical Cooperation Office of the Spanish Embassy in Panama	<b>Contact:</b> Tel. 317 – 0343 / 44 / 45 / 46 Fax. 317 – 0348 aecid@aecid.org.pa
<b>Support Program and Requirements:</b> <div style="border: 1px solid black; padding: 2px; display: inline-block;">Mixed Fund for Hispanic-Panamanian Cooperation</div> <p>This Fund was created in 1997, and since then has been the primary source of financing the Spain-Panama bilateral cooperation. The management and functioning of the Mixed Fund is under the direction of a Management Committee, which consists of the Spanish Ambassador or Advisor and the General Coordinator of Spanish Cooperation in Panama, on the Spanish side, and a representative of the Ministry of Economy and Finance and a representative of the Ministry of Foreign Relations, on the Panamanian side. This Committee approves the projects that are presented to it for its consideration, and does follow-up on their implementation with the collaboration of a team of Spanish and Panamanian experts. For more detailed information, please contact SAIC (Spanish Agency for International Cooperation) (AECID in Spanish acronym).</p>	

<b>Organization:</b> German Embassy in Panama	<b>Contact:</b> Tel. 263 – 7733 Fax. 223 – 6664 frank.gauls@diplo.de
<b>Support Program and Requirements:</b> <div style="border: 1px solid black; padding: 2px; display: inline-block;">Micro Projects</div> <p>Every year, the German Embassy assigns resources to micro projects for development cooperation carried out together with Panamanian organizations, in order to deepen the relationship between both countries and to support Panama's development. This type of donation is highly valued by the local inhabitants because the projects are characterized by a rapid implementation with little paperwork, allowing the inhabitants to experience immediate and concrete improvements in their daily lives. The German Embassy places great importance on the cooperation of the local inhabitants in the implementation of these micro projects, which in most cases takes the form of the local population providing the "labor force".</p> <p><b><u>The projects to be implemented should have the following characteristics:</u></b></p> <ul style="list-style-type: none"> <li>● The financial aid from the Embassy may not exceed 7,000 euros.</li> <li>● Part of the project should be implemented by the applicant organization and the interested population.</li> <li>● The project should be finished during the same year.</li> <li>● It is not possible to increase the granted resources.</li> <li>● The Embassy cannot cover personal expenses such as salaries, etc. of the implementing organization. It also cannot finance the acquisition of computers, vehicles or the purchase of land.</li> <li>● The required inputs must be obtained in Panama.</li> <li>● The projects cannot be related to other German or international cooperation projects such as the UN, UNDP, EU, etc.</li> </ul> <p><b><u>Requirements:</u></b></p> <ul style="list-style-type: none"> <li>● Letter applying for financial assistance</li> <li>● Official application (form) duly filled out</li> <li>● 2 estimates</li> <li>● Financial plan</li> <li>● Implementation schedule</li> </ul>	

<p>Organization: IAF (Inter-American Foundation)</p>	<p>Contact: Tel. 703 – 306 – 4301 Fax. 703 – 306 – 4365 info@iaf.gov (United States)</p>
<p><b>Support Program and Requirements:</b> The Inter-American Foundation is an independent foreign aid organization of the government of the United States, which works in Latin America and the Caribbean to promote development through self-help and equality based on community participation and initiative.</p> <p><b>Donation Program</b></p> <p>The IAF finances the self-help efforts of groups in Latin America and the Caribbean, which seek to improve the living conditions of disfavored and marginalized persons by increasing their ability in decision-making and self-governance and creating alliances with the public sector, business sector and the civil society. The IAF does not identify problems or suggest projects, rather it responds to the initiatives that are presented to it. The projects are not selected by sector, but by their intrinsic value. The proposals may be presented anytime during the year and shall be studied when they are received. The <b>criteria</b> for applying for a donation are as follows:</p> <p><i>The following proposals may <b>NOT</b> receive donations from the IAF:</i></p> <ul style="list-style-type: none"> <li>● Presented or directed by governmental entities;</li> <li>● Presented by individuals;</li> <li>● Presented or directed by entities located outside the country in which the project is to be carried out;</li> <li>● Presented by groups that do not contribute financial or similar resources in the proposed activities;</li> <li>● Related to political parties or political movements; activities that are purely religious or sectarian;</li> <li>● Pure research;</li> <li>● Projects for social assistance of any type, charitable institutions, or proposals that are exclusively for construction and/or equipping projects;</li> <li>● Requests for donations under US\$25,000 or greater than US\$400,000;</li> <li>● Projects whose objectives do not stimulate a shared the self-help ability.</li> </ul> <p>Please present the application only once and wait for the confirmation of its reception before contacting IAF. The initial evaluation of proposals shall take 5 months and will result in a small number of projects that will be analyzed in more detail by means of visiting the locations. Those proposals that no longer are in consideration shall be notified. The evaluation of the winning proposals could take up to 12 months, according to the complexity of the project and the number of visits that may be necessary.</p> <p><b><u>May one organization present more than one proposal?</u></b> No. The proposing organizations may only present one proposal per financing cycle.</p> <p><b><u>What percentage of the total donation may be assigned to general expenses (administration, honorary fees, operational expenses, salaries and material)?</u></b> The IAF generally does not provide funds to proposals that request more than 50% for its general expenses. In general, the less the amount of general expenses, the more attractive is the proposal.</p> <p><b><u>What percentage is expected for the matching fund?</u></b> The matching fund should be a part of the budget of the proposed project, but there is no obligatory minimum amount. The greater the amount of the matching fund, the more attractive is the proposal. The matching fund could consist of donations in cash or in kind, which may include among others, land, inputs, infrastructure, labor, and locations for offices, storage and meetings.</p> <p><b><u>What type of administrative expenses can be included in the proposed project?</u></b> The administrative expenses that may be included are the operational expenses, rent, public services, insurance, salaries, office equipment and material, and other expenses listed in the proposed budget form, which is found in the corresponding section of this guide.</p>	

<b>Organization:</b> Japanese Embassy in Panama	<b>Contact:</b> Tel. 263 – 6155 Fax. 263 – 6019 <span>epaniza@embjpn.org.pa</span>
<b>Support Program and Requirements:</b>	
<div style="border: 1px solid black; padding: 2px; display: inline-block;"> Non Refundable Financial Assistance for Community Projects for Human Security (APC) </div>	
<p>This program supports projects proposed by various institutions such as non-government organizations (NGO's), local and regional governments. The APC program has acquired an excellent reputation because it offers relatively flexible and quick support for development projects on the community level. Any non-profit organization may receive APC as long as it is in charge of implementing the projects on the community level. (Individual persons and private companies that seek profit are not eligible.)</p>	
<p>A development project could be selected for financing under the APC scheme as long as it is oriented toward community assistance. However, special attention is given to projects in the following areas: fighting to reduce poverty (water, health, employment creation and training, basic infrastructure in agriculture); support for the social sector (education, cleaning the environmental); economic infrastructure (improving the commercialization process in agriculture, developing alternatives, small-scale fishing); and the environment (installations for environmental conservation, conservation of forests and fauna).</p>	
<p>The funds are granted after the Japanese Government has evaluated and approved the application for specific projects. Possible applicants should take into consideration that the following budgetary items cannot be financed: salaries, management expenses, maintenance of installations and equipment, as well as travel expense and other administrative and operational expenses of the organization.</p>	
<p>If the applicant organization fulfills the previously mentioned conditions and wishes to receive funds from the APC program to implement development projects, it should present an application to the Japanese Embassy in Panama using the APC form and include a topographic map, architectural plan, structural plan, sanitary and electrical installations, as well as measurements, budgets, soil analysis and other analysis needed according to the type of project. In the case of acquiring equipment, the technical specifications and justification for each requested equipment should be included taking into consideration the safety and space needed for their installation, estimates from three suppliers, among other things. The application should be accompanied by a detailed budget for the project (3 estimates), a map showing its location and surrounding, assertion of the need and sustainability of the project and a copy of the organization's legal status.</p>	
<p>The applications may be received anytime during the year. When an application is received, the Embassy officials shall evaluate the project's technical file paying special attention to the project's objective, socioeconomic impact, self-sustainability, capacity of the receiving entity, and the cost of the project. Based on the previous points, the projects that are most appropriate for assistance shall be selected. The Embassy officials in charge of APC shall visit the site of the selected project to determine its feasibility, which shall determine whether the financial assistance is relevant or not. The final approval is granted by the Ministry of Foreign Affairs in Tokyo.</p>	
<p>The maximum amount of the fund is 10,000,000 yen per project.</p>	

<p>Organization: SUMARSE</p>	<p>Contact: Tel. 227 – 0218 info@sumarse.org.pa</p>
<p>Support Program and Requirements:</p> <p><b>Corporate Social Responsibility (CSR)</b>, also called <b>Business Social Responsibility (BSR)</b>, can be defined as the active and volunteer contribution to social, economic and environmental improvement by companies, generally with the objective of improving their competitive situation, and to also contribute to sustainable development including the health and welfare of the society.</p> <p>Many business persons are not acquainted with the population with low resources; the idea is to <b>establish alliances with communities</b> and to incorporate them into the labor force, likewise to design new methods in market research. It is also necessary to empower the business by incorporating social entrepreneurs and community organizations.</p> <p>The ECOLOGICAL CONSCIENCE ASSOCIATION OF PANAMA is a member of SUMARSE to which <b>companies working in benefit of the environment</b> are joining in order to learn of all the companies that contribute to the care of the environment in Panama. It promotes all eco-friendly products fomenting a change in the attitude and habits of the participating public, and replaces the use of products that are harmful to the planet with <b>green products that do not pollute</b>.</p> <p>For more detail, please contact SUMARSE or the participating companies directly. It is also recommendable to consult with the <b>Department of Citizen Participation</b> of the Directorate for Promoting Environmental Culture of ANAM, because this department also handles information about companies interested in supporting environmental initiatives in communities. (Telephone: 500-0874)</p>	

## **Annex 8. Manuals made by Alhajuela Project**

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## 8.1 Survey of farmland and Important factors for farm planning

### 8.1.1 Surveying with GPS

This method is relatively quick and precise and produces a georeferenced product. However, it requires knowledge of how to use the GPS and the GIS program. Also, results are affected by the quality of the signal.

Time	1 day for a farm (variable according to the access and topography of the farm)
Personnel	1 technical staff, Beneficiary
Equipments, Materials	<ul style="list-style-type: none"><li>● Drawing of the farm made by the beneficiary</li><li>● Portable GPS, Battery, Maps of the area, Pen, Notebook</li></ul>

First of all, the beneficiary makes a drawing of her/his farm. Using this as a guide, measure the coordinates of the necessary points (the perimeter of the farm, changes in the slope of the terrain, infrastructure, borders of different land-uses or vegetation cover, streams, roads, outstanding trees, etc.), preferably with the participation of the beneficiary, using a GPS navigator with an adjusted datum (WGS 84 or NAD 27 Canal Zone).

If a good signal cannot be found due to forest cover, bad weather or some other reason, wait at each measurement point until the range of precision reaches less than 10 meters, or consider canceling the work for the day. The coordinates for each point should be jotted down by hand and also recorded in the GPS navigator.

During the measuring process, consult with the beneficiary about her/his future plans. On the drawing of the farm, mark the plots that are created by the changes in the slope of the land and the conservation techniques, also note the crops that the beneficiary wishes to plant in each plot.

The data obtained from these measurements is processed back at the office using some type of GIS software. If you have ArcView, the process will be as follows:

- Input the coordinates and create a table of the measured points (.dbf3).
- Create the polygon of the farmland perimeter (.shp) and save it as a project (.apr).
- Subdivide the polygon into plots according to the slope and current land use (vegetation cover).
- Add the fields for the slope, current use, future use, crops, and conservation techniques.
- Create a current map and a future map.

- Place the UTM grid coordinates and finish the product.
- Print the maps.

### **8.1.2 Surveying with tape measure and compass**

It is a simple and adequate method for small agricultural farms. However, it is difficult to apply to large farms because it is a slow process with a relatively large margin of error.

Time	1 day for a farm of 1 ha (variable according to the access, topography and visibility on the farm)
Personnel	1 technical staff, Beneficiary, 1 assistant
Equipments,	● Tape measure of 50 meters, Clinometer, Compass
Materials	● Other tools (notebook, camera, pen, pole, red paint, etc.)

The measuring is done in the following manner:

- i) The surveyor stands at point N° 1 holding the “0m” mark of the measuring tape and the clinometer in his hand. The assistant takes the tape measurer and walks to point N° 2.
- ii) The surveyor stretches the tape tight and the assistant says out loud the distance indicated on the tape, such as, “X.XX meters”.
- iii) The surveyor points the compass toward the assistant and reads the bearing, such as “North 30° to East (N30E)”. Next, the surveyor points the clinometer to the height of the assistant’s face and reads out loud the degree of slope, such as “6° down (-6°)” and writes all this information in his notebook.
- iv) Now the surveyor moves to point N°2 and the assistant moves on to point N°3, repeating the same process as the first measurement. It should be noted that the reference points do not necessarily have to be measured in the same order as their numbers. They can be measured in the order that is most convenient for the work.

When the slope between two points is very gentle (less than 5° to the eye), you don’t need to measure it with the clinometer because the correction of the distance due to the slope is negligible.

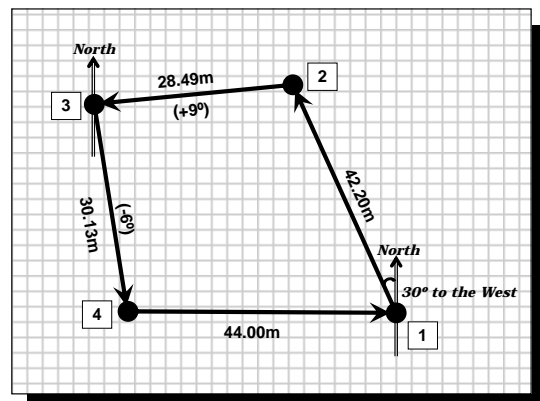
The data collected from measuring the farm is converted into a farm map in the office through a graphic mapping process. It should be noted, however, that this procedure does not create a precise map because there are inevitable imprecision or errors that were made in measuring the distances and angles. The map making process requires squared paper, a protractor and EXCEL or a scientific calculator. Input the data into the pre-established format and convert the sloped distance to the level distance between two points.

The map is drawn in the following manner:

- i) Choose the appropriate scale.
- ii) Draw the complete contour of the farm by joining the lines between the reference points according to the level distance and angle between them.
- iii) Place the objects that are inside the farm by drawing polygons, lines or points following the measurements taken.
- iv) Divide the farm into plots of land with the different types of vegetation and slopes that actually exist; give a representative code (B-F, P-M, C-S, etc.) to each plot.
- v) If needed, you can use one of the following methods to compensate for errors made in the measurements:
  - Compensate the error in the least important part of the farm, such as the least used corner;
  - Compensate the error in all the corners of the farm distributing the error in proportion to the accumulated distance from the initial measuring point.
- vi) Copy the map on a transparent sheet to scan and save the image.
- vii) Calculate the surface area of the farm based on its geometric planes.

Reference Point <b>A</b> : Surveyor	Reference Point <b>B</b> : Assistant	Bearing from point <b>A</b> to point <b>B</b>	<b>X</b>	<b>Y</b>	<b>Z</b>
			Degree of slope from point <b>A</b> to point <b>B</b>	Sloped distance between points <b>A</b> and <b>B</b>	Level distance between points <b>A</b> and <b>B</b>
1	2	N-30°-O	Almost level	42.20 m	42.20 m
2	3	S-80°-O	+ 9°	28.85 m	28.49 m
3	4	S-10°-E	- 6°	30.30 m	30.13 m
4	1	S-88°-E	Almost level	44.00 m	44.00 m

Conversion equation:  $Z = Y * \text{COS (RADIANS X)}$



### **8.1.3 Important factors for farm planning**

The project's technical personnel should give advice to the beneficiaries, whether a group or individual, when creating a Farmland Use Plan so that the following factors are taken into consideration:

1. Is there consensus in the group (in the case of a group farm) or in the family (in the case of an individual farm)?
2. Have the property rights been clarified by means of a written agreement?
3. Have conflicts, if any, with the neighbors been resolved?
4. Have the legal regulations of a protected area, if any, been understood?
  
5. Has the possibility of any risk of natural disasters on or around the farm been verified?
6. Is water available on the farm throughout the year?
7. Has the characteristics of the soil (depth, fertility, drainage, etc.) been studied?
8. Is any type of soil conservation measures needed to prevent erosion?
  
