

### Legend

- Rivers
  - Chinchipe River Basin
- Lakes

### Soil Groups

Symbol	Soil Group
[Orange box]	ARh-Sch Arenosol Haplico - Solonchak haplico
[Light orange box]	FLe-RGe Fluvisol eutrítico - Regosol eutrítico
[Light brown box]	LPd-R Leptosol districo - Alforamiento litico
[Orange box]	LPq-R Leptosol litico - Alforamiento litico
[Brown box]	RGd-R Regosol districo - Alforamiento litico

PROJECT OF THE PROTECTION OF FLOOD PLAIN AND VULNERABLE RURAL POPULATION AGAINST FLOODS

## Soils Groups Map

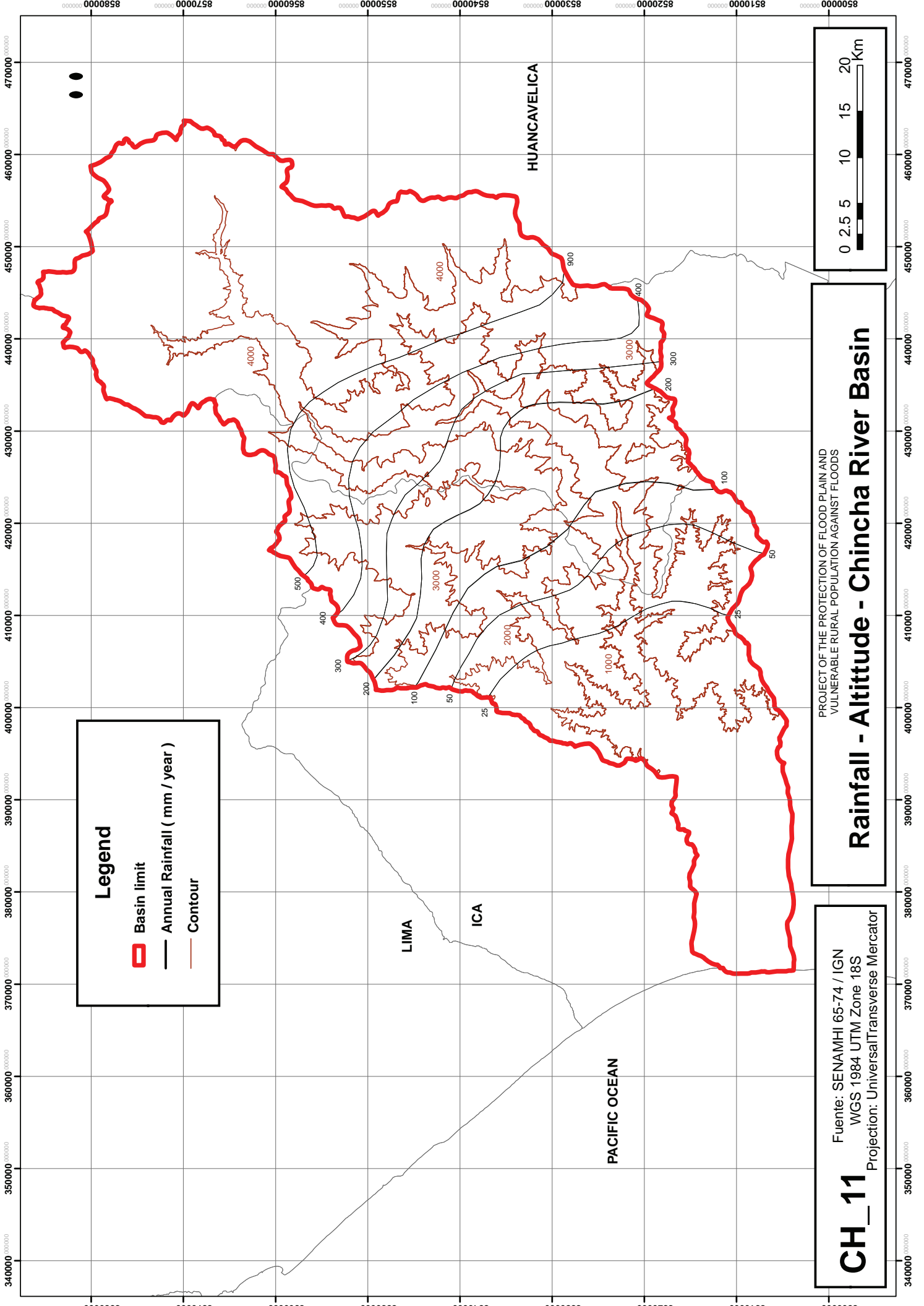
# Chinchipe River Basin

# CH\_10

Fuente : INRENA - 1996  
 JICA Study Team  
 WGS 1984 UTM Zone 18S  
 Projection: Universal Transverse Mercator

0 3 6 12 18 24 Km

Scale : 1 : 350,000



**Legend**

- ▬ Basin limit
- ▬ Annual Rainfall ( mm / year )
- ▬ Contour

PROJECT OF THE PROTECTION OF FLOOD PLAIN AND  
VULNERABLE RURAL POPULATION AGAINST FLOODS

## Rainfall - Altitude - Chíncha River Basin

# CH\_11

Fuente: SENAMHI 65-74 / IGN  
WGS 1984 UTM Zone 18S  
Projection: Universal Transverse Mercator

0 2.5 5 10 15 20 Km

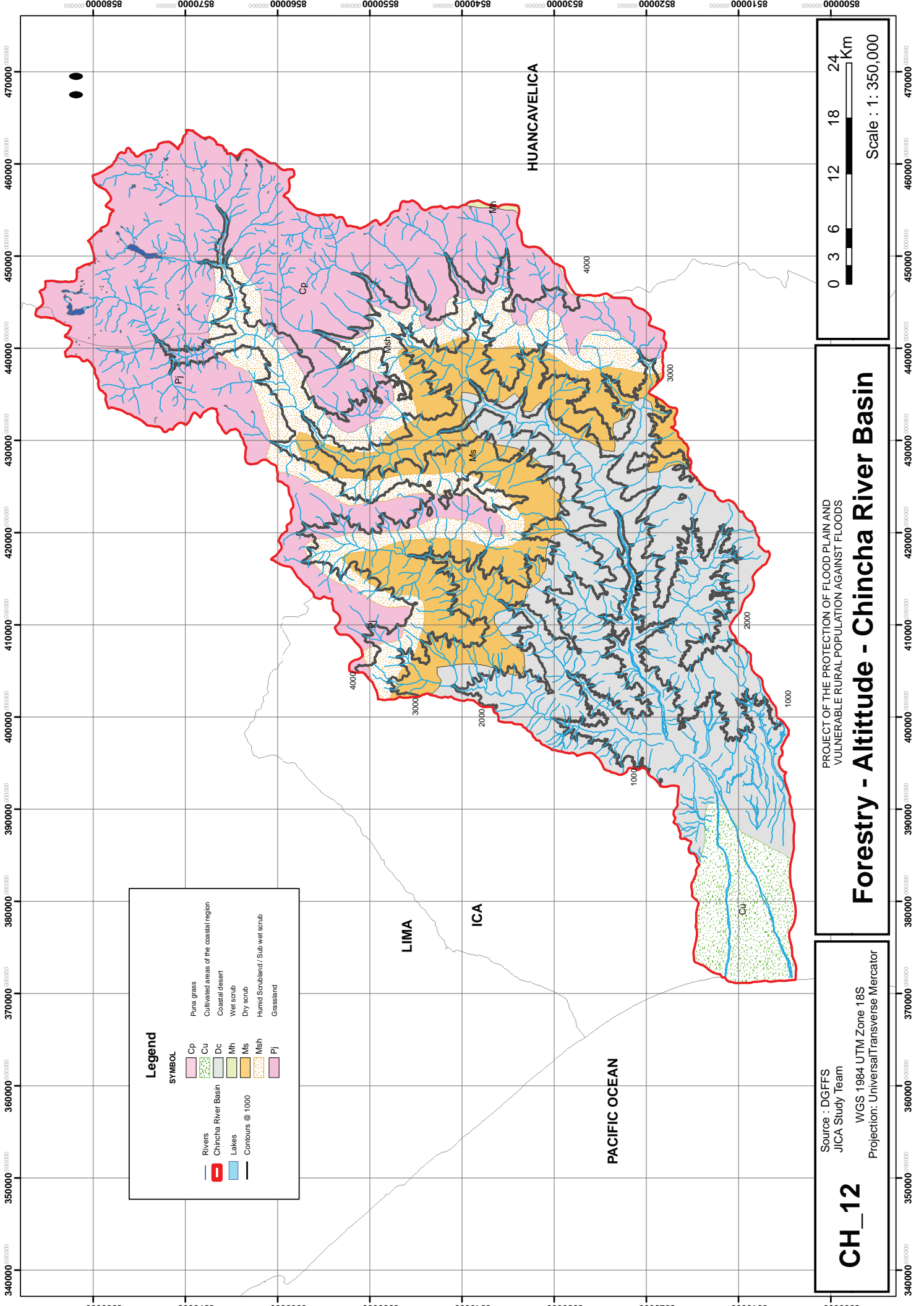
8580000 8570000 8560000 8550000 8540000 8530000 8520000 8510000 8500000

470000 460000 450000 440000 430000 420000 410000 400000 390000 380000 370000 360000 350000 340000

LIMA ICA

HUANCAVELICA

PACIFIC OCEAN



**Legend**

SYMBOL	
	Rivers
	Chincha River Basin
	Lakes
	Contours @ 1000
	Puna grass
	Cultivated areas of the coastal region
	Coastal desert
	Wet scrub
	Dry scrub
	Humid Scrubland / Sub wet scrub
	Grassland

**CH\_12**

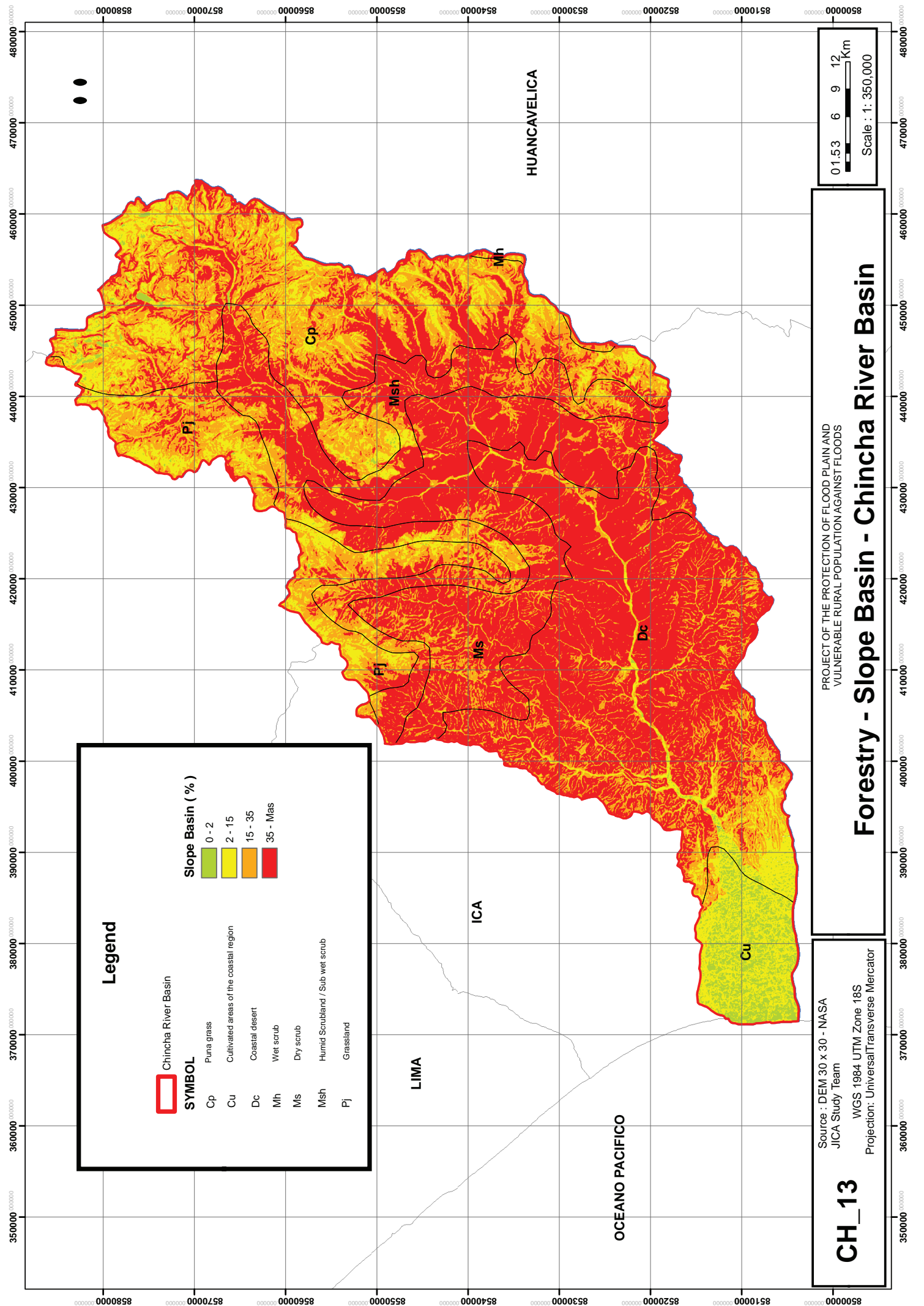
Source : DGFFS  
 JICA Study Team  
 WGS 1984 UTM Zone 18S  
 Projection: Universal Transverse Mercator

**Forestry - Altitude - Chincha River Basin**

PROJECT OF THE PROTECTION OF FLOOD PLAIN AND  
 VULNERABLE RURAL POPULATION AGAINST FLOODS

0 3 6 12 18 24 Km

Scale : 1 : 350,000



**Legend**

Chinchu River Basin

**SYMBOL**

Cp	Puna grass
Cu	Cultivated areas of the coastal region
Dc	Coastal desert
Mh	Wet scrub
Ms	Dry scrub
Msh	Humid Scrubland / Sub wet scrub
Pj	Grasland