9. Has the access to the farm (distance, time and means of transportation) been considered?
10. Does the beneficiary have correct knowledge about the crops and techniques she/he wishes to introduce on the farm? In other words, the agricultural calendar, the area's climate, proper care for the crops, hoped for yield, labor needs, and the type and quantity of inputs and equipment necessary.
11. Are the suppliers and the unit prices of the inputs known?
12. Does the farm have basic infrastructure (fences, irrigation system, storage shed, meeting house, kitchen, toilet, etc.)?
  
13. Has the availability of the necessary equipment and tools been considered?
14. Can sufficient labor be provided (by the group, family or by contract)?
15. Has the method for obtaining the necessary inputs been considered?
16. Has a plan been made for protecting the crops from insects, diseases, birds, animals and thieves?
  
17. Does the beneficiary know how to calculate cost and profit?
18. Is it certain that the farm products will reach a market through some type of commercialization method?
19. When funds are needed, does the beneficiary have a source of financing (donation or loan)?
20. How is the information on techniques, crops, inputs and markets kept up to date?

## 8.2 Methodology of the Project for planning the planting of trees

### 8.2.1 Selecting adequate land for planting trees

Through discussing with the group members and studying the potential tree planting sites, one can determine the candidate terrain that fulfills these criteria, especially the “critical areas” (terrain which requires restoration of vegetation cover and protection by woods).

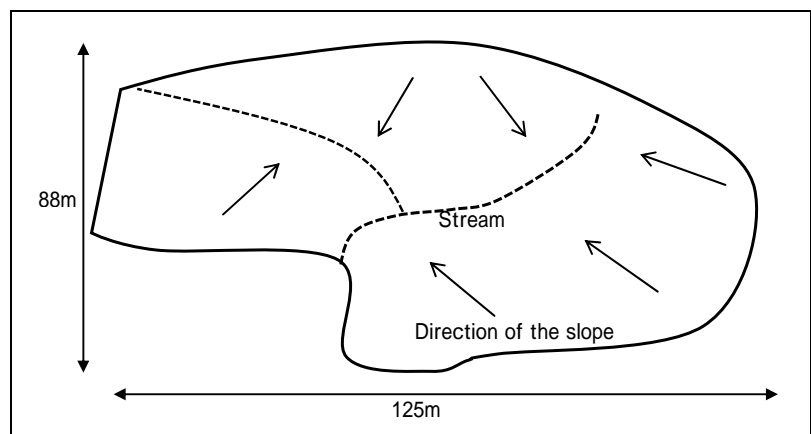
- Banks of streams
- Places where there are gullies
- Prominent slopes with high risk of erosion
- Places where there were forest fires

It is relatively easy to select the places that require planting trees from the viewpoint of watershed conservation. However, there are a variety of related issues that will need to be clarified and resolved, such as the following: Who is the landowner, land user or person responsible for the land? Can the members obtain permission for planting trees on that land? (Or is permission necessary?) Can the growth of the trees be protected over a long period of time? When selecting the land for planting trees, in addition to the environmental criteria, one needs to consider to whom the land belongs and to consider the social aspects of the selection so as to avoid conflicts within the community and guarantee the sustainability of the places where the trees are planted.

### 8.2.2 Creating the tree planting plan

1) Make a drawing of the place where the trees will be planted

Once you have selected the place to plant trees, make a simple drawing of the site and calculate the area. This is the same method explained in Chapter 7 for making the farm use plan, with the addition of calculating the number of trees needed and the location of the lines for planting the trees. It can be a simple drawing showing the size of the area and the direction of its slopes.



## 2) Selecting the tree species

The tree species are selected according to the wish of the group members and the community and in accordance with the conditions of the planting area. From the perspective of encouraging members to properly manage the area (clear the weeds), by their own initiative, after the trees have been planted, it would be recommendable to select tree species that give a lot of motivation to the inhabitants to care for them. The following chart shows a sample of species recommended for planting.

	<b>Native Species</b>	<b>Exotic Species</b>
Trees for timber	<i>Cedro espino, Cedro amargo, María, Amarillo, Caoba, Níspero, Jacarandá, Cocobolo, Madroño, Sigua, Amarillo Guayaquil Podocarpus, Guayabo de montaña, Nuno</i>	
Fruit Trees	<i>Mamey, Zapote, Ciruela, Caimito, Madroño, Mamón, Mangotín, Toreta, Avocado, Marañón curazao, Marañón criollo, Guaba, Guayaba, Pomarrosa, Cañafístula, Algarrobo, Jobo</i>	Mango
Ornamental trees	<i>Roble, Guayacán, Tulipán, Nazareno, Jacarandá, Gallitos, Lluvia de oro, Astromelias, Acacias (many varieties)</i>	
Medicinal trees	<i>Cinammon, Salvia, Cacao, Ruda, Sanguinaria, Cuadrado, Diente de león, (Non-tree species) Ginger, Tilo desbaratadora</i>	
Agroforestry	<i>Balo, Laurel, Achiote, Guásimo, Papelillo, Guaba</i>	Coffee, (Non-tree specie) Black pepper
Other	<i>Espavé, Eritrinas, Higos, Jagua, Balso, Pegle, coconut palms, Membrillo, Pixbae, Leguminous species</i>	

## 3) Making the tree planting plan

Based on the area of the drawing, calculate the number of seedlings needed for the planting (2,500 seedlings/ha. when planting at an interval of 3 meters, 400 seedlings/ha. when planting at an interval of 5m). With this information one can calculate the number of seedlings that will need to be produced in the nursery and the material that will be needed (the number of jobs that need to be done in the nursery can also be estimated).

The Tree Planting Plan should also include the “planting period” by taking into account the climate of the area (time of the raining season) as well as the availability of labor force. Regarding the climate, the beginning of the rainy season is generally the best moment for planting trees and will give a better survival rate of the planted trees.

### **8.2.3 Producing the tree seedlings**

The task of producing seedlings in the nursery includes the activities listed in the box below. There are manuals explaining the techniques for producing seedlings in nurseries. Please refer to such manuals for learning the techniques.

- 1) Purchase the material and equipment needed
- 2) Prepare the land for the nursery
- 3) Prepare the bags with soil, etc.
- 4) Plant the seeds, and later transplant them
- 5) Care for the seedlings

Important points are as follows:

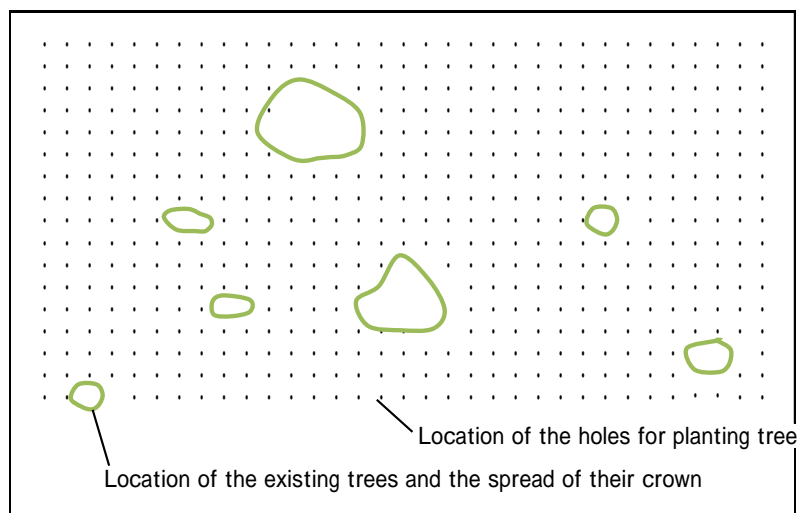
- Preparing the land for the nursery: Basically, the nursery is established inside the group farmland, and technical assistance is given to the group as part of their group activities.
- Caring for the seedlings: The seeds contain the nutrients they needed for their initial growth. If the temperature and moisture are adequate, the seeds will germinate and grow to a certain size. Afterwards, however, a careful management of the seedlings is needed in order for them to grow adequately for planting. This includes watering to promote root growth, controlling the shade and weeding. The extension of techniques for producing good quality seedlings is an important element in promoting the sustainability of the group activities through the participation of members by their own initiative.
- The period of time needed for a seed to grow into a seedling ready for planting differs among the tree species, but normally it takes several months. If the group plans to produce its own seedlings, the period to start producing seedlings can be calculated by counting back from the day they plan to begin planting trees.

### **8.2.4 Planting the tree seedlings**

The process of planting seedlings includes the following tasks. There are manuals describing the techniques used for planting seedlings. Please refer to such manuals for learning such techniques.

- 1) Prepare the necessary tools
- 2) Prepare the land (cleaning, digging the planting holes, etc.)
- 3) Transport the seedlings
- 4) Plant the seedlings
- 5) Water (as needed)

Preparing the land: The primary purpose of planting trees is the conservation of the watershed soil. Therefore, cutting the trees, whether large or small, that grow naturally in the planting area should be avoided at all cost. There have been too many cases when preparing the land for planting trees, that the existing trees in the area are cut to make it easier to plant the seedlings (in straight lines with regular intervals between them). Also, in some cases, the seedlings are planted below the crown of an existing tree (the seedlings will not have space to grow). Instruct the members to be flexible in locating the position of the planting holes taking into consideration the existing trees.



### **8.2.5 Caring for the planted trees**

Basically, for several years after planting the seedlings the periodic work required for caring for the trees is weeding (clearing the undergrowth) and cutting vines. This is not technically difficult work, but requires physical stamina and will power to continue. The planted area should be cleared regularly until the seedlings grow to be higher than the vegetation around them. Especially when planting in Canal grass area, frequent cutting of the Canal grass will be required.

In the case of citrus trees, in order to produce better quality fruit it would be recommendable to prune the branches after they have grown a certain amount.

Clearing the undergrowth is heavy labor that has to be continued over a relatively long period of time. In case the participants themselves have to do this work, some type of method is needed to give them an incentive to do the work. Sometimes the method of paying for the participants' labor is used. However, from the perspective of "sustainable management" we do not recommend this incentive. It is better to use a management method that takes into account incentives that are derived from the trees themselves, such as the harvesting of fruit or wood products. Therefore, it will be of utmost importance to have a clear agreement



with the participants on the tree species to be planted and the rules for managing them in the future (if the trees can be cut in the future, and to whom the fruits and harvested products belong, etc.).

### **8.2.6 Inputs needed**

<b>Activities</b>	<b>Personnel</b>	<b>Time</b>	<b>Material and Costs</b>
Selecting suitable land	1 to various persons from the project	Several days	<ul style="list-style-type: none"> <li>• A variety of office supplies</li> </ul>
Making the plan for planting trees	1 to various persons from the project	1 to several days	<ul style="list-style-type: none"> <li>• A variety of office supplies</li> </ul>
Producing tree seedlings	1 technician in charge of nurseries (project's technical personnel)	Once a week (the technical assistance days)	<ul style="list-style-type: none"> <li>• Seeds (purchased or collected)</li> <li>• Plastic bags (as needed)</li> <li>• Tools for preparing and planting the seeds (spades, sieve, etc.)</li> <li>• Tools for caring for the seedlings (watering can, hose, etc.)</li> <li>• Material for building a nursery (sand, wood, etc.)</li> </ul>
Planting the tree seedlings	1 technician in charge of planting (project's technical personnel)	Several days at the beginning, later assistance is given periodically	<ul style="list-style-type: none"> <li>• Tools for preparing the land, hoeing and irrigation (machete, shovel, watering can, hose, etc.)</li> </ul>
Taking care of the planted trees	1 technician in charge of caring for trees (project's technical personnel)	Days decided upon (i.e. once every 2 months) with assistance given each time in the beginning.	<ul style="list-style-type: none"> <li>• Tools for cutting weeds (machete, etc.)</li> </ul>

### 8.3 Workshop manuals based on the general curriculum of organizational strengthening

#### 8.3.1 Workshop Manual: “Group integration (Working as a team)”

##### Important definitions

**Group:** We understand a “group” to mean a number of people who relate to each other with a certain degree of interdependence, and who direct their efforts to the achievement of a common objective under the conviction that they can better achieve this objective collectively than they could individually.

**Team:** Consists of any group of 3 or more people united by a common objective. A group in itself does not necessarily constitute a team. There are many components that are necessary to form a team.

**Organization:** Organizations are social systems designed to achieve goals and objectives through the use of human resources or the management of human and other types of talent. They are composed of interrelated subsystems that fulfill specialized functions. They are also defined as a systematic agreement between persons to achieve a specific purpose. Organizations are the object of study of Administrative Science.

##### Structure and procedure

The workshop consists of the 7 following parts: (1) Definition of important concepts, (2) Cooperation pictures, (3) Happiest moment in my life working in the group, (4) Envelope of virtues, (5) Group jigsaw puzzle, (6) Commitment to the future, and (7) Final reflections.

- (1) Definition of important concepts: The concepts of “group”, “team” and “organization” are defined in order to clarify the differences among them and to determine at which level the participants are at and to what level they want to achieve.
- (2) Cooperation pictures: This tool helps participants to reflect on how they can work together as a group. It is an exercise in putting together perfectly a jigsaw puzzle of a picture without having any pieces left over.
  - ✧ Each participant has pieces for putting together a jigsaw puzzle, but not all the pieces fit and she/he needs to exchange her/his pieces or give them to others if they need them.
  - ✧ Many participants will want to break the rules of not talking, not making signs or gestures.
  - ✧ Some participants might keep their pieces and not let anyone have them, others may give their pieces away and not try to finish their own jigsaw puzzle; and others may help the other participants finish their puzzle.
  - ✧ At the end of the exercise, a reflection is made on the need to yield and share.
- (3) The happiest moment in my life working in the group: Each participant draws his/her happiest moment working in the group and then explains his/her drawing and pastes it on the Manila paper. Have the

participants reflect on all the drawings and search for common points that unite all the members of the group.

- (4) The envelope of virtues: A large envelope is handed out to each participant who then writes her/his name on the envelope and passes it to the participant beside him/her.
- ✧ When each participant has the envelope of his/her neighbor, write the virtues of that person on a sheet of paper.
  - ✧ This process is done for all the participants.
  - ✧ The purpose is for members to value the positive aspects of their fellow members.
  - ✧ When the rounds are finished, each participant reads the positive aspects that his/her fellow members wrote about him/her.
- (5) Group jigsaw puzzle: A jigsaw puzzle with a message is given to the group.
- ✧ A piece of the jigsaw puzzle is given to each participant, and she/he writes on the blank side of the piece the personal abilities that she/he can offer the group.
  - ✧ A positive atmosphere should be created in order to inspire each person to discover the abilities she/he can offer the group.
  - ✧ Each participant reads out loud her/his abilities and then puts her/his piece in the jigsaw puzzle that is pasted on the blackboard.
  - ✧ At the end, the group forms a message, which becomes the group's name. In this way, the participants reflect upon the importance of offering their best abilities to strengthen the group's work, which will bring benefits to everyone, as a result.
- (6) Commitment to the future: All the participants hold hands and a candle is lit and passed hand to hand to each participant. When a participant receives the candle, he/she should state his/her commitment to the group to keep working in unity without disputes.
- (7) The workshop ends with a reflection made by all the participants on all the dynamics they did.

Inputs needed

Time	1 day (depends on the number of group members and their agility)
Personnel	1 facilitator and 1 person to help in doing the dynamics.
Material	Blank sheets of paper, pencils, magic markers, scotch tape, Manila paper, envelopes, jigsaw puzzle pieces (made beforehand in the office), candle, matches, and strips of colored paper. Meal if needed

### **8.3.2 Workshop Manual: “Gender 1 – Creating awareness about the basic concept of gender and the different gender roles”**

#### **Preparation**

Thorough preparation for the workshop is the key to achieving the objective of creating gender awareness. In a broader sense, the entire planning process, including notifying participants of the workshop, the institutional context of the workshop, the participant profiles, program of activities, teaching method, duration, and the commitment to apply what was learned, is crucial for the success of the activity.

#### **Objectives**

- What do we want to achieve through the gender workshop and how are we going to achieve it?
- What tools are needed to achieve the objective?
- Are there conditions that are necessary for achieving the objective?

#### **Contents**

- Have the themes of the workshop been specified and outlined?
- Is the information known in depth?
- Is the level and amount of information clear so that the participants can understand and remember it?

#### **Activities**

- Is it clear what activities we will do?
- Did we give enough time for explaining the goals of the workshop and for reviewing the group's agreements?
- Did we define the work dynamics?
- Do we have the facilitators who will conduct the different parts of the workshop?