**Slope Basin (%)**

0 - 2
2 - 15
15 - 35
35 - 100

**CH\_13**

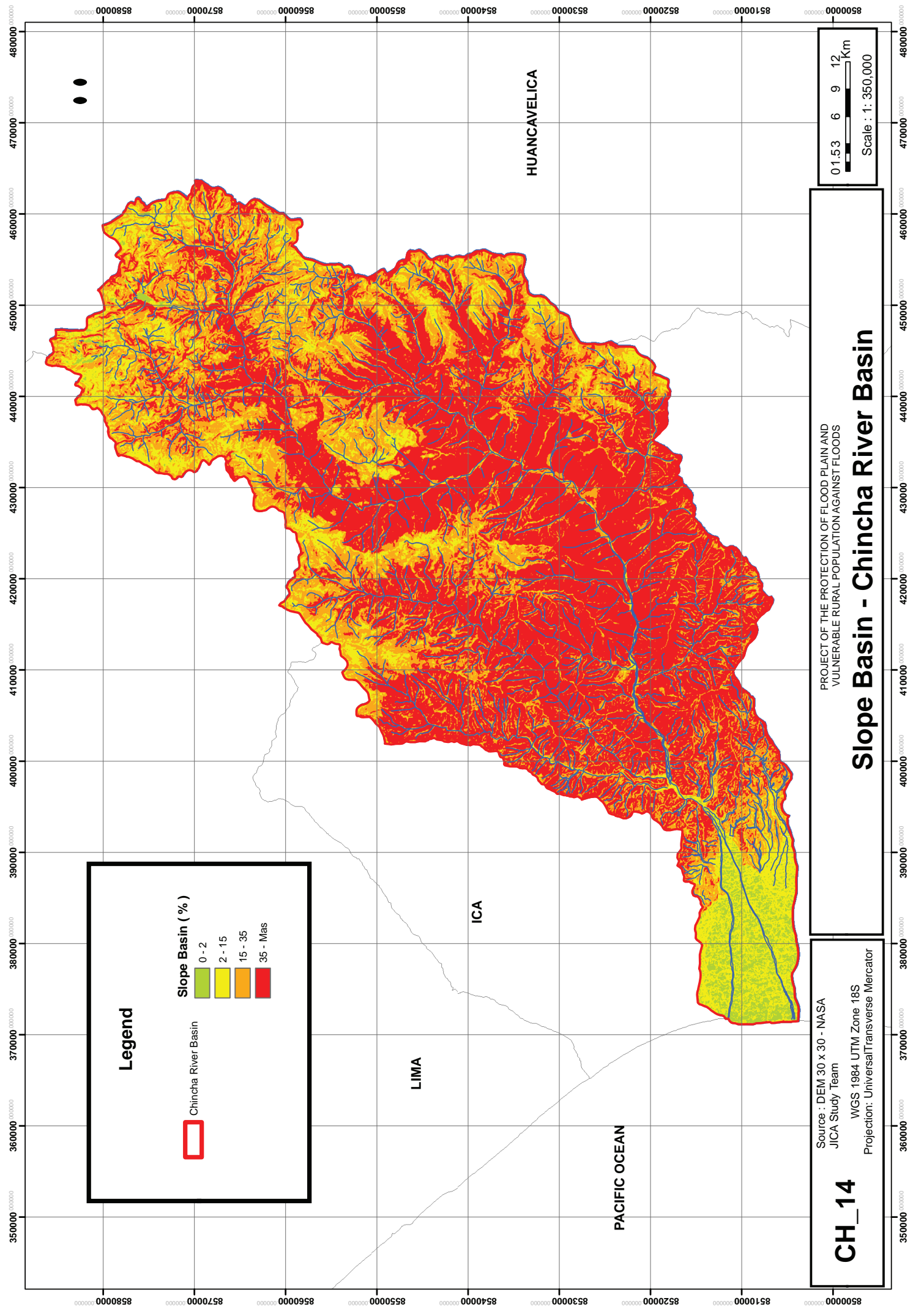
Source : DEM 30 x 30 - NASA  
 JICA Study Team  
 WGS 1984 UTM Zone 18S  
 Projection: Universal Transverse Mercator

PROJECT OF THE PROTECTION OF FLOOD PLAIN AND  
 VULNERABLE RURAL POPULATION AGAINST FLOODS

**Forestry - Slope Basin - Chinchu River Basin**

0 1.5 3 6 9 12  
 km

Scale : 1: 350,000



**Legend**

Chincha River Basin

**Slope Basin (%)**

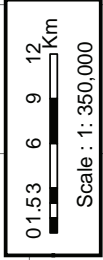
- 0 - 2
- 2 - 15
- 15 - 35
- 35 - Mas

**CH\_14**

Source : DEM 30 x 30 - NASA  
 JICA Study Team  
 WGS 1984, UTM Zone 18S  
 Projection: UniversalTransverse Mercator

PROJECT OF THE PROTECTION OF FLOOD PLAIN AND  
 VULNERABLE RURAL POPULATION AGAINST FLOODS

**Slope Basin - Chincha River Basin**

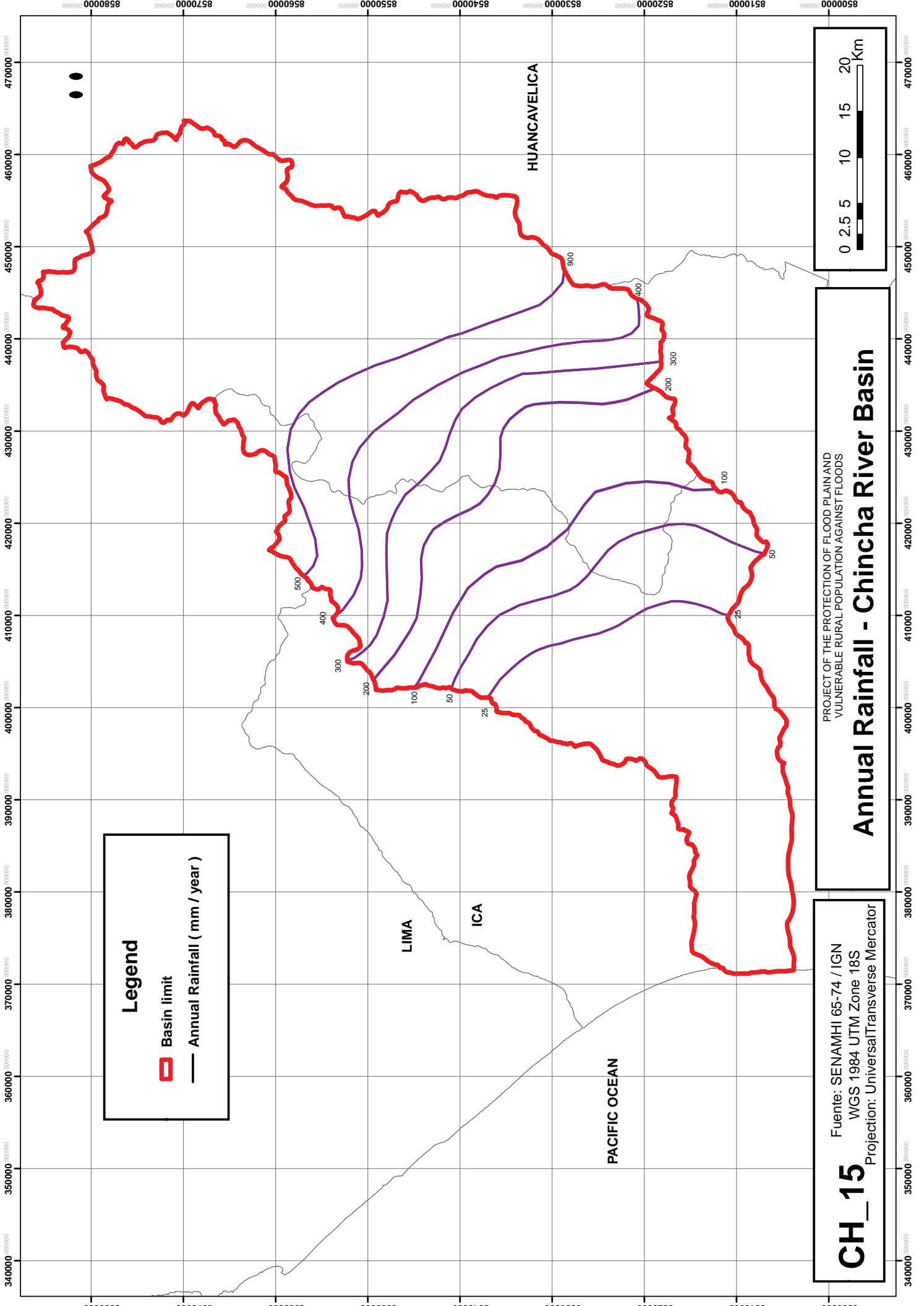


HUANCAVELICA

ICA

LIMA

PACIFIC OCEAN



**Legend**

- ▭ Basin limit
- Annual Rainfall ( mm / year )