An appropriate date and hour need to be selected when both men and women can participate in the workshop. Also a suitable place with electricity, water, toilets, kitchen, etc. needs to be chosen.

- How long will the workshop last?
- Is there enough time to cover all the themes?
- What is the most appropriate hour to hold the workshop?
- What material will we distribute in the workshop?
- Do we have the presentations and slides?
- Have the dynamics and supporting exercises been decided upon?
- What is the format of the participants' list, which lets us know the profiles of those who will participate?
- Who will do the evaluation? Is it a written, individual or group evaluation?

## Structure and procedure

### Activity 1: Icebreaking dynamic “Getting to know each other”

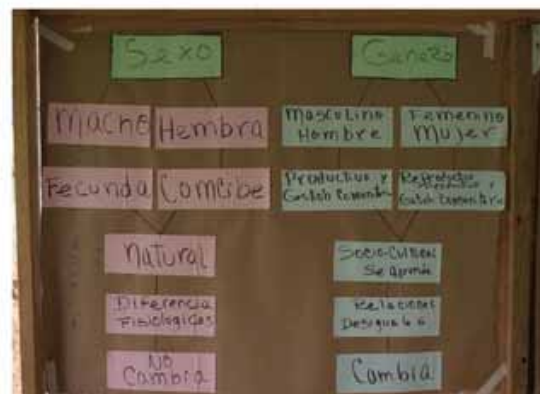
At the start, participants introduce themselves to each other to create trust and a relaxed atmosphere so that they will feel free to ask questions during the activity if they do not understand something.

We make a circle and each participant introduces herself/himself (says her/his name, the community she/he is from, the work that she/he likes to do the most and why). After the introductions, the facilitator may ask some questions so that the participants realize that the work they like to do can be done by women or by men.

We begin by presenting different concepts related to this theme. First, we have a brainstorm of terms related to the theme, and then explain the terms.

### Activity 2: Silhouette of a woman and a man “Gender and sex”

After explaining the concepts, we present silhouettes of a man and a woman and discuss the meaning of Gender and Sex and their difference, using a chart on a paperboard or in PowerPoint, or if the participants do not know how to read by using explanatory images,.



After this, we discuss the following points:

- What do people see when we are born?
- Assignment of roles? (chores)
- What kind of toys do we use?
- What kind of work is assigned to us?

The facilitator walks through the group and passes out some figures (private parts of the human body, beards, machinery and equipment used in work, clothes, tools, etc.) so that when the exercise is explained, the participants will understand that there are things that define humans as man or woman, and that there are characteristics that are learned and others that we are born with.

By doing this exercise the participants can realize that each person defines what activities correspond to men or to women, and that we emphasize gender equality so that the group will be able to distribute responsibilities to each member and thereby achieve success. The work of the facilitator should be to clarify for the participants the differences in the meaning of the terms.



Key questions for gender analysis:

- Who does what? (Division of work between women and men)
- Who has what? (Access to property, possession of and decisions regarding private and public resources.)
- What factors affect gender customs? (Identify the factors – culture, laws, economy and policies – that affect the customs based on gender; how they are changing, if there are changes, and which customs can be influenced.)
- How are public and private resources distributed (Institutional structures used, their degree of fairness and efficiency, how to make them more sensitive to the concerns of women and men.)

### Activity 3: Responsibilities and Roles Dynamic

The objective of this activity is to strengthen feelings of cooperation and to share responsibility among the men and women.

A certain situation is presented to the participants by role-playing or reading a story. For example, a man arrives late to class or work and he says the reason he was late was that his son is sick and he had to take care of him. Discuss the roles of women and men that are socially representative of the culture we live in.

- What impact did this example make on the group?
- What difficulties does the man face in trying to fulfill the responsibility mentioned in the example above?
- What would happen if the wife was in this situation?

After finishing this dynamic, we can understand the viewpoints of the men and the women and their concerns so that both sides can put themselves in the place of the other.

#### Activity 4: Gender and Discrimination

The facilitator explains that different Roles and Stereotypes are made based on gender, for example:

- (WOMAN) Gender role: mother, home-maker.  
Stereotype: weak, delicate, docile, fragile, submissive, in the private environment.
- (MAN) Gender role: head of the family, provider, the one that works hard.  
Stereotype: energetic, in the public environment.

Figures of men and women are drawn on the blackboard, and the participants write on a paper the attitudes related to both - the men describe the women and the women describe the men. Afterwards, the participants are asked to read what they wrote in a loud voice and their opinions are written on the blackboard.

The problems related to these roles and stereotypes should be explained.

- They create prejudices between people: for example, phrases such as “all women are weak” or “all men are brave”.
- People who do not fit these roles and stereotypes have difficulty developing their lives, for example: women who decide not to become mothers, men who decide to do domestic work and not work outside the home.
- They create value judgments regarding masculinity and femininity, for example: the strength of men who fit the masculine image is admired and the sensitivity of women who fit the feminine image is demeaned.
- These value judgments contribute to the discrimination of women, which is manifest in different environments:
  - ✧ In the work environment: women are not hired because it is thought that they will become pregnant and leave the job.
  - ✧ In education: the parents don't invest in the daughter's education because they think she will get married and will not finish her university studies.
  - ✧ In access to health services: the case of forced fertilization by a family planning program because it is oriented exclusively to women.

#### Inputs Needed

Time	1 or 2 days	Activities: 1 (1 hour), 2 (1.5 hours), 3 (1.5 hours), 4 (1 hour) Evaluation (1 hour)
Personnel	1 or several facilitators	
Material	Activity 1: Data show, Manila paper, magic markers, chairs, blank sheets of paper, pencils, erasers Activity 2: Silhouette figures of men and women (Manila paper or construction paper), Various figures with a machete, rake, breast feeding, babies, skirt, or pants. Activity 3: Nothing in particular because it is a group drama. Activity 4: Blackboard, Manila paper, blank sheets of paper, pencils	

### **8.3.3 Workshop Manual: “Gender 2 – Breaking the gender myths and stereotypes”**

#### **Structure**

Activity	Objectives
1. Review of First Workshop (Activity with the silhouettes of women and men) (30 min.)	- Break the stereotype roles that hinder the development of families, communities and group organizations.
2. Role exchange (working in the kitchen and in the field) (60 min.)	- Increase participants’ awareness regarding the importance of the daily work done by women and men.
3. Analysis of work function by gender (45 min.)	- Recognize the work that rural women and men do in different places. - Give value to the important roles that women and men play in farm production and in improving life. - Recognize the different gender roles in watershed (water, soil and forest) management.

*Note: The analysis results should be written down and given to the groups as feedback.*

#### **Procedure**

##### Activity 1: Review of First Workshop (Activity with gender symbols)

- Distribute a figure of an accessory used by women and men, or their sexual parts, to each participant
- Place the silhouette of the bodies of a woman and a man on the wall and ask the participants to paste the figures given to them on the silhouettes.
- The facilitator should ask if the figure represents something natural or learned. If it is something that was learned, ask them if it would be better to relearn what the figure represents or to forget it.
- Reflect on the placement of the figures and on the reason for calling them natural or learned.

##### Activity 2: Role Exchange

- (Preparation) It depends on the group’s creativity; you can use whatever material you think is necessary.
- Divide the group into two teams, one of women only and the other of men only.
- Assign the daily work of women to the men and those of men to the women.
- The type of work will depend on the types of groups we are working with. Some examples of work are the following:
- Work assigned to the women’s group: cutting the grass, sowing seeds, harvesting, participating in parties, etc.
- Work assigned to the men’s group: washing dishes, laundry, sweeping, cooking, etc.
- After each group has finished their work, ask the participants to explain the impressions and reflections they have on the exercise they did.



Activity 3: Analysis of work functions by gender

- Explain the objectives of the exercise.
- Divide the participants into groups by sex.
- Each group (of women or men) lists the “work done” by their gender (woman or man).
- Each group makes a card for each type of work done by their gender, using a different color card according to the place (home, field and community) where the work is done.
- Each group (of women or men) then groups the cards from each work place according to their objective (or function): one for farm production and the other for life improvement.
- Prepare a matrix of the work done by each gender in the following manner. (A matrix is made for women and another for men).

<b>Place</b>	<b>Farm Production</b>	<b>Life Improvement</b>
<i>Home</i>		
<i>Field</i>		
<i>Community</i>		

*Note: This matrix can also be made as a list on separate sheets of paper, one for farm production and the other for life improvement.*

- Analyze in each group the function (farm production or life improvement) they perform the most and in what location.
- Discuss in each group what types of work are related to watershed management (water, soil and forest conservation). A symbol (a drawing or letter) can be given to each type of work according to its object area (water, soil or forest).
- Confirm that the degradation of the water, soil and forest could affect the work that women and men do. Also, women and men, through the work they do, could contribute to (or obstruct) the management or conservation of these natural resources.
- Meet again with all the participants and report the results of analyzing the work they do and their functions.
- Discuss with everyone the different gender roles and their relationship to watershed management.
- Confirm that women and men can have different but equally important knowledge for water, soil and forest conservation based on the different work experiences of each gender (this is why we need the participation of women, men, youth, and elders).

(Key questions)

- What kind of work do women and men do in rural areas?
- What is the function of the work done by each gender: for farm production or for life improvement?  
Are there any differences between women and men?
- What kind of work done by each gender affects watershed (water, soil and forest) management? Are there any differences between women and men?

Inputs needed
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Time	Activities: 1 (30 min.), 2 (60 min.), 3 (45 min.), Evaluation (0.5 hour)
Personnel	1 or several facilitators
Material	Activity 1: Silhouette figures of men and women (Manila paper or construction paper) various figures with a machete, rake, breast feeding, babies, skirts, or pants; masking tape Activity 2: Tools used in different jobs (depending on the type of work) Activity 3: Different colored cards, 2 large sheets of paper for each group, magic markers, masking tape

### **8.3.4 Workshop Manual: “Gender 3 – Importance of the different gender roles in life”**

#### **Structure**

<b>Activity</b>	<b>Objectives</b>
1. Analysis of stories about gender experiences (30 min.)	- Promote a reflection on the participation of women (and men) in productive work, reproduction and community management.
2. Social drama about the reversed roles of women and men (“Drunken woman and pregnant man”), (30 min.)	- Recognize the reversed role of women and men - Recognize what we expect of women and men in their behavior
3. Different indicators of gender equality: (“Let’s look at the situation in our community!”) (45 min.)	- Study and compare the current situation of each community or sector, reflecting on the gender index, and exchange ideas among different groups and communities.
4. Candy distribution game (15 min.)	- Learn the different concepts of “equality” and “fairness”.

*Note: The results of the analysis should be written and given to the groups as feedback.*

#### **Procedure**

##### Activity 1: Analysis of a reading on gender experiences

- (Preparation) A story about the productive work, reproduction and community management that are done by women.
- Divide participants into two groups by sex.
- Read a story that tells about the productive work, reproduction and conservation work that are done by women (and by men).
- Ask the women’s team to reflect on the reading, and to also compare the story with a happening in their own lives or in their community. Ask the men’s group to do the same.
- When the groups have finished their reflections, chose a participant from each group to explain their results. Reflect together on the viewpoints of both men and women.

##### Activity 2: Social drama on the reversed roles of women and men (“Drunken woman and pregnant man”)

- (Prepare) Depends on the group’s creativity, you can use any material that you think is necessary.
- Divide the group into two teams, one of women only and the other of men only.
- Ask the women’s group to make a social drama (skit) about men’s behavior on a holiday.
- Ask the men’s group to make a social drama (skit) about women’s behavior when they take care of the family, when they are pregnant and give birth to a child.

- Ask the teams to reflect on the message of each social drama.

Activity 3: Different Indicators of Gender Equality (¡Let's see the gender situation in our community!)

- Keep the same groups formed by community.
- Ask each group to tell about the situation of their own community (or area) and prepare a matrix like the one below:

	Woman	Man
Age of the oldest person in the community	years	years
No. of children in the elementary school	girls	boys
Main sources of income	\$ \$	\$ \$
No. of owners of a business stand	women	men
No. of members of the Community Committee	women Directors:	men Directors:
No. de members of the Water / Health Committee	women Directors:	men Directors:
No. of members of the school's Parents' Association	women Directors:	men Directors:
No. of members of our group	women Directors:	men Directors:
No. of members who can transfer their techniques or knowledge	women	men

- After creating the matrix, each group analyzes what points they need to improve in their group to achieve gender equality in health, education, family economy and community organization.
- Present the results of each group and exchange opinions among the different groups and communities.

(Key Questions)

- How is the gender situation of your own community compared to the gender and development index?
- What needs to be improved to achieve gender equality in health, education, family economy and community organization?
- Were any differences found between Panama in general, your own community and other communities?

Activity 4: Candy distribution game

- Divide the participants into groups of 3 people each.
- Give pieces of candy to the 3 people in each group. However, the first person receives one candy, the second receives three, and the third receives four.
- Ask the persons who have 4 pieces of candy to give their candy to the others in their group in a fair

manner.

- Ask each group how they distributed the candy: how many were given to each other person in the group.

There are two ways the candy could be distributed:

1. Two pieces of candy are given to each of the two people (giving half and half);
2. Three pieces of candy are given to the person who has one candy, and one piece of candy is given to the person with three (in the end they will both have four pieces of candy).

- Ask them why they gave out the candy in the way they did and check the results (how many pieces of candy does each person have). You can ask how the people who received the candy felt.
- Confirm with all the participants that giving half and half is “equal opportunity” and giving the candy so that each person has the same amount is “equal result”.
- The second way of distributing the candy is “**fair**” because it takes into account the differences or the inequality that exists and finds an appropriate solution for each person.

(Key Questions)

- How is the candy divided in each group? How many pieces each?
- What do you think of the results? Are they fair?

**Inputs needed**

Time	2.5 hour                      Activities: 1 (30 min.), 2 (30 min.), 3 (45 min.), 4 (15 min.), Evaluation (30 min.)
Personnel	1 or several facilitators
Material	Activity 1: Written story or account Activity 2: (Nothing in particular) Activity 3: Manila paper, magic markers, matrix form Activity 4: Candy for the game (8 pieces of candy x no. of groups of 3 people)

### **8.3.5 Workshop Manual: “Gender 4 – Different resources and decision-making between women and men”**

Structure	
Program	Objectives
1. Different sources of income and use of money (90 min.)	<ul style="list-style-type: none"> <li>- Recognize the differences that exist between women and men in their source of income and use of money.</li> <li>- Recognize the contribution made by women and men to the family.</li> <li>- Make the participants aware of how they use money, so that they can improve the investment in their own group.</li> </ul>
2. Social drama about decision-making between wife and husband (60-90 min.)	<ul style="list-style-type: none"> <li>- Create awareness about the different levels of power use between women and men in decision-making</li> </ul>
3. “Message for you” (30 min.)	<ul style="list-style-type: none"> <li>- Identify the virtues of each gender and also the points that need to be improved to strengthen the harmony and unity between women and men.</li> </ul>

*Note: The analysis results should be written down and given to the groups as feedback.*

#### **Procedure**

##### **Activity 1: Different Sources of Income and Use of Money**

- Divide the group into two teams, one of women only and the other of men only. The groups of the same gender can be further divided by age, civil status and community so that each group is composed of people with similar characteristics.

[About sources of income]

- Ask each group to make a list of their sources of income. It helps to ask them to remember their income during the past month.
- Distribute candy (or matches, for example) to each group. Each person takes 10 pieces of candy and places them beside each source of income according to his/her perception of how much he/she makes (Place more candies where he/she makes more).
- Confirm the results of each group, what their sources of income are and how much they make from each source. It is best to write down the number of candies (matches) for each source so you don't forget.

[About money use/expense]

- Ask each group to make a list of their expenses. It helps to ask them to remember their expenses from the past month.
- Distribute candy (or matches, for example) to each group. Each person takes 10 candies and places them beside each item according to his/her perception of how much he/she spends on it (put more candies on the items he/she spends more on).
- Confirm in each group the results of what they use their money for and how much they spend on each item. It is best to write down the number of candies (matches) for each item so you don't forget.
- If there is time, you can have them define for who each expense is: for the spouse, for the children, for

oneself, or for others.

[Sharing between the groups of women and men]

- Meet together again with all the participants and have each group report their results and then exchange opinions among the groups.
- When all the groups finish their reports, discuss with everyone for what things it is better to use more, for what things it is better to make a substitute, and for what things it is better to use less.
- Reflect upon what was learned in the group activities. For what is the money being used and how much? How does the group decide on the use of their money?

(Key Questions)

- What are the sources of income for women and for men?
- Where do they earn more? Is there a difference in income between women and men?
- For what do women and men, respectively, spend more money?
- Does the use of money need to be changed? For what is it better to use more? For what is it better to use less?
- How is the use of money decided? Who takes more initiative in the home, and also in the group?

Activity 2: Social drama about decision-making between wife and husband

- (Preparation) Depends on the group's creativity, you can use the material that you think is necessary.
- Divide the group into two teams, one of women only and the other of men only. The groups of the same gender can be further divided by age, civil status and community so that each group is composed of people with similar characteristics.
- Ask each group to choose an issue for discussion between a wife and husband, and prepare a social drama. The issues that are discussed may be one of the following.

- |   |
|---|
| <ul style="list-style-type: none"><li>- Use of money (spending and saving money)</li><li>- Discipline or behavior of the children</li><li>- Food</li><li>- How to organize family chores (in the home and in the field)</li><li>- Organizing the house</li><li>- How to care for and value things</li></ul> <p>(Other common issues for discussion between wife and husband can be used.)</p> |
|---|

- First, each group prepares a skit where the wife begins to discuss an issue and the husband makes the decision (social drama about a dominant husband).
- After preparing their skit, each group acts it out.
- Exchange opinions about the behavior of each couple in the decision-making process.
- Next, each group prepares a skit on the same issue, but the husband begins to discuss the issue and the wife makes the decision. (Social drama about a dominant wife).

- After preparing their skit, each group acts it out.
- Exchange opinions on the behavior of each couple in the decision-making process.
- Discuss with everyone about which skit seemed more real among all the skits performed. Discuss about who decides, or who takes the initiative more often in decision-making.
- Meet again by group. Each group prepares a skit on the same issue, but the discussion between the wife and husband reach an ideal decision (social drama about an “ideal” and fair decision).
- After preparing the skit, each group acts it out.
- Exchange opinions about the behavior of each couple in the decision making process.

(Key Questions)

- What are common issues between a wife and husband?
- How do you feel when the wife (or husband) makes the decision?
- What is the best behavior for decision-making?
- Is there a difference between women and men in their behavior when making a decision?

Activity 3: “Message for You”

- Hand out a card and pen to each participant.
- Ask everyone to write a short letter to a member of their family, community or group. A woman writes to a man (it may be her husband, son, father, boyfriend or friend). A man writes to a woman (it may be his wife, daughter, mother, girlfriend or friend).
- The letter should include a message of appreciation followed by a suggestion for him or her to change something. For example: “My love, I’m very thankful that you always make delicious meals for me, but don’t buy expensive ingredients. I don’t have enough money to continue eating like this.” “My love, thank you for always keeping the house clean, but don’t be upset that I also like to work with the group.”
- They don’t need to write their name, but it should be clear who it is addressed to.
- Each person reads their letter, or the facilitator collects them and reads them.

(Key Questions)

- What virtues are seen in women and in men?
- What do women want men to change?
- What do men want women to change?

Inputs needed

Time	Activities: 1 (90 min.), 2 (60-90 min.), 3 (30 min.), Evaluation (30 min.)
Personnel	1 or several facilitators
Material	Activity 1: Manila paper; magic markers; masking tape; Enough candy (matches or other items: 20 x no. of persons) Activity 2: (Nothing in particular) Activity 3: Cards and pens



### **8.3.6 Workshop Manual: “Functions, qualities and responsibilities of each director and the members”**

#### **Structure**

The general objective of this workshop is: Strengthen the groups that participate in the project by instructing them on the primary functions of the members of a board of directors. Specifically, they are as follows:

- (1). Reflect upon the experiences that group members had prior to this workshop.
- (2). Promote actions within the groups to improve the participatory development of the groups’ activities and their board of directors.

This workshop is divided into two sessions:

- Session I:           Orientation and creating awareness about the functions of the groups’ directors.  
Session II:          Explanation of the forms that each director should fill out.

#### **Procedure**

##### **Session 1. Orientation and creating awareness about the functions of the groups’ directors**

- 1) Religious invocation by the participants.
- 2) Introduction of the facilitators and the members of the groups.
  - a. Self-introduction by position within the group.
  - b. Dynamics will be done to inspire the groups and encourage their active participation in the remainder of the workshop.
    - Each participant introduces herself/himself by saying her/his name, the group she/he represents and her/his expectations of the workshop.
- 3) Explain the objectives of the workshop.
- 4) Acting out the social drama (skit) “*Everything that the President should do*”.

This is a useful dynamic for reflecting on the responsibility the members of the board of directors have in carrying out the group’s activities. The group needs to be divided into 2 mixed (men and women) subgroups.

- ✧ Group No. 1 will represent a group that gives all the decision-making responsibilities to the president.
- ✧ The participants should act in the following way:
  - This is an organized group, and each member arrives to the place of work and greets the other members.
  - When they arrive, each member asks if the president has arrived.
  - When the last member arrives to the place of work, he/she asks if the president has arrived yet. The other members answer that the president hasn’t come yet. The last member says that he/she will wait half-an-hour and if the president doesn’t come that he/she will return home because he/she has a lot to do and can’t be wasting time.

- After a short while, some of the members say that since they have already waited a long time that they are going to leave because the president hasn't come and that's the reason things are going so bad and that the president is an irresponsible person.
  - Every one of the members says that's true and everyone leaves the place.
  - While they are leaving, another person arrives representing someone who is not a member of the group, but who wants to ask information about the group. Since the group members are angry at the president, they tell her/him that the president isn't there, that the group is hopeless because the president never comes, that they haven't seen any profit from working as a group up until now, and that it would be better not to join this group.
- ✧ Group No. 2 represents a group that when the president isn't there, any other member takes responsibility to organize the work.
- ✧ The participants should act in the following way:
- This is an organized group, and each member arrives to the place of work and greets the other members.
  - When they arrive, each member asks if the president has arrived and they are told that he hasn't arrived yet.
  - When the last member arrives to the place of work, he/she says that he/she met the president who said that he/she is sorry he/she can't come today because his/her child is sick.
  - Any one of the members says that even though the president didn't come, there are 3 important jobs that have to be done: 1. fertilize the crops, 2. weed the vegetable, and 3. harvest the sweet peppers, which has to be done or they will be ruined.
  - Another member says that since there are 3 important jobs, they should divide into 3 groups to finish the jobs. And so they divide into 3 groups.
  - After finishing the meeting and as they are leaving someone arrives to ask them about the group.
  - The group tells her/him that the president isn't there, but that they have accomplished a lot working as a group. They mention that currently they are growing vegetables (cassava, tuberous roots (*ñame, otoa*), sweet peppers, green beans, coriander, garlic and cucumbers) and have learned how to make organic fertilizer. They also tell the person that as a group they can do more work than as an individual and that the most important point is that they are learning to use new techniques in farming.
  - They also inform her/him that they are divided into commissions and that each commission makes a report about what it has done.
- 5) Have a brainstorm session for the group members to give their ideas about what they think the qualities and responsibilities are for the president of the board of directors.

- a. The group is divided into two, and material is distributed for making a list of the qualities that the group's directors should have, and another list of the functions they should perform.
- b. The group meets together again and a representative from each subgroup reads the lists it made.
- c. The facilitator asks the group's opinion about the lists that were made and asks the members to reflect upon them, whether the qualities are in accordance with the responsibility of each position.
- d. In the case of the directors' functions, it is recommended to the group to apply the functions required by the project.

(Qualities)

President	Secretary	Treasurer	Supervisor	Messenger
Honesty. Punctuality. Responsibility. Organization. Initiative, leadership. Be committed to the group. Loyalty.	Honesty. Punctuality. Responsibility. Organization. Initiative, leadership. Be committed to the group. Loyalty.	Honesty. Punctuality. Responsibility. Organization. Initiative, leadership. Be committed to the group. Loyalty.	Honesty. Punctuality. Responsibility. Organization. Initiative, leadership. Be committed to the group. Loyalty.	Honesty. Punctuality. Responsibility. Organization. Initiative, leadership. Be committed to the group. Loyalty.

(Functions)

President	Secretary	Treasurer	Supervisor	Messenger
Leads the group meetings. Represents the group before other organizations. Leads the group in making decisions with consensus. Facilitates the participation of all the group members. Takes into account the opinions or suggestions of all group members. Defends the fair treatment of all group members. Signs the necessary documents for the group's operations.	Fills out the minutes of the meetings. Records all the group activities. Takes attendance for all the group activities. Fills out the monthly meeting reports and attendance lists. Fills out the form for requesting material. Prepares the group's messages. Substitutes for the President when she/he is unavailable.	Responsible for the group's finances. Fills out the treasury forms and invoices. Consults with all group members about the use of money. Reports on the treasury records in the monthly meetings. Substitutes for the Secretary when he/she is unavailable.	Checks that the meetings are held by following the agreed upon points. Ascertain the proper use of all the group's material. Substitutes for the Treasurer when she/he is unavailable.	Distributes the messages prepared by the Secretary. Substitutes for the Supervisor when he/she is unavailable. When the Messenger is absent, any member can substitute for him/her.

6) Acting out the social drama (skit) "***The Rumor***".

The dynamic deals with the distortion that can occur to information and the need to establish a mechanism for communicating information in a correct manner.

1. Subgroups of 6 persons are formed and the facilitator tells a certain information to one person in each subgroup.
  2. This person calls another person from the same subgroup (who is now the third person to know the information) and tells the information to him/her individually.
  3. This third person tells the information to a fourth person and so on successively until everyone in the subgroup has heard the information.
  4. Each member of the subgroup comes to where the rest of the participants are and tells them the information that he/she had received, beginning from the first person to the last.
  5. At the end, the facilitator reads the original information.
  6. All the participants analyze the results of the dynamic together with the facilitator.
- 7) Explain the importance of the group regulations or statutes
- a. Begin writing the regulations of each group.
  - b. Leave it as a task for each group to finish making their regulations.
- 8) Reflection and closure.

Session 2. Explanation of the forms that each director should fill out

- 1) Religious invocation by the participants.
- 2) Introduction of the facilitators and the group members.
  - a. Self-introduction by position within the group.
  - b. Dynamics will be done to inspire the groups and encourage their participation in the remainder of the workshop.
    - Each participant introduces herself/himself by saying her/his name, the group she/he represents and her/his expectations of the workshop.
- 3) Explain the objectives of the workshop.
- 4) Review the task given to each group to finish their regulations.
  - Reflection and suggestions about the regulations for each group.
- 5) Carry out the dynamic "***The Ship***".

This dynamic motivates the active participation of the members of a group to carry out the programmed activities.

1. It is explained to the group that the music indicates they should march in line around the room in a circle.
  2. When the music stops, the facilitator informs them that they have to form a group of 5, 4, 3 or 2 people in successive order with following call: “The sea is rough and the ship is sinking. We have to fill the lifeboats with groups of 5 people!”
  3. Each person then finds other people with whom she/he can be saved in a lifeboat and holding onto each other they place themselves inside one of the circles drawn previously in a certain place in the room.
  4. At the end, the participants exchange their opinions, feelings and ideas about making the groups that enter the lifeboats.
  5. The importance of working together to save oneself is analyzed.
- 6) Distribution of forms, description of their content, and the person responsible for filling them out.
- 7) Explanation of the following forms:
- a. Attendance list.
  - b. Monthly meeting.
  - c. Treasury record.
  - d. Filled out invoices.
- 8) Carrying out the closing dynamic “*The Bottle*”.
- ✧ The participants form a circle.
  - ✧ The facilitator spins a bottle on the floor and the person the bottle points to is the one who closes the workshop session.
- 9) Reflection and closing.

Inputs needed	
Time	2 days (day 1 = session I, day 2 = session II)
Personnel	1 or several facilitators
Material	Manila paper, pens or pencils, notebooks, colored markers, chairs (25). Guide for facilitators, Copies of the guides for the regulations, Copies of the dynamics, Leaflets of the workshop, 5 paper circles for the Ship dynamic. Copy of an invoice Copy of the forms: Attendance list, Monthly meeting

### **8.3.7 Workshop Manual: “Facilitation Techniques”**

The following are the workshop’s objectives:

- Strengthen group members to be able to facilitate meetings, workshops, dynamics, etc.
- Motivate other members to want to receive training by seeing how the members have changed from the training.
- Promote the project within the groups by introducing the farmers of the area as facilitators who were instructed by the project.
- Identify the group members who have the potential for developing these types of activities.

The functions of the facilitators are as follows:

1. These facilitators will be trained by the project’s different components and units to be able to facilitate meetings, workshops, dynamics, etc. that are within their capacity and abilities.
2. They can carry out various activities together with environmental volunteers and in conducting market surveys.
3. They will be a contact point with the groups and communities, which is different from the boards of directors.

#### **Structure and procedure**

The workshop is composed of the following 6 parts:

##### (1) Description of the facilitation process (30 minutes)

- What is a facilitator and what does she/he do?
- Experiences of farmers who are facilitators
  - Video of the promoters from PROCESO
  - Video of PROCCAPA
- Benefits achieved from being a good facilitator
  - Personal incentives
  - Economic incentive

##### (2) Oral expression and confidence in oneself (30 minutes)

- How to keep the attention of an audience
- Personal appearance
- Using language as a tool for efficient communication
- Memorization versus preparation

(3) Structure of the presentation (30 minutes)

- Introducing the theme
- Developing the important points
- Analyzing the information
- Conclusion and recommendations

(4) Methodologies for learning (1 hour)

<b>METHODOLOGY</b>	<b>OBJECTIVE</b>	<b>DESCRIPTION of the METHOD</b>
Case study	Develop the analytical ability through the collective study of real or fictitious situations.	This consists of describing a real or fictitious situation for discussion in a group. The case can be presented by the following: a narration, dialogue, dramatization, photographic sequence, film or news article. Participants are asked their opinions about the case to stimulate their participation. Each opinion that is stated can become the source of new themes and opinions for discussion.
Dramatization (skit)	Develop empathy or the ability to put oneself in the shoes of another.	This is one form of a case study. A skit is developed about a specific issue. After acting out the skit, a moderator writes down the important points mentioned by the group, and in the end makes the conclusions.
Team work / study	Develop the ability to study a problem as a team.	The participants are divided into small groups to study the same issue, develop different issues or to analyze different aspects of the same issue. At the end, all the groups meet together and present their work.
Panel / Debate	Analyze the different aspects of an issue by a group of "experts", for the elucidation of others.	This consists of having an informal discussion in front of participants by a selected group of specialists on a certain issue which the participants feel affected by, are interested in, or want to present opposing views. The main table is set in front of the participants, and a moderator is chosen to lead the discussion around the previously decided issues asking questions to the members of the panel and giving them a time limit to answer. Afterwards, the audience asks the panel questions. At the end, the moderator asks for a conclusion from each member of the panel and then closes the session.
Workshop / Laboratory / practice in the field	Learn by practicing the solution to problems with an orientation given by qualified personnel.	The objectives are defined by what the participants will learn to do better during the workshop.
Small group discussions	Deepen the discussion of an issue and come to a conclusion	The participants are divided into small groups to study the same issue, develop different issues or to analyze different aspects of the same issue. At the end, all the groups meet together and present their work.
Seminar	Investigate different aspects of a problem with the help of experts on the issue.	During a seminar: 1. Recognize the problem, 2. examine its diverse aspects, 3. present relevant information, 4. propose research necessary for resolving the problem, 5. follow the progress of the research, 6. present the results to the rest of the members, 7. receive comments, criticism and suggestions from the participants.

Brainstorm	Produce a great number of ideas in a short time with creativity and without inhibition.	The coordinator presents a problem and requests the participants to express all their ideas for resolving it. All the ideas are written down. Afterwards, they are classified based on their relation to the other ideas that were presented, or by their feasibility in a short, medium or long-term. To make the final selection, a small group can be used to attack all the ideas to see which ones will survive the group's scrutiny.
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(5) Use of support material (30 minutes)

- Portfolio
- Manila paper and magic markers
- Illustrations, posters, photographs and drawings
- Leaflets
- Other

(6) Use of technology in the learning process (30 minutes)

- Introduce the new options in the learning process  
(Computer, projector, digital camera, digital player, other)

Inputs needed

Time	2 days (depends on the number of participants and their agility)
Personnel	1 to 2 facilitators for developing the different issues to be treated.
Material	- Blank sheets of paper, pencils, magic markers, scotch tape, Manila paper, pens, notebooks and surveys for the groups.
Other	Meals can be coordinated as needed



### 8.3.8 Workshop manual: “bookkeeping”

#### Structure and procedure

The workshop is composed of the following three parts: “A. Theory and Practice”, “B. Dramatization”, “C. Bookkeeping”. The time needed for the entire process is from 2 to 3 hours.