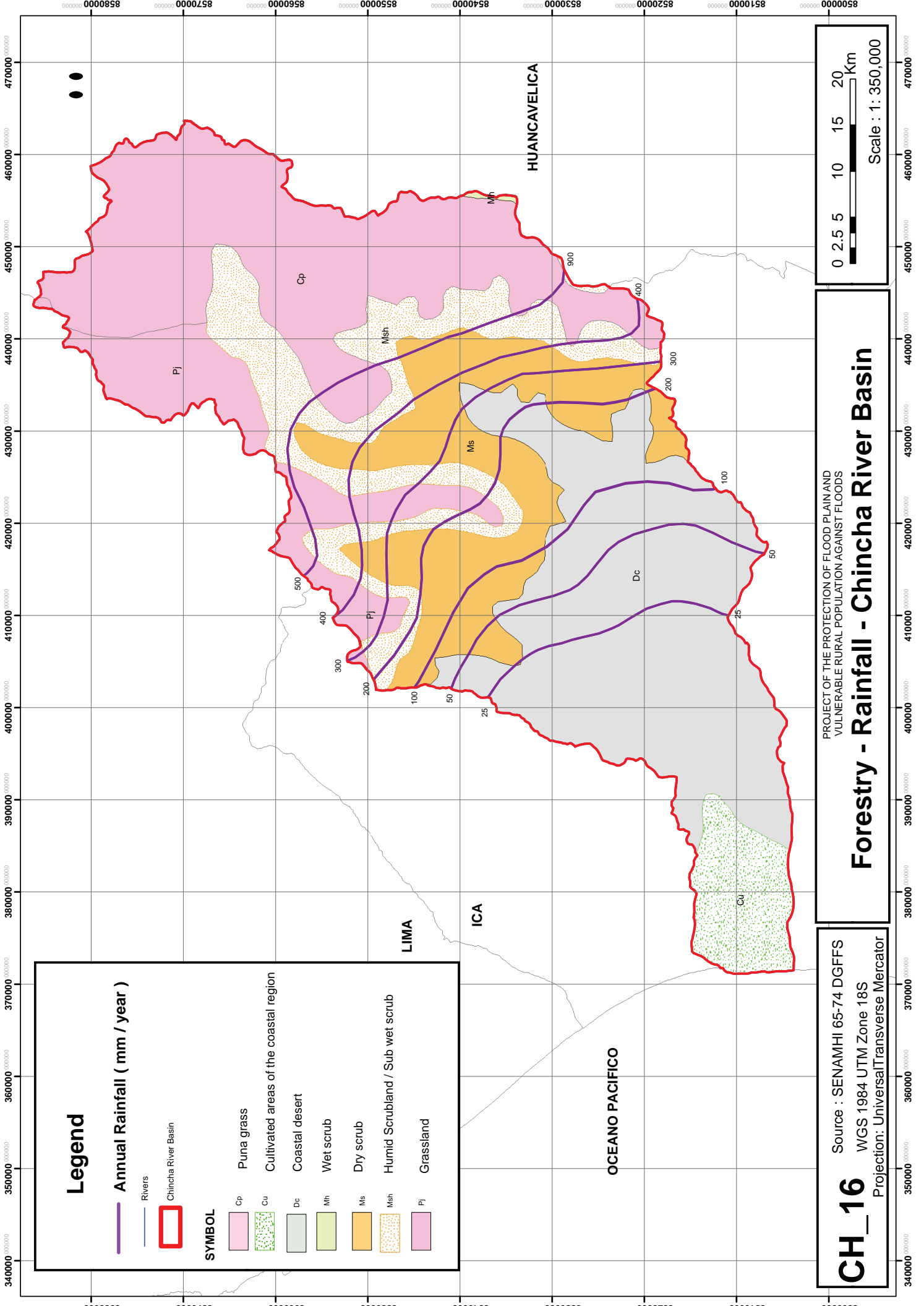
**CH\_15**

Fuente: SENAMHI 65-74 / IGN  
 WGS 1984 UTM Zone 18S  
 Projection: Universal Transverse Mercator

PROJECT OF THE PROTECTION OF FLOOD PLAIN AND  
 VULNERABLE RURAL POPULATION AGAINST FLOODS

**Annual Rainfall - Chincha River Basin**

Scale bar showing distances in Kilometers (Km): 0, 2.5, 5, 10, 15, 20.



### Legend

**Annual Rainfall ( mm / year )**

- Rivers
- Chincha River Basin

**SYMBOL**

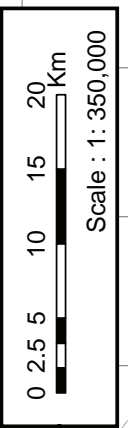
Cp	Puna grass
Cu	Cultivated areas of the coastal region
Dc	Coastal desert
Mh	Wet scrub
Ms	Dry scrub
Mesh	Humid Scrubland / Sub wet scrub
Pi	Grassland

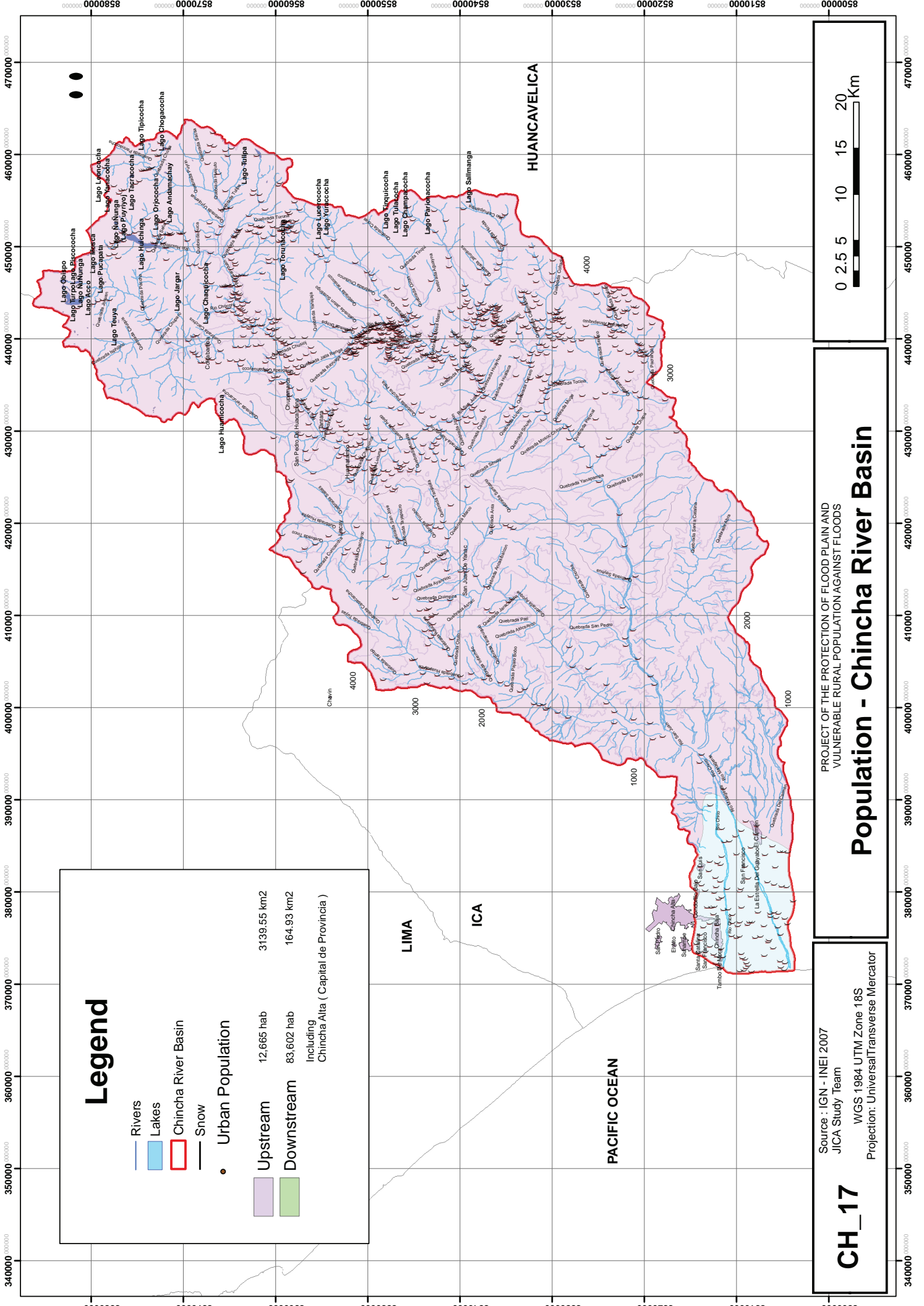
**CH\_16**

Source : SENAMHI 65-74 DGFFS  
 WGS 1984 UTM Zone 18S  
 Projection: Universal Transverse Mercator