#### A. Theory and Practice:

The “bookkeeping sheets”, which are letter-sized cards, are passed out among the participants. Also, a large Manila paper with the same bookkeeping sheet drawn on it is taped to the wall at the front of the room. (Annex 1 gives an example of a “Cashbook Form”.)

First, the facilitator explains the purpose and advantages of using a cashbook (bookkeeping notebook). Later she explains how to make the respective records of income and expenses in the notebook using a real example (sale of cucumber harvest, purchase of seeds, donation to the school, etc) writing the amounts on the Manila paper. At the same time, the participants write down the same amounts in their own bookkeeping sheet..

Fecha	Artículo	Cant.	Ingreso	Gasto	Crédito	Saldo	Comentario(Precio unitario)
						0.00	
020508	Tomate	50 Lbs	25.00		(+)	25.00	\$0.50/Lbs
090508	Pepino	100 Lbs	25.00		(+)	50.00	\$0.25/Lbs
080508	Semilla de Tomate	2 ons		2.00	(-)	48.00	\$1.00/ons
120508	Tomate	10 Lbs			(+)	48.00	\$0.50/Lbs, A Sr. Joaquín
160508	Crédito de Sr. Joaquín		5.00		(+)	53.00	Sr. Joaquín Pagado.
230508	Donación para Escuela			20.00		33.00	
300508	Saldo de Mes Mayo					33.00	Reunión Mensual

#### B. Dramatization:

Using play money the participants play a game of selling and buying merchandise practicing the knowledge they obtained in the workshop. (Regarding the material needed for the workshop, see the section below: “(2) Material needed”)

Preparation No.1: Two large Manila sheets are taped to the wall at the front of the room, one that says “Bookkeeping Sheet” and the other that says “Field of Crops”. (The photos below show a Bookkeeping Sheet after it was filled in.) On the “Field of Crops” sheet, the “harvests” are attached by tape.



Preparation No.2: Assigning roles to the participants. The minimum number of roles needed for this dramatization is a “treasurer” (should be a member of the group), “salesperson” (should be a group member), “shop”, “restaurant”, “farm store”, and “school teacher”. Other roles can be assigned to the participants depending on their number. Each person wears a sign (prepared beforehand) that says what his/her role is. It is a good idea to ask the group’s real treasurer to play the role of treasurer in this skit. Each group member should be assigned a role so that all can participate. Each one then goes to their corresponding position.



#### Dramatization:

Scene No.1 [Harvesting in the morning]: In order for members to become accustomed to the dramatization, the “group members” go to the “field” to “harvest” the “crops”. The facilitator announces the date of the harvest (it can be any date, but it should be recorded in the bookkeeping sheets.)

Scene No.2 [Selling the harvest]: “The salesperson (group member)” takes the harvest in a sack to the “shop” or “restaurant” in the community to sell it. The price and quantity depends on the negotiation. The facilitator need not intervene. In the meantime, the “treasurer” stands in front of the “bookkeeping sheet” (Manila sheet on the wall).

Scene No.3 [Writing down the income]: The “salesperson (group member)” returns with the “money from the sale” and gives a report to the “treasurer (group member)”. Reviewing what they learned in “A. Theory and

Practice”, the date, products sold, and sales price are written down on the “bookkeeping sheet (Manila sheet)”. All the group members participate in this process confirming that the record is being made correctly. The facilitator helps so that record is made without any errors.



Scene No.4 [Harvest and sale on another day]: Repeat steps 1 to 3. Reflect upon the situations that did not go well in the first try and help participants to improve their comprehension. (Importance of repeating the same exercise.) The facilitator announces a date later than the previous date.

Scene No.5 [Buying the seeds]: Up to this point, the income derived from the sale of farm produce has been recorded in the bookkeeping sheet giving the group a fund to work with. Next, in order to practice recording expenses, the group buys vegetable seeds at the “farm store”, (if the participants are not accustomed to doing this, the facilitator can prepare a script beforehand for them.) and records the expense. As in the previous exercise, the records are made with the consensus of all the participants.

Scene No.6 [Donating to the school]: In order to repeat the practice of recording expenses, the “school teacher” asks for a donation for the school and the group decides to donate a certain amount. (If the participants are not accustomed to doing this, the facilitator can prepare a script for them beforehand.) As above, the records are made with the consensus of all the participants.

### C. Bookkeeping:

A cashbook that is suitable to the group’s needs is selected and purchased beforehand and at this point is given to the group. The group then proceeds to record in the cashbook all the incomes and expenses they had to date following the methods they learned in the workshop.

The group is asked to promise to continue recording their income and expenses beginning from the next day. With this the workshop can be brought to a close.

- *Later, in the monthly meetings, you should check the group’s cashbook to confirm their bookkeeping and provide them with further assistance if needed.*

**Inputs needed**

Time	1 day
Personnel	1 facilitator
Equipments, Materials	<ul style="list-style-type: none"> <li>● Bookkeeping sheets for practicing making records in the cashbook: The format of the cashbook is copied on a full-page size, in a quantity equal to the number of participants. (In Annex 1 a sample of the form is available, which can be copied and used.)</li> <li>● Material for the dramatization: (This is the real case of material used in our Project. The following “tools” were made from colored paper.) <ul style="list-style-type: none"> <li>- Two sheets of paper with a page from the cashbook drawn on them: Used for practice, one sheet is used in “Theory and Practice”. Draw a large bookkeeping page on Manila sheets.</li> <li>- Field of crops: Draw the field on a Manila sheet.</li> <li>- Harvests (tomato, cucumber, green onions, and pineapple): Cut them out of paper. See the photo below.</li> <li>- Play money (bills and coins): Make them out of paper. See the photo below.</li> <li>- Signs indicating roles: Make them out of paper, “Treasurer”, “Shop Keeper”, “School Teacher”, etc.</li> <li>- Purse, cash register, and bag of seeds: Anything can be used. (In Alhajuela Project we made them out of construction paper.)</li> </ul> </li> </ul>
Others	With the exception of the bookkeeping sheets, which are filled out and later discarded, all this material should be carefully saved after the workshop so that they can be used various times. Regarding other material that may be necessary for the bookkeeping workshop, see the main text, “Chapter 11.6 Inputs Needed”

### 8.3.9 Workshop manual: “Fair distribution of profit”

#### Structure and procedure

The workshop consists of two basic elements: the theory and the practice of calculating the disbursement amounts. A large sheet of Manila paper is taped to the wall at the front of the room, which the facilitator uses as a blackboard. The workshop is carried out in a participatory manner so that all the members can comprehend the procedure for disbursing the group’s profits. A simulation of this workshop, which takes between 2 and 3 hours, is explained below.

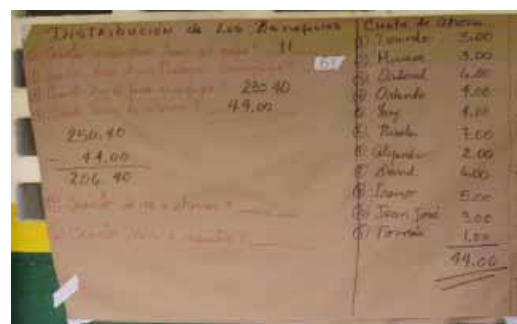
#### Workshop simulation

Number of people and total fund: The total number of people and the total fund to be used in the calculations are decided upon. The number of people is basically the number of workshop participants.

(Example: 12 people, \$2,700)

Decide on the amount to be disbursed: Of the group’s total fund, the amount of money to be disbursed among members is decided upon in a democratic manner. (Example: \$1,500 of the \$2,700)

Calculate the days worked: The group’ total number of activity days, and total days worked by each member are calculated. If the group worked one day a week during the entire year without missing a single week the total activity days would be 53 days. The days worked by each member would be a number within this figure. (In case the group wants to calculate the members’ work by hour, then the group’s total hours worked and each member’s total hours worked are calculated accordingly. Example: 53 days × 8 hours = 424 hours.)



Calculation No.1 [Calculate the theoretical amount for each person]:

$$[\text{Disbursement Amount}] \div [\text{number of members}] = [\text{Theoretical amount per member}]$$

(Example: \$1,500 ÷ 12 people = \$125 per person)

Calculation No.2 [Calculate the real disbursement for each person]:

[Theoretical Amount per member] ÷ [Total days worked] × [Days worked by Mr. A] = [Disbursement for Mr. A] (Example: \$125 ÷ 53 days × 44 days = \$103.77)

➤ This calculation is done with each participant so that everyone understands the method of calculation.

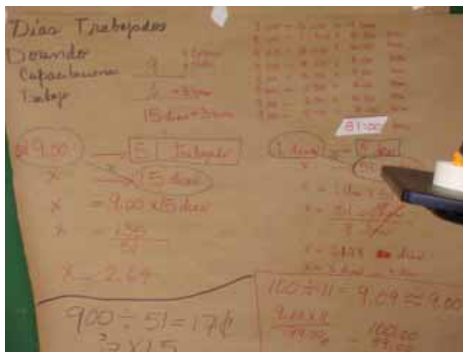
Calculation No.3 [Calculate the total disbursement]:

Add the total disbursements to all the members to arrive at the total disbursement for the group.

Calculation No.4 [Calculate the excess]:

[Disbursement amount agreed upon at the beginning] – [Real amount] = [Excess]

This method of calculation will always have an excess, unless all the member worked on all the group's activity days. The group agrees to return the excess to their group fund.



➤ Alternative method of calculation:

$[Disbursement\ amount\ agreed\ upon\ at\ the\ beginning] \div [Total\ days\ worked\ by\ all\ members] \times [Days\ worked\ by\ Mr.\ A] = [Disbursement\ for\ Mr.\ A]$

With this method for calculating disbursements, there will not be any excess and the total amount agreed upon at the beginning can be disbursed. (Depending on the result of the divisions, the fractions would be errors.)

**Inputs needed**

Time	2 to 3 hours
Personnel	1 facilitator
Equipments, Materials	<ul style="list-style-type: none"> <li>● Calculators (one for each participant, collect them at the end of the workshop)</li> <li>● Calculation sheets, writing utensils</li> <li>● Manila paper (tape to the wall at the front of the room to use as a blackboard.)</li> </ul>

### **8.3.10 Workshop Manual: “Analysis of production cost”**

The objective of this workshop is for the members to calculate in a simple manner the margin of profit and costs incurred during the implementation of a certain activity, in other words, to determine if they made a profit or a loss and to set the price of the product.

#### **Important definitions**

**Expenses or costs:** this is the money that is used to cover the needs of an activity or farm production and the sale of the products and services.

**Direct expenses or costs:** these are directly related to the product or service that is being sold; in other words, those costs that are necessary to carry out the farm production or offer the service. Example: fertilizer, seeds, and water in the case of agricultural production, because in order to obtain a crop you need the seeds for planting in the land and you need to fertilize and water them so that they can develop into a product that can be sold.

**Indirect expenses and costs:** those costs that are not directly involved with the product or service. For example: rent, electricity, transportation, etc.

#### **Structure and procedure**

The workshop is carried out in two phases. In the first phase a simple, clear and precise explanation is given on the basic concepts for estimating the production cost, and in the second phase the production cost of one of the group’s activities is estimated and a price is suggested in line with the real situation and production costs.

#### **A. Basic Concepts:**

- Expenses or costs
- Direct expenses or costs
- Indirect expenses or costs

#### **B. Practice:**

A product or service should be chosen with which the participants are familiar and whose production cost they would like to calculate. Once the product or service has been chosen, the participants should make a list of the direct costs and another list of indirect costs; both costs are added to produce the operational cost.

**Example #1: Producing hot-sauce**

Item/ input	Quantity	Unit price (\$)	Direct cost (\$)	Indirect cost (\$)
Glass bottles	104 units	0.25	26.00	-
Chili pepper	700 units	2.00 / hundred	14.00	-
Vinegar	3 gallons	3.75	11.25	-
Mustard	1 gallon	6.50	6.50	-
Onion	1 ½ pounds	0.60	0.90	-
Garlic	2 heads	0.25	0.50	-
Salt	1 package	0.10	0.10	-
Labor	2 persons	3.50	7.00	-
Fuel	½ gallon	1.90	-	1.90
<b>Total direct and indirect costs</b>			<b>66.25</b>	<b>1.90</b>
<b>Total cost</b>			<b>\$ 68.15</b>	

Production obtained

- With these inputs, 4 gallons of hot-sauce was produced
- From each gallon, 26 bottles, 5 ounces each, were obtained.
- 104 bottles at a price of \$1.00 = \$104.00

Calculating the profit

Total sales **\$104.00** – total costs **\$68.15** = Total profit **\$35.85**.

Total profit **\$35.85** divided by units sold **104** = profit per unit **B/.035**.

Procedure

To produce the hot-sauce, first you begin by selecting the vegetables – they should be large and mature so that a good quality product can be made.

Once the vegetables have been selected and washed, the onions and garlic are cleaned, chopped and placed in a clean container and all of this is ground. Afterwards, in another clean container mix the ingredients with vinegar, mustard and salt to taste.

The bottles are sterilized and later the hot-sauce is poured into the properly sterilized bottles. The bottles are sealed, a sticker is placed on them and they are ready for sale.



**Example #2:** Growing a tuberous root (*ñame*) in a 100 square meter plot.

Item/ input	Quantity	Unit price (\$)	Direct cost (\$)	Indirect cost (\$)
" <i>Ñame paleta</i> " plants (seeds)	1000 units	0.20	200.00	-
Labor for preparing the land and planting	5 persons x 4 hour each	1.50 / hour	30.00	-
Labor for weeding	5 persons x 4 weeding / year	7.20 / weeding	144.00	-
Labor for harvesting and selecting the crop	6 persons x 2 hours each	1.50 / hour	18.00	-
Bags	50 units	0.10	-	5.00
Organic fertilizer	2 bags	7.00	-	14.00
Medicine for " <i>ñame</i> " seeds	3 bags	1.50	-	4.50
Transportation for sale of product	1 time only	30.00	-	30.00
<b>Total direct and indirect costs</b>			<b>392.00</b>	<b>53.50</b>
<b>Total costs</b>			<b>B/. 445.50</b>	

Production obtained

- 1,000 plants of tuberous root "*ñame*", 2 lbs harvested from each "*ñame*" plant; in other words 2,000 lbs.
- 2,000 lbs. at \$0.60 /lb. = \$1,200.00

Calculating the profit

Total sales **\$1,200** – total costs **\$445.50** = total profit **\$754.50**.

Total profit **\$754.50** divided by units sold **2,000 lbs** = profit per unit **B/.0.37** approximately.

**Example #3: Making “Tagua” necklaces**

Item/ input	Quantity	Unit price (\$)	Direct cost (\$)	Indirect cost (\$)
“Tagua” seeds	4 bags	4.50	18.00	-
Trinkets	2 ½ dozen	12.00	30.00	-
Clasps	3 dozen	1.00	3.00	-
Thread	30 yards	0.10	3.00	-
Labor	3 persons x 5 hours each	3.50 / person	10.50	-
<b>Total direct and indirect costs</b>			<b>64.50</b>	<b>0.00</b>
<b>Total cost</b>			<b>\$ 64.50</b>	

Production obtained

- 30 necklaces for a price of \$8.00 each = \$240.00

Calculating the profits

Total sales **\$240.00** – total costs **\$64.50** = total profits **\$175.50**.

Total profits **\$175.50** divided by units sold **30** = profit per unit **\$5.85**.

C. Conclusions and Reflections:

The workshop ends with a reflection on the strategy to use for estimating the production cost because knowing the production cost is fundamental for setting the price of a product.

Inputs needed

Time	1 day, depends on the number of participants
Personnel	1 facilitator
Material	<ul style="list-style-type: none"> <li>● Manila paper, magic markers, scotch tape, calculators, pencils and blank sheets of paper for doing calculations.</li> <li>● Meal</li> </ul>
Other	The production costs should be estimated for an activity that the participants are doing so that their exact data can be used.

### **8.3.11 Workshop Manual: “Analysis of the use of the group fund and reinvestment”**

#### Structure and procedure

The workshop is composed of 3 parts: “A. Basic concepts”, “B. Explanation of an adequate management of income and expenses”, and “C. Practice”. The time needed for the workshop is from 2 to 3 hours.

#### A. Basic concepts

- Cashbook: Registry of income and expenditure.
- Reinvestment fund: Economic assets arising from the sale of products and services offered by the group, which are designated to investing in the activities for the group’s development.
- Petty cash: seed capital for short-term needs, which can increase the investment.
- Savings: capital kept in the bank, which earns interest.

#### B. Explanation of an adequate management of income and expense

- Importance of responsible management of money.
- Importance of the cashbook record.
- Reporting on money management: written report (on Manila paper or cashbook) or report in meetings.

#### C. Practice

Use the cashbook to learn the group’s current balance; based on the current balance the group decides, by consensus, on the percentages it will designate to petty cash, savings, incentives and reinvestment. If they do not have a cashbook, an imaginary sum of money can be decided on to use for the purpose of the workshop.

\_\_\_\_\_ % Petty cash

\_\_\_\_\_ % Savings

\_\_\_\_\_ % Incentive (money, seeds, fertilizer, travel expense, loans, harvest, etc.)

\_\_\_\_\_ % Reinvestment (machinery, supplies, seeds, equipment, etc.)

#### Example of the “reinvestment” portion

The group decides by consensus on the activity it wishes to reinvest in. For example: to begin producing tomatoes using the saran mesh module; the size would be 5 meters by 5 meters with 2 harvests per year.

Exercise:

1. Name all the inputs necessary for carrying out the proposed activity, for example, seeds, fertilizer, saran mesh, etc.

2. Estimate the amount of inputs necessary, for example, the amount of seeds, in ounces, for the two sowing, the amount of fertilizer, etc.
3. How and where will the inputs be obtained? It could be at the public market, farm supply stores, etc.
4. How much will the inputs that we need cost us? Make an estimate of the unit price and total amount for each of the inputs to be made, as in the following example:

Inputs needed	Quantity	Unit price (\$)	Amount to pay (\$)
Tomato seeds	4 ounces	5.25	21.00
Organic fertilizer	10 pounds	1.25	12.50
Insect repellent	10 liters	1.50	15.00
		TOTAL	48.50

If the reinvestment amount is very high in comparison to the group fund, the amount of inputs could be reduced, or the amounts to be used for “incentive”, “petty cash” or “savings” could be reduced.

#### Example of “incentives”

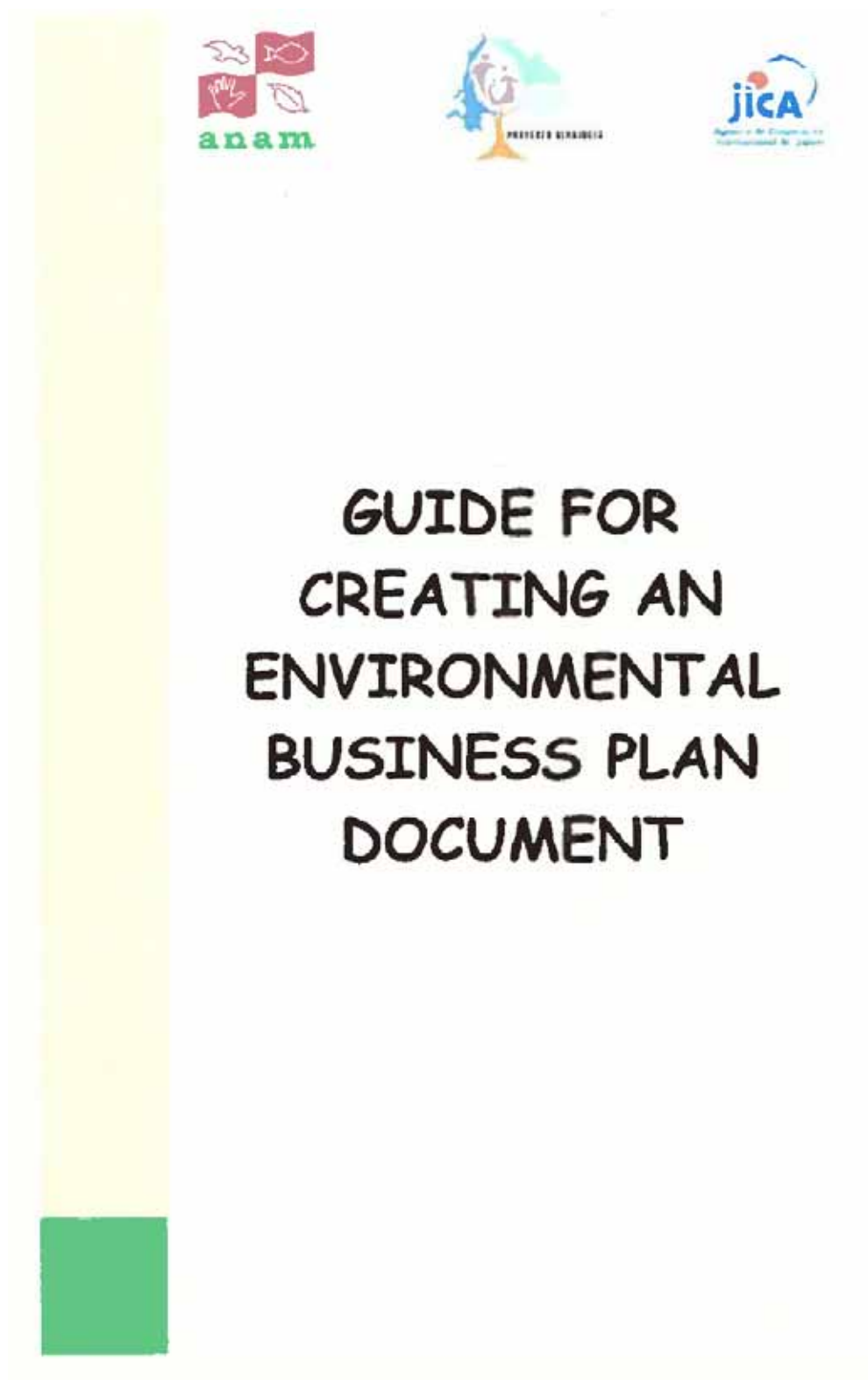
- Purchase of fertilizer, boots or seeds to be distributed among the group members.
- Work (internal work exchange on the individual farms).
- Provide group support with a meal when any member faces an emergency.
- Make loans to group members for any situation; also distribute Christmas packages to each active member of the group.

The workshop ends with a reflection on all the strategies that can be used for managing the group’s fund, for example: increase the fund, collect membership fees, sell products with greater demand, offer services, etc.

#### Inputs needed

Time	2 or 3 hours
Personnel	1 facilitator
Material	<ul style="list-style-type: none"> <li>● Magic markers, Manila paper, scotch tape</li> <li>● Cashbook (if they have one, if not, use a fictitious fund)</li> </ul>

**8.3.12 Workshop manual: “Making a proposal of environmental business plan”**



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## Definition of Concepts

*What is an Environmental Business Plan?*

- It is a document containing all the information needed for evaluating an environmental business, and a general outline for putting it into practice.
- It includes a vision with a commitment to the conservation and adequate use of natural resources, and the products and services it offers are related to biodiversity, clean technologies and technological innovations.

*Why is it important to make the document?*

- The presentation of an Environmental Business Plan is a basic requirement when seeking financing, partners or investors; it also serves as a guide to those who are directing the Environmental Business or the company.

The Environmental Business Plan evaluates the following:

**TECHNICAL FEASIBILITY.**  
Can it be done?

**ECONOMIC FEASIBILITY.**  
Will it produce the results anticipated?

**FINANCIAL FEASIBILITY: Are the necessary resources available?**



**Objectives of the Workshop for creating an Environmental Business Plan**

- **Create an organization's Environmental Business Plan in a participatory manner with the beneficiaries.**
- **Strengthen the capacities and abilities of the beneficiaries in the administration and management of environmental businesses.**
- **Support their application for a loan from financial entities or donors when seeking financial sources.**

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**Methodology of the Workshop and anticipated results**

- \* **Learn by doing**
- \* **Presentation of concepts**
- \* **Working in groups**
- \* **Clarification of doubts in a plenary meeting**
- \* **Presentation of the groups' works in a plenary meeting**
- \* **Collection and review of information about existing environmental businesses (if any)**
- \* **An Environmental Business Plan created in a participatory manner.**
- \* **A strengthened organization implementing the Environmental Business Plan**
- \* **Improved living conditions of the beneficiaries through the adequate use and management of resources.**

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## Elements of the Environmental Business Plan

### 1. Executive Summary

- It should contain the primary information of the environmental business plan:
- MAINLY:**
- Product or service to be offered
  - Value to the client
  - Relevant markets
  - Capacity of the management team
  - Financial requirements
  - Return on investment

The objective of the Executive Summary is to capture the attention of decision makers.

#### *Consider the following points:*

It should be a brief synthesis of the most important aspects of the environmental business, and should be placed ahead of the main presentation. Therefore, it is important that it facilitates the understanding of the information contained in the environmental business plan; special attention should be paid to its text and appearance.

### 2. Definition of an Environmental Business

The following points should be considered:

- General information about the company (management team)
- General description of the business (products or services)
- Location of the environmental business

The objective is to provide information about the management team, what the environmental business consists of, what products or services will be offered, and where the Environmental Business will be located.

#### **QUESTIONS YOU SHOULD ANSWER:**

- A. Information about the company (management team).**
- Name of the company or environmental business
  - Who are the members of the team?
- B. General description of the environmental business (products or services)**
- Describe the product to be offered, including a description of the packaging.
  - Give a brief history of the environmental business.
  - Visual impact (include photos if possible)
- C. Location of the environmental business**
- Where is the environmental business located?
  - Activities to which the inhabitants are dedicated. What do they produce?
  - Services that they have.

### 3. Marketing and Competition

The objective is to show the attractiveness of the market and the feasibility of capturing part of it.

#### MARKET ANALYSIS

*What is the size of the market to which the product will be offered?*

*What are the tendencies of the market to which the product is directed?*

*To what segment of the market will the product be offered?*

*For example: Income level, age, gender, youth, adults, general population of potential consumers.*

#### COMPETITION:

*Who are your competitors?*

*Are there potential competitors that could offer your product?*

### 4. Marketing and Sales

The objective is to emphasize how the product or service will be sold.

• Products or services to be offered and the sales price.

What products are you going to offer and at what prices?

• Commercialization (distribution channel)

How will the products/services be distributed? What channel will be used to deliver the product to the consumer? Draw a diagram or illustration.

• Publicity and product appearance

What media will be used to promote the product?

How will the product be presented to the client?

## 5. System and Organization of an Environmental Business

The objective is to show how the Environmental Business will function.

### ● Organization and administration

Who will direct the company?

Create and describe the basic organizational chart of the business.

Define the functions of the personnel.

### ● Legal and fiscal aspects

What are the legal and fiscal requirements for starting the business?

For example: Health Card, Notice of Operation, Legal Status, Registration of industrial property rights, etc.

### ● Production Process

Describe the process for producing the product or service.

### ● Need for capital

What are the resources required for implementing the Environmental Business?

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## 6. Implementation Plan

### Implementation Calendar:

- Schedule of activities
- Plan for required human resources
- Investment plan

The objective is to show how the environmental business will function.

### Schedule of activities:

The activity schedule tells us the activities to be done, the time when they are to be done, and the responsibilities for implementing each activity. It also helps us in planning for the human resource and investments that will be needed.

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## 7. Risks and Opportunities

The objective is to show that you are aware of the difficulties that will be encountered in the project and that you are preparing for them.

### Risks:

Aspects that are **OUTSIDE** the environmental business that could put in danger its implementation or the achievement of the anticipated results.

**For example:** New competition, imported products, situation of public order, instability.

## 8. Financial Planning and Financing

The basic objective is to show investors the attractiveness of investing in this Environmental Business.

### The following should be stipulated:

- Cost of the project or environmental business. Annex cost estimates, designs, maps, drawings, labels.
- Anticipated cash flow
- Business projection (minimum 2 years)

## What is needed to create the Environmental Business Plan (EBP) Document:

Tools	Time Needed	Material Needed
<ul style="list-style-type: none"> <li>- Visit to an organization with a successful environmental business.</li> </ul>	2 DAYS depending on the place to be visited	Transportation, food, lodging
<b>Workshop</b> <ul style="list-style-type: none"> <li>- Commencement of the workshop</li> <li>- Presentation of the workshop objectives</li> <li>- Introduction of participants</li> <li>- Presentation of the guide or format to be used</li> <li>- Definition of concepts</li> <li>- What does the Business Plan evaluate?</li> <li>- Objectives and methodology of the workshop for the environmental business plan</li> <li>- Explanation of the Executive Summary</li> <li>- Definition of an environmental business</li> <li>- Marketing and competition in the environmental business plan</li> <li>- Validation of the information and evaluation for that day</li> </ul>	1 DAY	Paper stand or Manila paper, magic markers, workshop manual, daily schedule, food.
<ul style="list-style-type: none"> <li>- Marketing and Sales</li> <li>- Business System and Organization</li> <li>- Implementation Plan</li> <li>- Risks and Opportunities</li> <li>- Validation of the information and evaluation for that day.</li> </ul>	1 DAY	Paper stand or Manila paper, magic markers, workshop manual, daily schedule, food.
<ul style="list-style-type: none"> <li>- Financial planning and financing</li> <li>- Cost of installations, machinery, equipment, etc.</li> <li>- Necessary drawings</li> <li>- Production plan</li> <li>- Calculation of income and expenses</li> <li>- Cash flow</li> <li>- Flow of financial requirement</li> <li>- Validation and evaluation of that day</li> </ul>	1 DAY	Paper stand or Manila paper, magic markers, workshop manual, daily schedule, food.
<b>In Companies:</b> <ul style="list-style-type: none"> <li>- Cost estimates (depends on the material, inputs or equipment to be estimated)</li> <li>- Design and calculation of material</li> <li>- Digitalization of the EBP document.</li> <li>- Review by pertinent personnel.</li> <li>- Validation of EBP by the organization.</li> </ul>	2 DAYS 2 DAYS 5 DAYS 2 DAYS 1 DAY	Transportation, computer, printing of draft document, printing of final document.

## Annex 9. Case studies from the experiences of Alhajuela Project

### 9.1 Example of a training curriculum for strengthening of groups (Chapter 8)

1	Name of seminar	Strengthening of community-based organizations through the sustainable use of natural resources and creating environmental awareness	
2	Objective of the training	The participants will learn the basic processes for organizational strengthening. They will learn some methods, tools, and dynamics of participatory development. They will learn, in a general manner, the relevant aspects of commercializing products in the local and national markets. They can acquire knowledge and teaching material for environmental education.	
3	Type and number of participants	Farmers from the 7 initial groups of Alhajuela Project. (21 persons)	
4	Period of seminar	From June 16 to 20, 2008	
5	Place of seminar	CEDESAM, El Cacao subcenter.	
6	Training methods	Lecture ( X )      Workshop ( X )      Tour ( X )      Field practice (   )	
7	Instructors	Own Instructor ( X )      Invited Instructor ( X )	
8	Structure of curriculum	Total classes: 40 hours	
		Commencement of seminar	1 hour
		Attitude for creating an organization and managing conflicts: Value of group work, self-esteem, leadership	4 hours of theory 3 hours of workshop, dynamics
		Administration of economic activity: Making entries in the cashbook, Introduction to cooperatives	4 hours of theory 3 hours of educational tour
		Creating environmental awareness: Handicrafts from recycled material, Forming environmental volunteers	4 hours of workshop 4 hours of theory
		Basic concepts of commercialization: Tour of a collection center and supermarket chain.	8 hours of educational tour
		Principles of group sustainability: Gender equality, benefits of acquiring legal status for the group, fund acquisition.	8 hours of theory
		Evaluation, Closing	1 hour
9	Bibliography	80 tools for participatory development (IICA, 2000) Teachers' Guide for Environmental Education (ANAM, 2002)	
10	Budget	\$2,000 (transportation, lodging, food, travel expense, material, remuneration)	

## 9.2 Inputs needed for awareness creation of farmers and environmental education of students (Chapter 9)

### 1) Lecture

Issue	Time	Place	Implementers	Beneficiaries	Equipment, Material, Costs
Soil and forests	0.5 day (2 hours)	Community house	2 lecturers from the project	14 farmers and 6 children from 1 community	Slides, screen, laptop, projector; Cost (\$25) = lunch

### 2) Workshop

Issue	Time	Place	Implementers	Beneficiaries	Equipment, Material, Costs
Recycle and handicrafts made from sold wastes	1 day (5 hours)	Meeting room in Chagres National Park	1 outside facilitator, 2 helpers from the project	20 farmers from 6 groups	Plastic bottles, paint, paint brushes, office supplies; Cost (\$150) = lunch, material, remuneration

### 3) Study tour

Issue	Time	Place	Implementers	Beneficiaries	Equipment, Material, Costs
Reforestation in Canal grass areas	1 day (6 hours)	“Tree City” Project site	4 outside facilitators, 1 coordinator from project	18 farmers and 11 children from 1 group	Explanatory pamphlet, authorization from ACP and Panama University; Cost (\$150) = bus rental, refreshments

### 4) Other activities

Issue	Time	Place	Implementers	Beneficiaries	Equipment, Material, Costs
2° drawing contest, “Come and Learn About Our Lake Alhajuela”	4 months (from the beginning, selecting the drawings to giving awards)	5 elementary schools with access by vehicles	2 coordinators from project  6 judges	84 drawings received; 3 awarded and 12 classified	Drawing paper, color pencils, prizes; Cost (\$700) = material, prizes, lunch, boats and sound equipment rental
Use and management of the Teachers’ Guide to Environmental Education	3 days (9:00am – 16:00pm)	Computer room of a beneficiary school	5 officials from MEDUCA, 5 officials from ANAM, 2 coordinators from Project	18 teachers from 9 schools in 7 communities	Slides, screen, laptop, projector, workshop material, office supplies, Teachers’ Guides; Cost (\$400) = material, meals, lodging
Planting trees on the Global Tree Day	1 day (May 15)	2 elementary schools (separate activities)	2 coordinators from Project, 4 helpers from Project	71 students, 3 teachers, 15 community members	Tree seedlings, shovels; Cost (\$100) = refreshments (The seedlings were obtained by the project)

### 9.3 Basic Expenses of a Group Farmland (Chapter 10)

An approximation of the basic expenses involved in establishing a group farmland is presented below. This example supposes a farmland surface of 1 hectare for a group with 10 members. The labor required for clearing the land, carrying material, construction, etc. is provided by the group itself.