PROJECT OF THE PROTECTION OF FLOOD PLAIN AND  
 VULNERABLE RURAL POPULATION AGAINST FLOODS



## Forestry - Rainfall - Chincha River Basin





# Legend

-  Rivers
-  Lakes
-  Chincha River Basin
-  Snow
-  Urban Population

	Upstream	12,665 hab	3139.55 km <sup>2</sup>
	Downstream	83,602 hab	164.93 km <sup>2</sup>
	Including Chinchita Alta ( Capital de Provincia )		

**CH\_17**

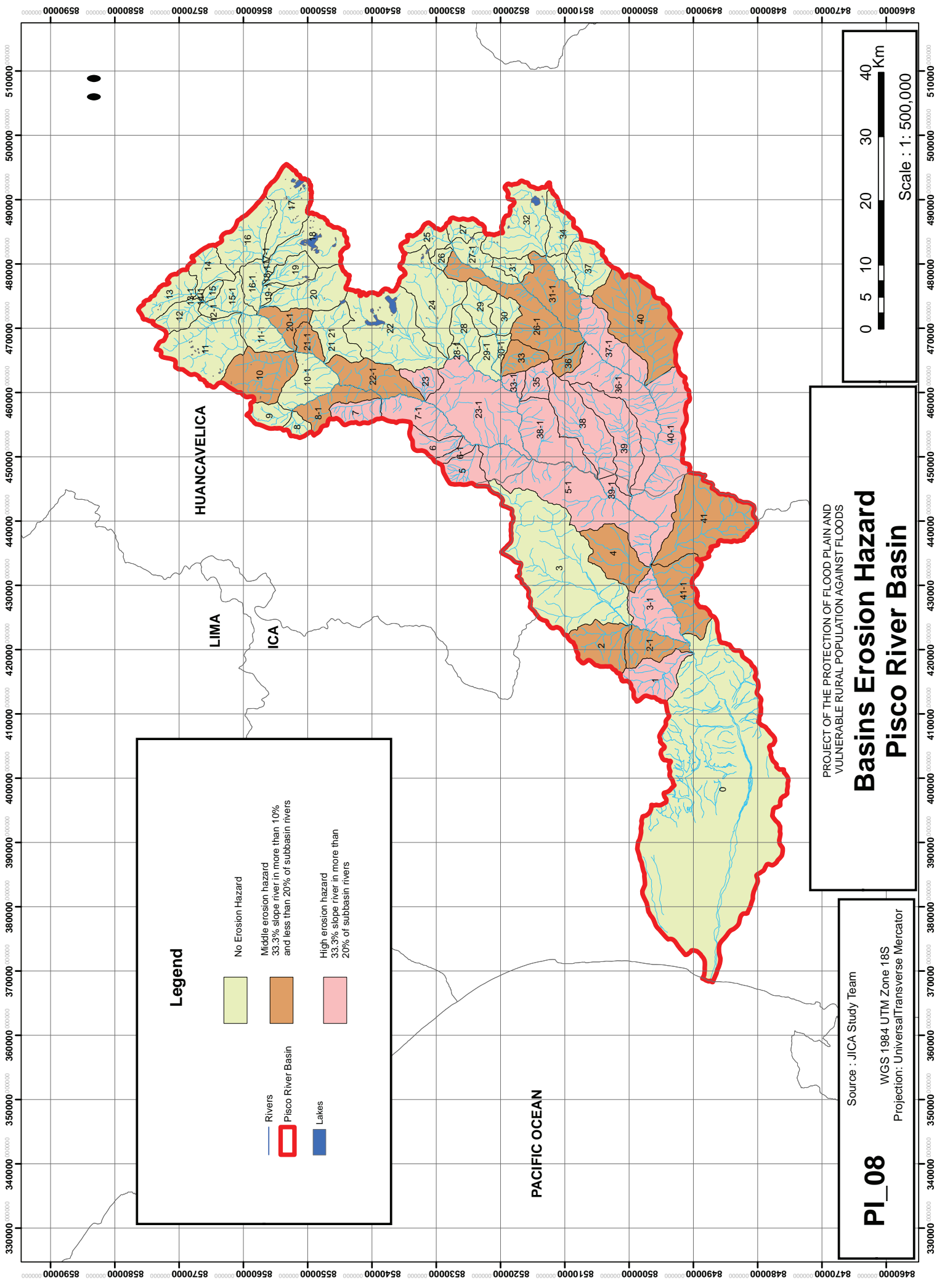
Source : IGN - INEI 2007  
 JICA Study Team  
 WGS 1984 UTM Zone 18S  
 Projection: Universal Transverse Mercator

# Population - Chincha River Basin







PROJECT OF THE PROTECTION OF FLOOD PLAIN AND VULNERABLE RURAL POPULATION AGAINST FLOODS







**Legend**

	Rivers
	Pisco River Basin
	Lakes
	No Erosion Hazard
	Middle erosion hazard 33.3% slope river in more than 10% and less than 20% of subbasin rivers
	High erosion hazard 33.3% slope river in more than 20% of subbasin rivers