Infrastructure, Equipment, Material	General Dimensions	Costs (\$)
Wire Fence	400m x 3 lines. Barbed-wire, staples, poles	150
Irrigation System	Variable. In the following case: 1 water tank, 20 PVC pipes of 1", other parts	550
Storage Shed	2m x 2m x 2m. (cement floor) Base layer, sand, cement, iron bars, cement blocks, zinc sheets, door, lock	400
Meeting House	3m x 6m x 2m. (dirt floor) Wood, forked columns, palm tree leaves, nails, zinc sheets	100
Kitchen with improved stove	1.5m x 1.5m x 2m. (dirt floor) Stove: 0.5m x 1m x 0.8m Bricks, cement, sand, clay, ashes, various kitchen utensils	100
Toilet	1m x 1m x 2m. (simple hole) Zinc sheets, palm tree leaves, wood, toilet stool	50
Fertilizer Shed	3m x 6m x 2m. (dirt floor) Wood, forked columns, palm tree leaves, zinc sheets	100
Earthworm Box	1m x 1.5m x 1.5m. Wood, nails, mesh, breeding stock	50
Nursery / Seedbed	2m x 8m. Wood, polyethylene mesh, nails, bags	50
Sign	2 meters high x 1 meter wide, Metal structure, digital print	200
Basic Tools	Machete (10), wheelbarrow (1), pointed shovel (2), square shovel (2), straight hoe (2), pick (2), saw (2), hammer (2), crowbar (2), hoe (2), metal rake (2), post digger (2), watering can (2), hatchet (1), emery (1), 50m metal tape measurer (1), spray pump (1), Thermometer (1)	350
Administrative Material	Manila paper, magic markers, tape, bulletin board, cashbook, Farming Record, plastic box for paper	100
<b>TOTAL</b>		<b>2,200</b>

#### 9.4 Example of agreement on the use of land for group farmland (Chapter 10)

### LETTER OF UNDERSTANDING BETWEEN MR(S) \_\_\_\_\_ AND THE GROUP \_\_\_\_\_

I \_\_\_\_\_ holder of personal identification number \_\_\_\_\_, resident of \_\_\_\_\_ (address) \_\_\_\_\_ enter into the following agreement regarding the use of the land or farm that I own, with the members of the group \_\_\_\_\_, which is located in the \_\_\_\_\_ community, \_\_\_\_\_ borough, \_\_\_\_\_ District, of the \_\_\_\_\_ Province.

At the request of the members of the \_\_\_\_\_ group, I have decided to lend the area of the land indicated in the Land Title N° \_\_\_\_\_, in this case a plot measuring \_\_\_\_\_ square meters. Said plot shall be used for carrying out the work promoted by the PROJECT FOR COMMUNITY DEVELOPMENT AND INTEGRATED MANAGEMENT OF THE ALHAJUOLA LAKE SUBWATERSHED (ANAMA-JICA); such as clearing the land, planting crops such as coffee, fruit trees, variety of vegetables, basic grains, tubers, among others, by means of applying soil-conservation techniques, and said crops shall be harvested and sold to create economic income in benefit of the group.

In this agreement the \_\_\_\_\_ group is represented by its president, who is \_\_\_\_\_, a Panamanian citizen, holder of personal identification No. \_\_\_\_\_, resident of the \_\_\_\_\_ community, \_\_\_\_\_ Borough, \_\_\_\_\_ District, \_\_\_\_\_ Province.

#### **This agreement establishes the following points:**

1. This land shall be lent for a period beginning from \_\_\_\_\_ (day) of \_\_\_\_\_ (month) of \_\_\_\_\_ (year) to \_\_\_\_\_ (day) of \_\_\_\_\_ (month) of \_\_\_\_\_ (year). Furthermore, no economic remuneration shall be given in the form of rent for this land.
2. This land shall be available for doing any type of work or making any infrastructure in benefit of the group, once this has been agreed upon in writing between the landowner and the group members.
3. All the work done, or infrastructure built, on this land belongs to the group, and such infrastructure may be permanent or mobile. The mobile structures would include pipes, water



storage tank, among others.

4. Once this present agreement terminates and if both parties (landowner and group) wish to renew it, they may do so for a time period that seems convenient, and for such purpose they shall make a new land-use agreement.
5. In the case of ending this agreement before the date stipulated in it, or in the case of not renewing this agreement, the \_\_\_\_\_group has the right to remove such mobile structures that were built by the group during the period of this agreement; in other words, they are only and exclusively for the use of the group (irrigation systems, water storage tank, pipes, greenhouse, among others).
6. In the case of renewing this agreement, the group shall have the right to use the water source, and it may also make use of the perennial crops and fruit trees for later reproduction or for obtaining seeds.
7. The income obtained from the commercialization of the crops produced on the group farmland shall be subject to the decisions of the group.
8. In the case of ending this agreement before the date of termination, an annex shall be made to this agreement in order to state the considerations or decisions made by both parties (group and landowner).

**IN CONFIRMATION OF THE AGREEMENT ENTERED INTO BY BOTH PARTIES, EACH PARTY SIGNS THIS AGREEMENT AND RECIEVES A RESPECTIVE COPY OF IT.**

For the \_\_\_\_\_ Group  
ID No.:

Landowner  
ID No.:

Witnesses  
ID No.:  
ID No.:  
ID No.:

Performed in \_\_\_\_\_ City, on \_\_\_\_\_ (day) of \_\_\_\_\_ (month) of \_\_\_\_\_ (year) .

## 9.5 Lessons learned through the activities of Alhajuela Project

### Reactions to the first contact made with the inhabitants of a community (Chapter 4)

The negative images that inhabitants have toward the actions of certain public institutions make it difficult to have constructive conversations with them. The people do not believe that ANAM could help them improve their lives because of past experiences. For instance, they were not taken into account when the land was declared a protected area, promises were not kept, and there was no follow up to the projects implemented by Chagres National Park. These experiences have contributed to increasing the resistance of the inhabitants.

When Project Alhajuela held its first promotional meeting with an agroforestry group in the area, the group members were very negative about receiving help from projects, and we had to repeatedly explain about the difference in the orientation of our project. The most interesting part of the conversation was when the inhabitants complained about the bad experiences they had with the institutions, namely the lack of communication, the failure to keep promises, the lack of strategy for working with the communities, and the lack of recognition of their care for the environment.

Everyone spoke at once, and at certain moments the enthusiasm grew and diminished dramatically until at one point someone said, *“Don’t feel upset because we say this, it’s just that this is how we feel.”* And the Project personnel answered, *“It’s better that you speak out. I’m here to hear your opinions. You can continue.”*

The people were surprised and said that normally the institutional personnel do not answer in that way. This opened their minds to listen to a detailed explanation of the Project’s objective for working with the communities. Even so, the people insisted in saying, *“This is just another project that came to deceive us and make us waste time.”* To which we answered, *“How can you be sure that we are the same as the others if you haven’t given us a chance to show you otherwise. Give us a chance and then you can judge for yourselves.”* That is how the group gave us the opportunity to work with them.

This group always remembers that conversation and says to us today, *“We almost lost the chance to work with Alhajuela Project. We are not sorry that we chose to work with you because we feel that you listen to us, you take our opinions into account, and we work according to our needs.”*

To give an example of the complaint that the people of a community are not taken into account, a lot of paperwork and a long wait are required of a community group to be able to use fallen trees. Even though the community group is close to Chagres National Park, the Park personnel do not visit them. The group

thinks that they could be the Park's allies and not its enemies. When people begin to complain in this manner, it is better to let them continue and to listen to what they have to say. Afterwards, you can explain to them the difference in the project's work approach, the participatory concept and method, and that you want to begin activities based on the needs of the community. If they continue complaining, you can leave them for several days to let them think about it and then visit the community again for another dialogue.

#### Lessons learned from establishing group farmlands (Chapter 6)

Regarding the activities implemented in the communities, from the viewpoint of efficiency it is best to limit the distance to communities that will be object of project activities. In the case of the 14 groups formed by Alhajuela Project, it was decided that the maximum distance to a group from the Project office would be approximately 2 hours in traveling time.

There was a group with which the Project began initial activities including the execution of the PRA, but later the group could not start its activities because it could not find appropriate land for its group farmland. It would be recommendable to confirm whether a group has an appropriate group farmland or not before beginning the PRA.

The establishment of a group farm requires that a member of the group, or another inhabitant outside the group, loan a plot of land to the group. To avoid future conflicts that could arise regarding the use of such land and to guarantee its continued availability, it is recommended that a written contract be made between the landowner (or the person with land-use rights) and the group regarding the conditions under which the land is lent, and the ownership of the structures that are to be built on the land. Project Alhajuela was not directly involved in the signing of these contracts, but it did offer its support in finding a place for the interested parties to meet and in making a draft contract.

Land titles are not issued in the territory of Chagres National Park. In order to establish a group farm in such a situation (inside the Park), the same considerations are needed as mentioned above, but in addition, before beginning activities, the Project made it clear to the group members and to the person with land-use rights, that the establishment of a group farm did not signify in any way an authorization or guarantee of a land title.

#### Lessons learned from group strengthening and technical extension activities (Chapters 8 and 10)

The groups differ in their level of maturity. In our Project, besides monitoring the maturity level of each group, we created a "training model for group strengthening", which is mentioned in Chapter 8, and based on this model we established the group training plans. Using this model, one can confirm the "issues achieved"

by each group and then clearly identify the “priority issues in need of strengthening” for the group. As a result of using this methodology, it was possible to create a more effective training plan for each group by taking into account the different levels of maturity of the groups.

The training sessions with overnight lodging were an effective training methodology implemented by Alhajuela Project. However, there were group members who could not participate in such sessions due to family situations (family care or children’s school) that did not allow them to leave their families for 5 days. In future projects, it would be better to be more flexible in setting the number of days of the training sessions with lodging, as well as the moment for its implementation, in accordance with the situation of the participating members.

The change (rotation) of the group directors is necessary in order to give all the group members the experience of taking responsibility for the group and in this way ascertain the sustainability of the group activities. On the other hand, groups with few members are limited in their candidates for leadership; therefore it would be better to be more flexible in changing a group’s directors according the situation of the group. In the case of the groups working with Alhajuela Project, each group methodically changed their directors upon the completion of their term (one year), but as a consequence some groups’ board of directors became less functional making it more difficult for the group to form consensus and lessening the affectivity of their activities.

With the exception of the training sessions with lodging, Alhajuela Project did not give any compensation to group members for their participation in the activities. Other organizations that carry out tree-planting activities often pay wages for the members’ labor. As a result, when the period of activity of our Project coincided with that of another organization, the members would give preference to the activities with remuneration creating an obstacle to the implementation of our Project activities. It will not be easy to offer an incentive to group members that would be more attractive than wages, however, this is an issue that will always need to be taken into consideration in the implementation of activities.

In the case of groups consisting predominantly of women (homemakers), the introduction of small-animal husbandry should be considered as an option for improving their income, instead of only agricultural activities using the land.

#### Lessons learned from creating the Farmland Use Plan and the Annual Activity Plan (Chapters 7 and 12)

At the beginning of the group activities, due to the fact that there was insufficient consensus among the group members regarding their plans, they frequently changed or suspended their activities during the course of the

year. With a more meticulous support from the Project to each group in forming consensus in the workshop for creating their AAP, all the groups were able to implement their plan without making great changes or suspending their activities during the year, furthermore, when changes became necessary they were able to make more practical decisions.

There were also cases where a group's farming plan was not realistic because the group members did not take into account their own labor capacity or they lacked the necessary agricultural knowledge for the activity. This inevitably resulted in the group being unable to carry out its plan. In response, the Project created reference material for the extension workers and farmers; furthermore, the causes of groups not fulfilling their plans were carefully analyzed in the semiannual and annual workshops. We have seen that all the groups are now able to program their yearly activities according to their own capacity to implement them, furthermore, the members are making more detailed and visible plans (creating an implementation calendar) and sharing them with each other.

The group members had little experience in making a farm map and lacked understanding of its use (especially the relationship between the divisions made in the farmland and the names given to them). The group farmlands were again divided again into plots and named by the members and signs were placed indicating each plot name. As a result, the members understanding of the farmland map improved and the errors found in the monitoring decreased.

Sometimes the groups did not obtain their own material on their own as planned (the reproduction of seeds or purchasing by reinvesting the group fund). Therefore, the Project encouraged group members to donate seeds and the ingredients for organic fertilizer to their own group, and it also strengthened their abilities in reinvesting their funds. As a result, the groups are now better able to obtain their materials by themselves which in turn contributed to an improvement in achieving their plans.

#### Activities related to economic development (Chapter 11)

In contrast to the object area of PROCCAPA Project, in the object area of Alhajuella Project there is a greater possibility of finding employment, and as a result, besides the farmer population, some communities have many inhabitants who are wage earners. In this type of situation (especially in the communities around Chagres National Park) it was important to provide economic incentives in the group activities, such as introducing commercial crops (instead of only subsistence farming). Thus, for future projects it will also be important to offer the groups a menu of support according to the economic conditions of the area.

There was much demand for ecotourism and agro-tourism activities from the participating groups. The

Project supported some groups in activities of this nature, however, most groups did not develop to the level where they were able to independently execute such activities. In order to produce a stable income from tourism type activities, a wide range of things need to be done, for example, conservation and preparation of the natural resources, construction of facilities, training of the human resources for welcoming the visitors, and the creation of measures for attracting visitors. A medium and long-term vision and plan will be needed for carrying out all these activities.

## 9.6 Exist strategy of Alhajuela Project

### 1. Background and the need for the Project's exit strategy

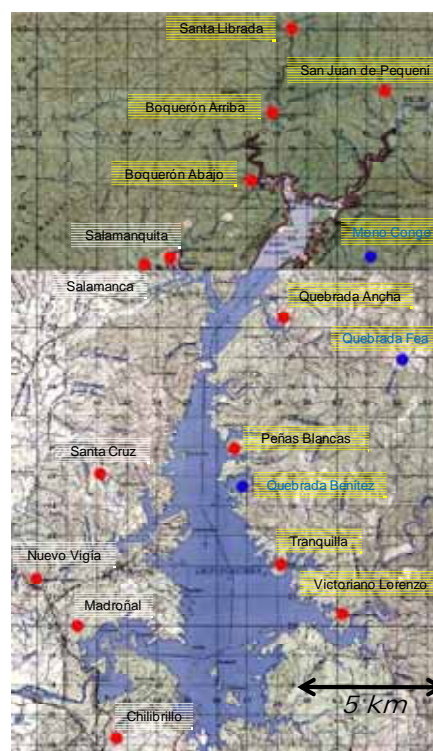
The Project for the Participatory Community Development and Integrated Management of the Alhajuela Lake Subwatershed (Alhajuela Project), which has been implemented by ANAM and JICA since 2006, is planned to officially end in June 2011.