PROJECT OF THE PROTECTION OF FLOOD PLAIN AND  
VULNERABLE RURAL POPULATION AGAINST FLOODS

**Basins Erosion Hazard**

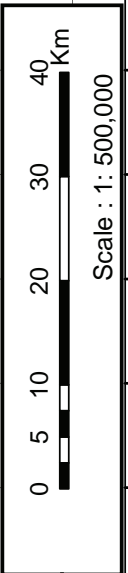
**Pisco River Basin**

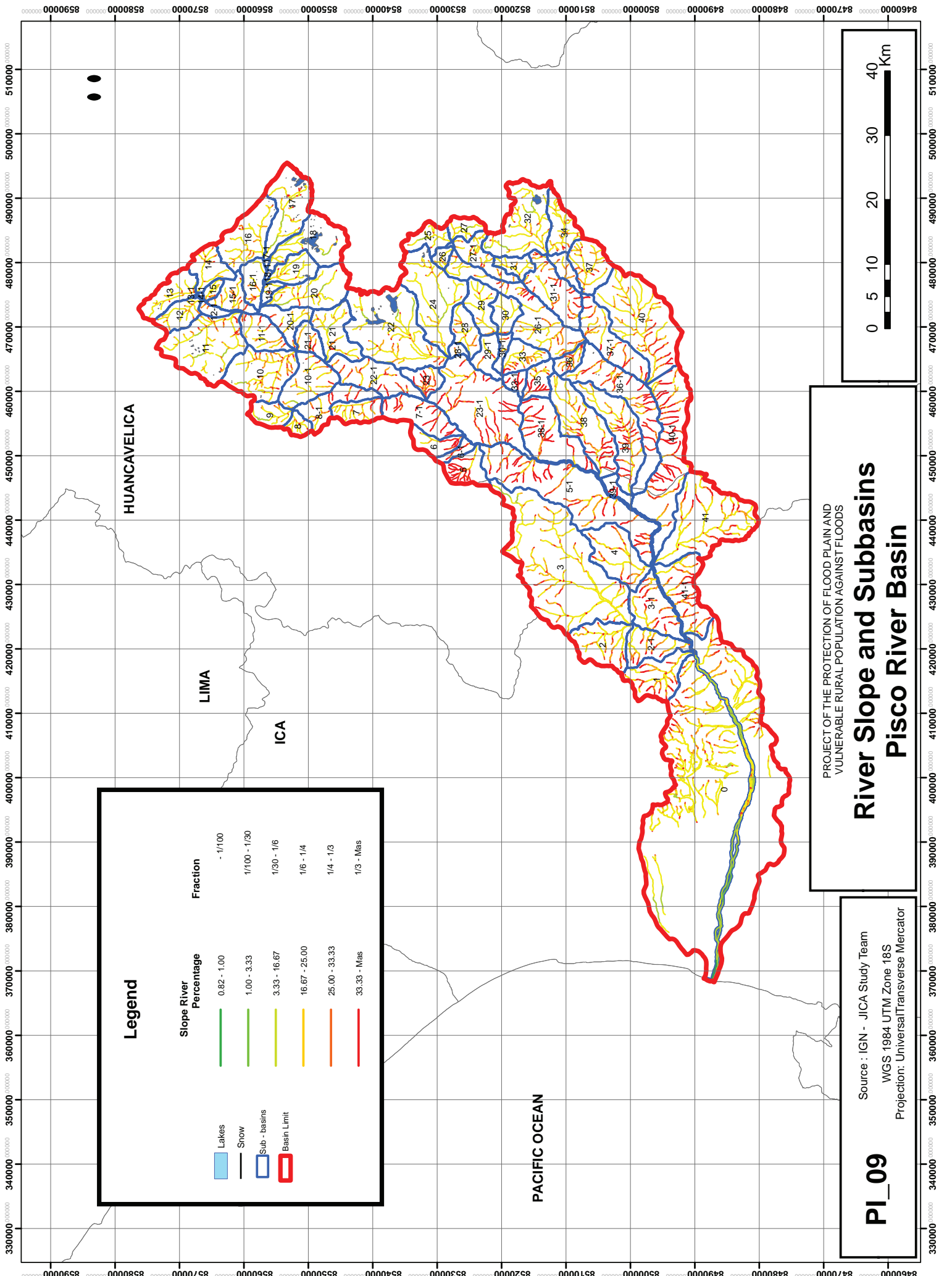
**PI\_08**

Source : JICA Study Team

WGS 1984 UTM Zone 18S

Projection: UniversalTransverse Mercator





### Legend

Slope River Percentage	Fraction
0.82 - 1.00	1/100
1.00 - 3.33	1/100 - 1/30
3.33 - 16.67	1/30 - 1/6
16.67 - 25.00	1/6 - 1/4
25.00 - 33.33	1/4 - 1/3
33.33 - Mas	1/3 - Mas

Lakes	Sub-basins
Snow	Basin Limit

PROJECT OF THE PROTECTION OF FLOOD PLAIN AND VULNERABLE RURAL POPULATION AGAINST FLOODS

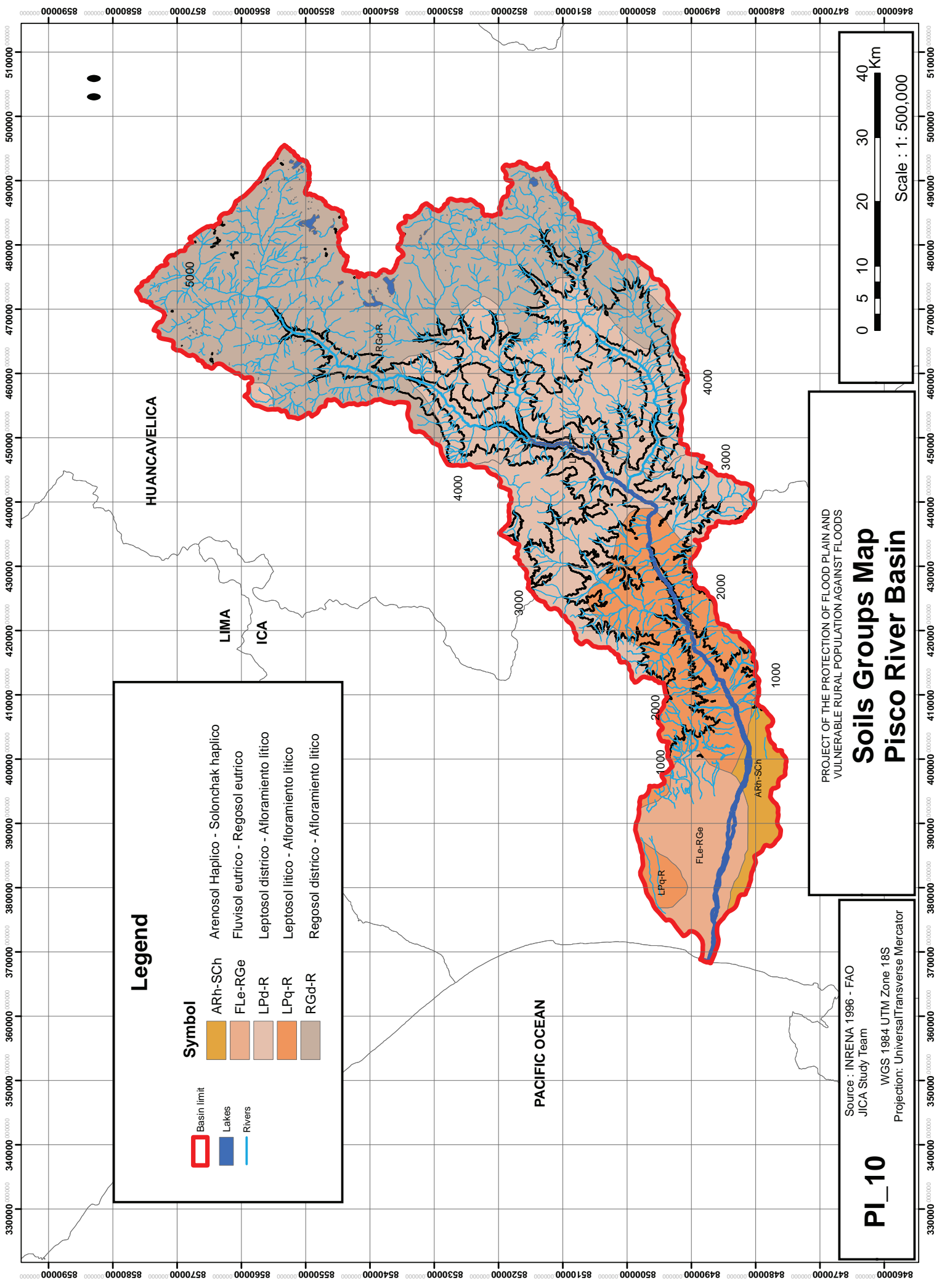
## River Slope and Subbasins

### Pisco River Basin

**PI\_09**

Source : IGN - JICA Study Team  
 WGS 1984 UTM Zone 18S  
 Projection: UniversalTransverse Mercator





### Legend

Symbol	
<span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px;"></span>	Basin limit
<span style="display: inline-block; width: 15px; height: 10px; background-color: blue;"></span>	Lakes
<span style="display: inline-block; width: 15px; height: 10px; background-color: lightblue;"></span>	Rivers
<span style="display: inline-block; width: 15px; height: 10px; background-color: #d4b87d;"></span>	ARh-SCh Arenosol Haplico - Solonchak haplico
<span style="display: inline-block; width: 15px; height: 10px; background-color: #e6c9a8;"></span>	FLe-RGe Fluvisol eutrico - Regosol eutrico
<span style="display: inline-block; width: 15px; height: 10px; background-color: #f0d9c8;"></span>	LPd-R Leptosol districo - Afloramiento litico
<span style="display: inline-block; width: 15px; height: 10px; background-color: #f9e8d9;"></span>	LPq-R Leptosol litico - Afloramiento litico
<span style="display: inline-block; width: 15px; height: 10px; background-color: #e6c9a8;"></span>	RGd-R Regosol districo - Afloramiento litico

PROJECT OF THE PROTECTION OF FLOOD PLAIN AND  
VULNERABLE RURAL POPULATION AGAINST FLOODS

## Soils Groups Map Pisco River Basin

# PI\_10

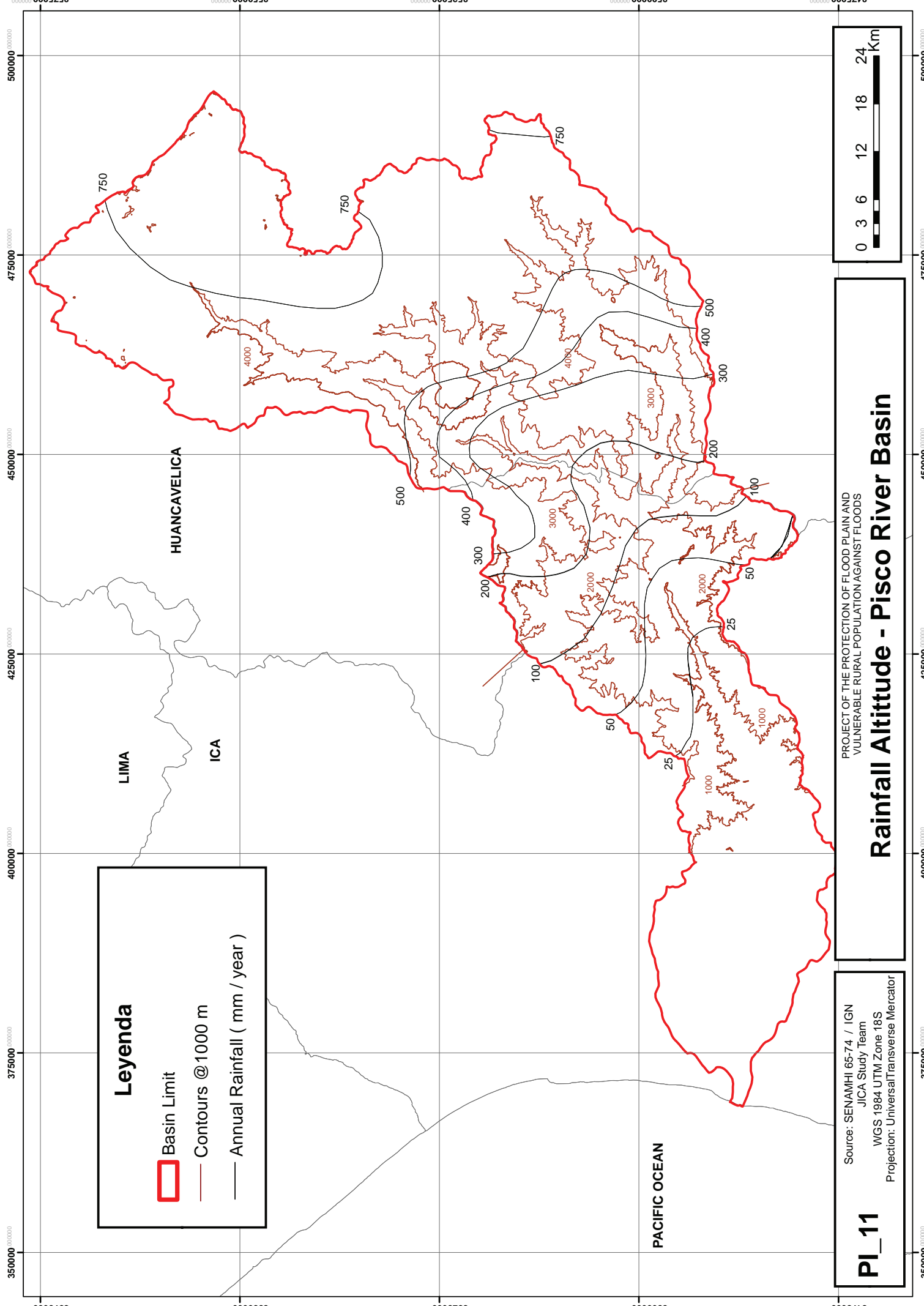
Source : INRENA 1996 - FAO  
JICA Study Team  
WGS 1984 UTM Zone 18S  
Projection: UniversalTransverse Mercator

0 5 10 20 30 40 Km

Scale : 1 : 500,000

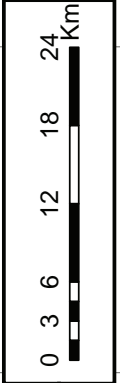
8460000 8470000 8480000 8490000 8500000 8510000 8520000 8530000 8540000 8550000 8560000 8570000 8580000 8590000

330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000 460000 470000 480000 490000 500000 510000



**Leyenda**

- Basin Limit
- Contours @1000 m
- Annual Rainfall ( mm / year )