In order to “establish the system by which ANAM would incorporate and continue to develop the activities implemented by the Project, which is the result of the extension system in the area,” even after the Project ends, the persons involved discussed and created a strategy for the end of the Project.

### 2. Object communities and group data

The Alhajuela Project works with fourteen (14) community groups and three (3) small communities without groups. The communities are classified by the geographic location into the following categories:

- Communities inside PNCh (11)
- Communities outside PNCh (6)
  
- Communities in Panama Province (9)
- Communities in Colon Province (8)



Geographic location	Inside PNCh		Outside PNCh (Buffer zone)	
	Panama	Colon	Panama	Colon
Nº of communities	8	3	1	5
Communities	Victoriano Lorenzo Tranquilla Peñas Blancas Quebrada Ancha San Juan de Pequení (Small communities) Mono Congo Quebrada Fea Quebrada Benítez	Boquerón Abajo Boquerón Arriba Santa Librada	Chilibrillo	Madroñal Nuevo Vigía Santa Cruz Salamanca Salamanca

### **3. Project's achievements and future vision**

Through the implementation of activities on the group farms with basic infrastructure, 40 environment friendly techniques were disseminated to the 14 groups, in addition to strengthening their self-management.

All the groups have made their "Action Plan" (we anticipate that all the groups will have made them by December 2010), which is the master plan for their activities from 2011 for 3-5 years, and they are prepared to continue their activities according to said plan. Furthermore, each group has built up their own fund, from US\$32.90 to US\$804.86, and most of them (9 groups) have acquired their legal status and created their environmental business plan (4 groups completed and 3 groups with draft). In 10 groups, assistance was given to introduce environment friendly farming techniques on the individual farms of members (total of 80.4 hectares).

Based on these results, the activities need to be continued in order to achieve the economic independence of the groups, which also function as models for spreading the environment friendly farming techniques among other groups and other watersheds.

In the 3 small communities we have given environmental education to the students since 2009, by establishing school gardens and implementing farming activities on them. Environment friendly farming techniques were also transmitted to the parents of the students. In 2010, a reduction was seen in the interventions in mature forests according the aerial monitoring done by PNCh and the ACP.

As a result of the above mentioned activities, a model extension system for the communities has been constructed and an "Extension Guideline" has been prepared as a technical instrument. This "extension system" and its proposed methodology are being applied in other watershed projects implemented by ANAM.

### **4. Follow-up Methodologies**

In accordance with these accomplishments and the future vision mentioned above, three tracks were established for exit strategy, namely: "Track 1. Continue the activities with organized groups", "Track 2. Disseminate the activities outside the groups in the Alhajuella Lake subwatershed", and "Track 3. Disseminate the extension system to other watersheds". Regarding these tracks, ANAM will carry out the following assistance activities:



(1) Continue the activities with organized groups

1-1. Analysis of maturity

- Hold a workshop for capacity development of the staffs of DIGICH, DAPVS and DFCA as well as the staffs related to these directorates who work for Regional Administrations of Panamá Metropolitano and Colón.
- Apply the evaluation of maturity of the organized groups once a year.
- Finish the visit of technical assistance for the group once its maturity is confirmed to be sufficient as desired.

1-2. Implementation of technical assistance activities for the 14 (+3) groups

- Make a plan of activities for each group.
- Visit each group farm approximately once a month and monitor the situation of their activities.

1-3. Implementation of technical assistance activities in the individual farms of the members of the 14 (+3) groups

- Visit each individual farm at least once a year and monitor the advance of the activities.
- In the case of farms located inside the Park, officially register their Farmland Use Plan (FUP) with PNCh.

1-4. Support the groups' economic activities, such as the planned sale of products and the implementation of their Business Plan.

- On the monthly visits to the groups, review their records (cashbook) to monitor the sale of their products and services, as well as the situation of their group fund.
- In the case of finding situations that need improvement, provide the corresponding assistance.
- Present pertinent information to the groups, which would be difficult for the members to obtain by themselves, such as new markets for selling their products, or organizations to which they can request funds.
- Collaborate in the preparations to obtain financial cooperation from cooperative organizations or businesses with corporate social responsibility to support the implementation and follow-up of the Business Plans.

(2) Disseminate the activities outside the groups in the Alhajuela Lake subwatershed

2-1. Support the horizontal development of the activities

- Obtain information about those groups that are interested in activities similar to those carried

out by Alhajuela Project and hold promotional meetings as needed. Also, hold promotional meetings in new areas where they still use farming techniques not friendly to the environment and where effects on mature forests have been recorded.

- With the help of the existing groups, organize new groups and support the initial activities of those groups.
- Promote the implementation of group activities in their individual farms (in coordination with the “Land Use Regulation Program” of PNCh).
- With the help of the existing groups, implement activities for environmental awareness creation of inhabitants who are not group members (periodically) (in coordination with the “Promotion, Communication, and Environmental Education Program” of PNCh).

### (3) Disseminate the extension system to other watersheds

#### 3-1. Disseminate the experience of Alhajuela Project

- Periodically exchange information with the institutions involved in each watershed, and coordinate with their watershed management policy.
- Carry out public relation activities and disseminate the methodology and results of Alhajuela Project by participating in different events together with JICA, taking into consideration the availability of this agency.
- Promote extension system that was created in the Alhajuela Project by applying it to the management plans of other watersheds, disseminating said extension system through collaboration with other organizations in the following manner:
  - ◇ Seminars about the use of the Extension Guideline (1 to 2 times a year).
  - ◇ Periodic exchange of information for the purpose of spreading the “extension system” (at least twice a year).

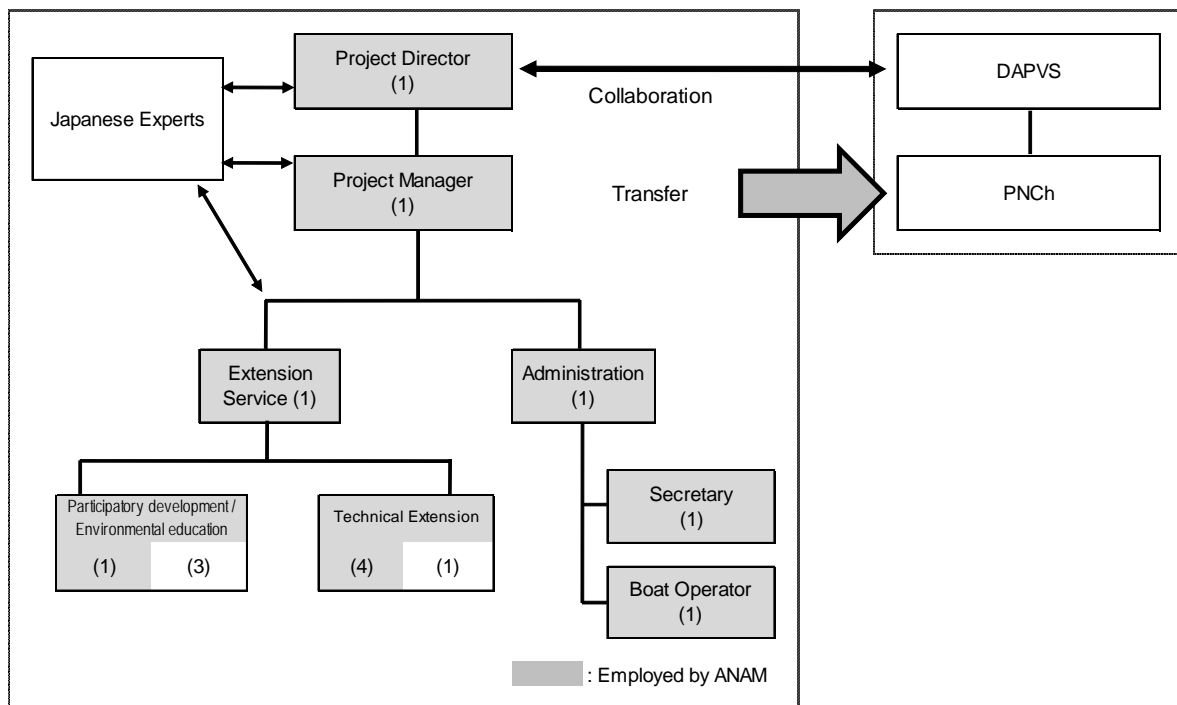
## **5. Actors for follow-up activities and their resources**

DIGICH, DAPVS-PNCh and Regional Administrations of Panamá Metropolitano and Colón of ANAM are presented as the primary actors of this exit strategy. The activities of the exit strategy are divided into the following three phases: Phase 1: from January to June 2011; Phase 2: from July to December 2011; Phase 3: from January 2012 onward. These phases shall be implemented through the system indicated below. ANAM shall make effort for obtaining the necessary personnel for implementing activities during Phase 3. The coordination with other institutions or outside programs shall be done by phases and by the primary actors of each phase.

Phase 1: January to June 2011

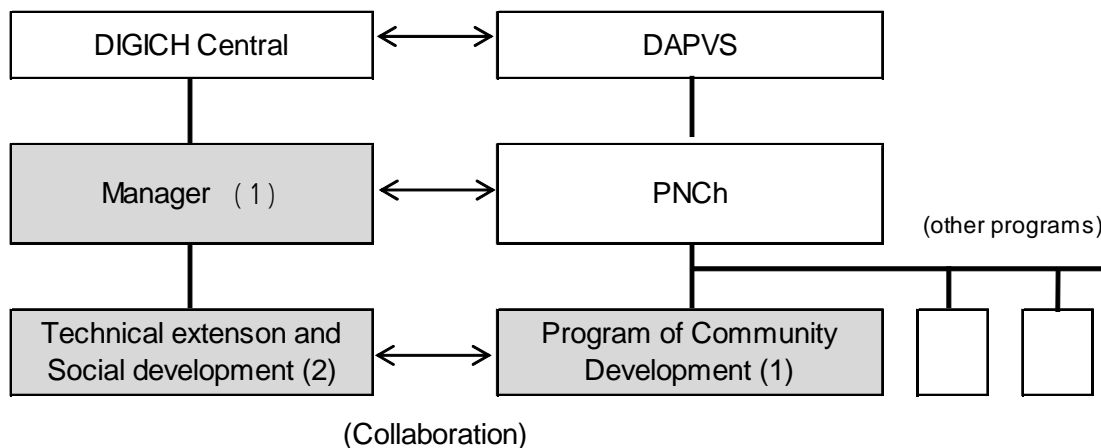
In this phase, the same as until the end of 2010, the Project Team (JICA and DIGICH) shall continue to implement the activities in collaboration with the Program for Community Development of PNCh. Phase 1 is identified as the period for transferring the necessary techniques from the Project Team (JICA and DIGICH) to PNCh. Furthermore, a mechanism of collaboration among ANAM and other institutions shall be created.

In this phase ANAM will, as far as possible, advance the preparation of a budget for the phase 3. In addition, promotion shall be made to encourage the participation of other institutions.



Phase 2: July to December 2011

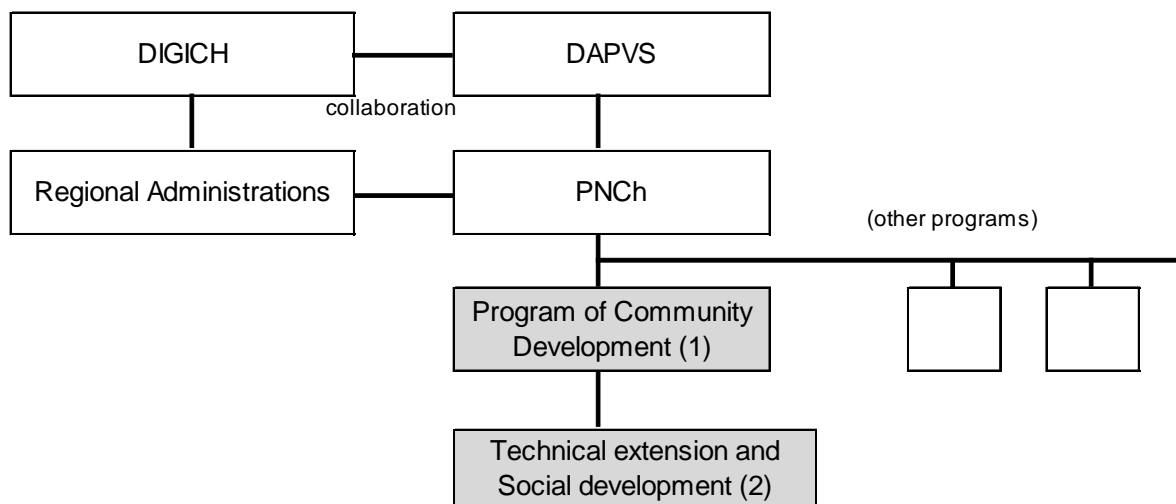
After the Project ends, the personnel in the Project Team shall be reduced due to the reorganization of personnel. The assignment of 2 or 3 people shall be considered within the structure of ANAM, and they shall be coordinated with the staffs of PNCh with regard to the Project's end strategy. It is apparent that these 2 or 3 persons (implementing personnel) could implement the activities in Point 4 mentioned above, also they could collaborate with the Program for Community Development of PNCh. This Phase 2 is identified as the period to transfer the activities from the Project team to PNCh. Said transfer shall start in the Phase 1.



Phase 3: From January 2012 onward

The assignment of 2 persons (one a field technician and the other from the area of organizational and economic development) to the Program for Community Development of PNCh needs to be considered for the implementation of these activities (these personnel will not necessarily be dedicated exclusively to the Project's exit strategy).

The DIGICH officials who are in charge of projects in other watershed shall promote the application of the extension system established by Alhajuela Project, taking into consideration the particulars of each area.



Actually the Project has an approved Annual Plan of Operation (APO) which covers the period of Phase 2 and Phase 3. Before the end of Phase 1, as far as possible, an APO shall be elaborated to cover the Phase 3. With these actions it is expected to achieve, during the three phases, the development of at least 40 additional individual farms in the Lake Alhajuela subwatershed and the

dissemination of the Project's methodology in at least 10 watersheds.

**ACTIVITY HEADQUARTERS:**

The office that shall serve as the headquarters for the activities in Phases 1 and 2 shall be the same place where Alhajuela Project's office is currently; for activities in Phase 3 it should be transferred to the PNCh headquarter, which shall be the primary actor. This transfer shall be done gradually during Phase 2 in order to contribute to a better collaboration between both sides and the efficient implementation of the budget leading to a better beginning of Phase 3 in the headquarters firmly transferred.

**MATERIAL AND EQUIPMENT:**

The material and equipment necessary for the implementation of the activities had been prepared by November 2010.

At the end of Phase 1, the material and equipment list shall be given to DIGICH, which shall decide upon their use in conjunction with the administrative directorate of ANAM.

**6. Budget for follow-up activities**

The budgets of the related institutions are executed annually and a budget cannot be committed for several years in advance. Therefore, in order to guarantee the implementation of the activities mentioned above, the related institutions shall make effort to secure the budget in the following manner:

Phase 1: January to June 2011

The same as until 2010, JICA and ANAM shall secure the budget necessary for the implementation of the Project. Also, ANAM shall manage the budget for implementing activities with the communities.

These budgets have already been requested and approved: US\$ 70,000 by JICA and US\$ 18,728 by ANAM.

Phase 2: July to December 2011

ANAM shall manage the budget necessary for the implementation of the exit strategy. Also, ANAM shall manage the budget for implementing activities with the communities.

This budget has already been requested and approved: US\$ 14,572 by ANAM.

Phase 3: from January 2012 onward

ANAM shall prepare the budget for the activities and personnel. The budget for 2012 shall be applied for in 2011, therefore it has not been assigned at this time. The budget shall be requested in such a way that the costs of the above-mentioned activities and of the personnel doing them shall be covered as part of the activities of the Community Development Program.

In terms of estimation, the budget needed for one (1) program manager and two (2) extension staffs in addition to the activity costs will be approximately US\$ 50,000.

#### Budget Perspective

	Phase 1	Phase 2	Phase 3
	Jan. – June 2011	July – Dec. 2011	From Jan. 2012 up to Dic. Of 2014
JICA			
ANAM (DIGICH)			
ANAM (PNCh)			
	As per the proposed budgets of 2011		Budget for this phase shall be requested every year from 2011

#### 7. Important Assumptions

In order to achieve the successful execution for the Project's end strategy according to this plan, the following important assumptions can be mentioned: During the period of the exit strategy there are no great changes in the PNCh management plan or in the watershed management policy of the government of Panama; the roads that are used in the implementation of the activities do not worsen severely, and the groups maintain their autonomy.