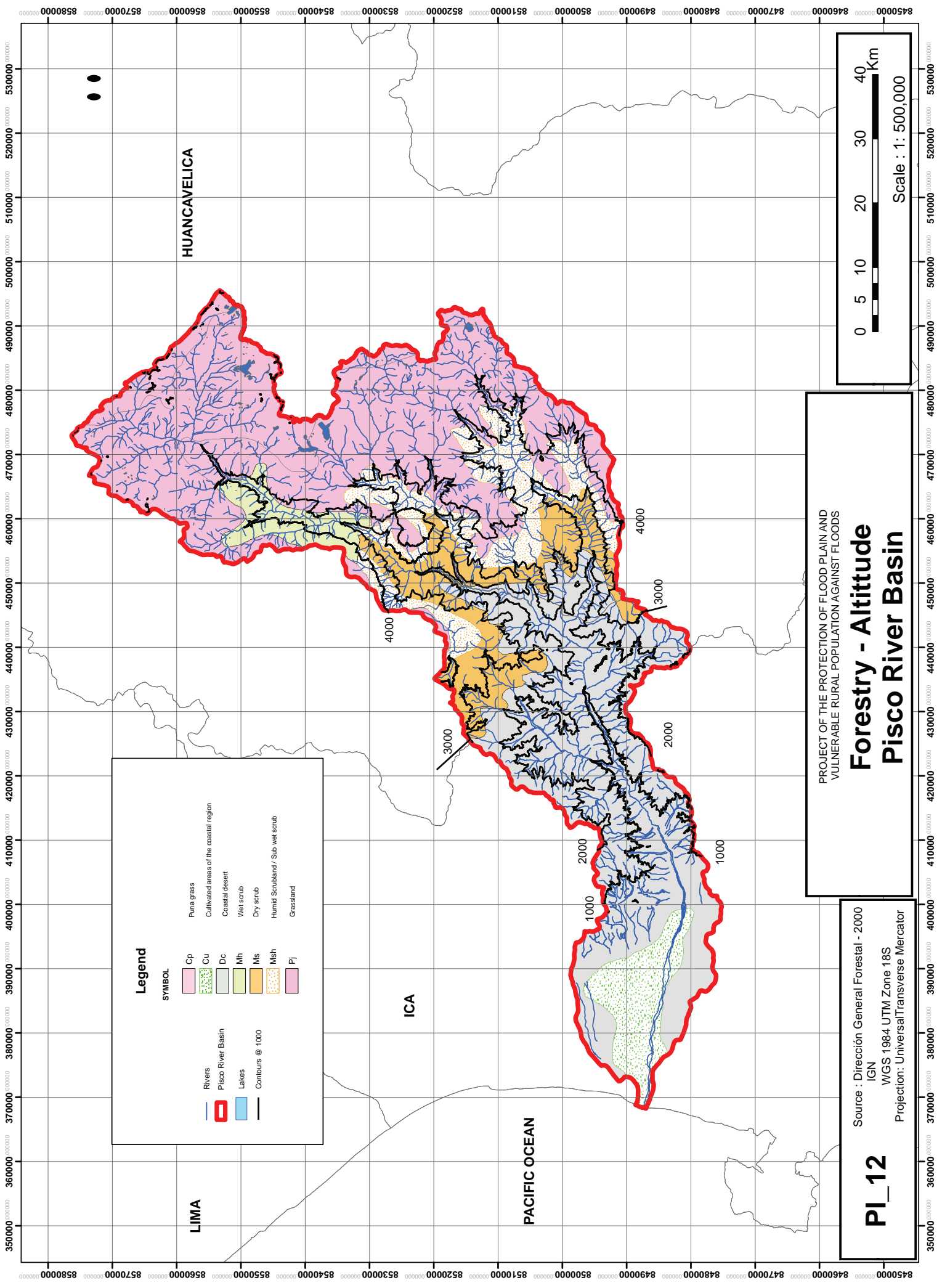


PROJECT OF THE PROTECTION OF FLOOD PLAIN AND  
VULNERABLE RURAL POPULATION AGAINST FLOODS

## Rainfall Altitude - Pisco River Basin

**PI\_11**

Source: SENAMHI 65-74 / IGN  
 JICA Study Team  
 WGS 1984 UTM Zone 18S  
 Projection: Universal Transverse Mercator



**Legend**

SYMBOL	
	Rivers
	Pisco River Basin
	Lakes
	Contours @ 1000
	Cp Puna grass
	Cu Cultivated areas of the coastal region
	Dc Coastal desert
	Mh Wet scrub
	Ms Dry scrub
	Msh Humid Scrubland / Sub wet scrub
	Pj Grassland

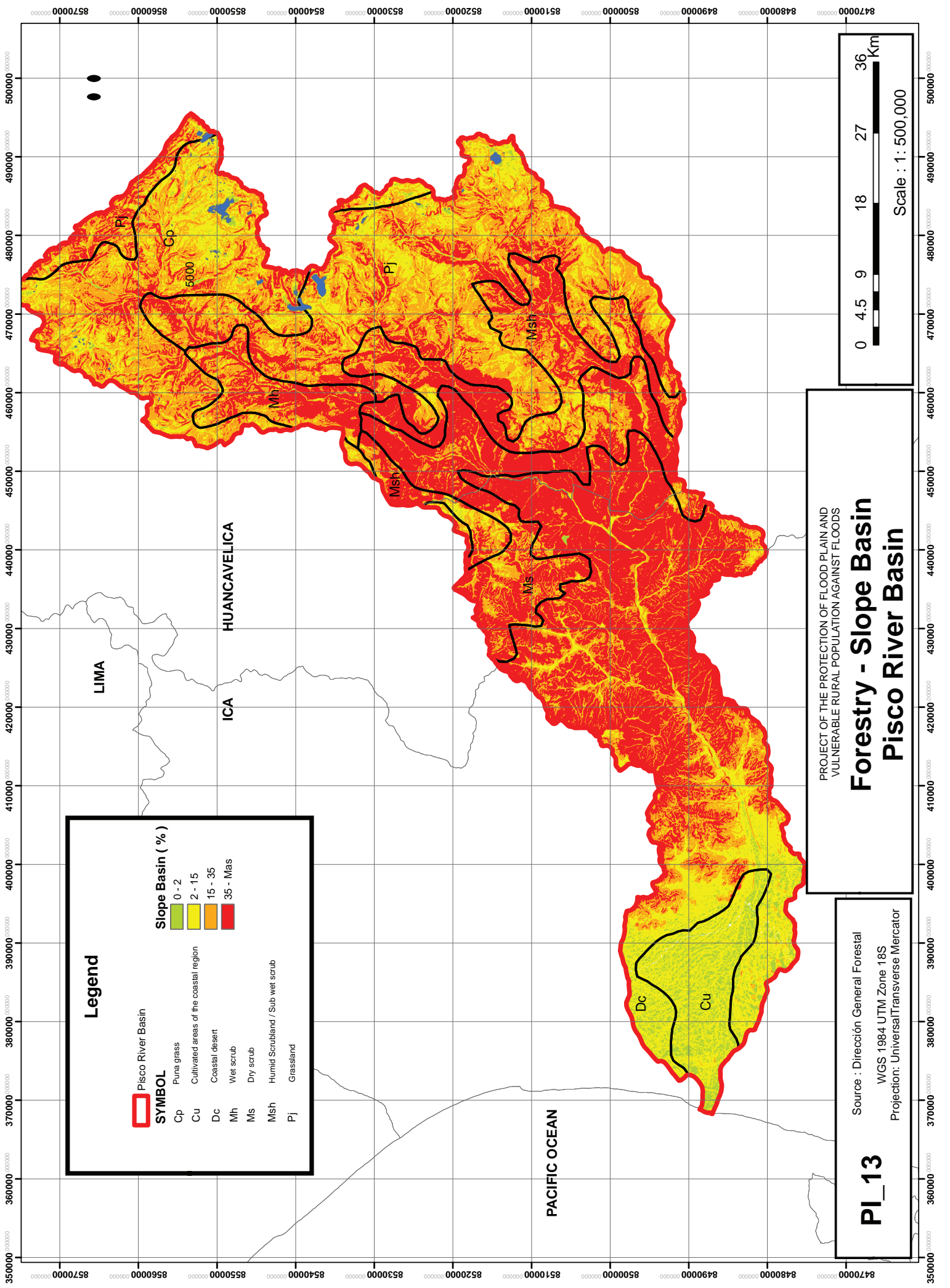
PROJECT OF THE PROTECTION OF FLOOD PLAIN AND VULNERABLE RURAL POPULATION AGAINST FLOODS

## Forestry - Altitude Pisco River Basin

**PI\_12**

Source : Dirección General Forestal - 2000  
IGN  
WGS 1984 UTM Zone 18S  
Projection: UniversalTransverse Mercator

Scale : 1 : 500,000



**Legend**

Pisco River Basin

**SYMBOL**

Cp	Puna grass
Cu	Cultivated areas of the coastal region
Dc	Coastal desert
Mh	Wet scrub
Ms	Dry scrub
Msh	Humid Scrubland / Sub wet scrub
Pj	Grassland

<span style="display: inline-block; width: 10px; height: 10px; background-color: #90EE90; border: 1px solid black;"></span>	<b>Slope Basin ( % )</b>
<span style="display: inline-block; width: 10px; height: 10px; background-color: #90EE90; border: 1px solid black;"></span>	0 - 2
<span style="display: inline-block; width: 10px; height: 10px; background-color: #FFFF00; border: 1px solid black;"></span>	2 - 15
<span style="display: inline-block; width: 10px; height: 10px; background-color: #FFA500; border: 1px solid black;"></span>	15 - 35
<span style="display: inline-block; width: 10px; height: 10px; background-color: #FF0000; border: 1px solid black;"></span>	35 - Más

PROJECT OF THE PROTECTION OF FLOOD PLAIN AND  
VULNERABLE RURAL POPULATION AGAINST FLOODS

## Forestry - Slope Basin Pisco River Basin

**PI\_13**

Source : Dirección General Forestal  
WGS 1984 UTM Zone 18S  
Projection: Universal Transverse Mercator

