

COMMUNITY DEVELOPMENT AND POVERTY ALLEVIATION OPPORTUNITIES ASSOCIATED WITH VETIVER SYSTEM APPLICATIONS

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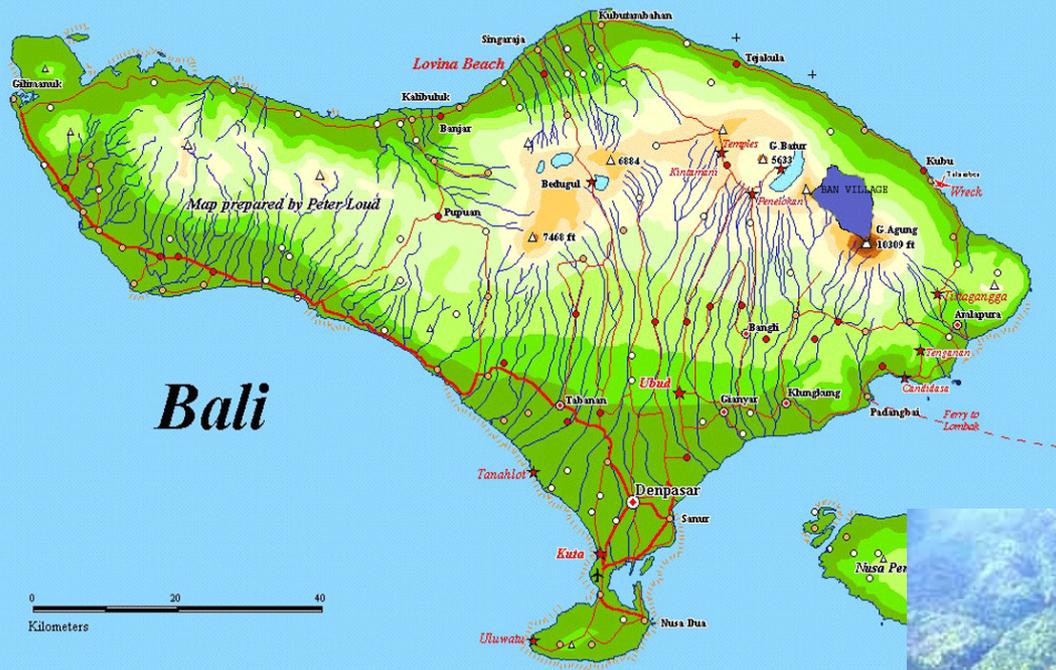
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INTRODUCTION

In addition to the extraordinary impacts on Agriculture, Infrastructure Stabilisation and Environmental Protection, application of the Vetiver System Technology also has a significant impact on the development and poverty alleviation of the local community, where it is carried out. The following case studies will demonstrate this enormous impact:

- 1. Poverty Alleviation , Children Education and Social Development in Bali, Indonesia**
- 2. Poverty Alleviation and Rural Employment in Vietnam**
 - *The Ho Chi Minh Highway***
 - *Flood mitigation in the Mekong Delta***
- 3. Poverty Alleviation and Resource Protection in China**
- 4. Poverty Alleviation and Rural Employment in Madagascar.**
- 5. Poverty Alleviation and Rural Employment in Venezuela**

CASE STUDY 1: Poverty Alleviation , Children Education and Social Development in Bali, Indonesia (Booth et al.2008).



- Tourist “Paradise”: 30%
- Arid land: 40%-50%
- Abject poverty in East
- Vetiver becomes a key element in “sustainable social and economic development”

Cegi and Pengalusan hamlets at elevation of 1,100m on Mount Agung slopes



Happy children develop 1st Vetiver nursery



Kids sort Vetiver in December 2000



Daya nursery starts on barren slopes



6 months later Vetiver excites the kids



2002: Typical Vetiver clump

The First Use of Vetiver Grass in March 2000 to stabilize new dirt road verges



Cegi kids learn Vetiver road erosion control



Vetiver protects new road for 2,500 families to leave village for first time



Watching Vetiver grows in bamboo pot in front of Cegi school as example for children & community



2,5m Vetiver root after one year planted

New Jatituhu Vetiver nurseries for business & economic development



Clearing step land for new Jatituhu community Vetiver nursery, Feb 2008



Establishing new Vetiver nursery as community business in Jatituhu



Preparing the Vetiver



Planting Vetiver slips in new Jatituhu nursery

First potato harvest in barren Bunga hills



Bunga trainee farmers sign agreement



Organic learning garden before Vetiver



Potatoes growing in stable terraces



First potato crop thanks to Vetiver terraces

ORGANIC VEGETABLE & HERB KITCHEN GARDENS



VETIVER PROTECT ROAD TO BUNGA HAMLET



CASE STUDY 2: Poverty Alleviation and Rural Employment in Vietnam

The Ho Chi Minh Highway (Tran Tan Van et al. 2006)



Part of the 3 000km Highway, before and after



Community nurseries along the Highway



Local employment during implementation phase



CASE STUDY 3: Poverty Alleviation and Rural Employment in Vietnam

Flood mitigation in the Mekong Delta (Le Viet Dung et al. 2006).

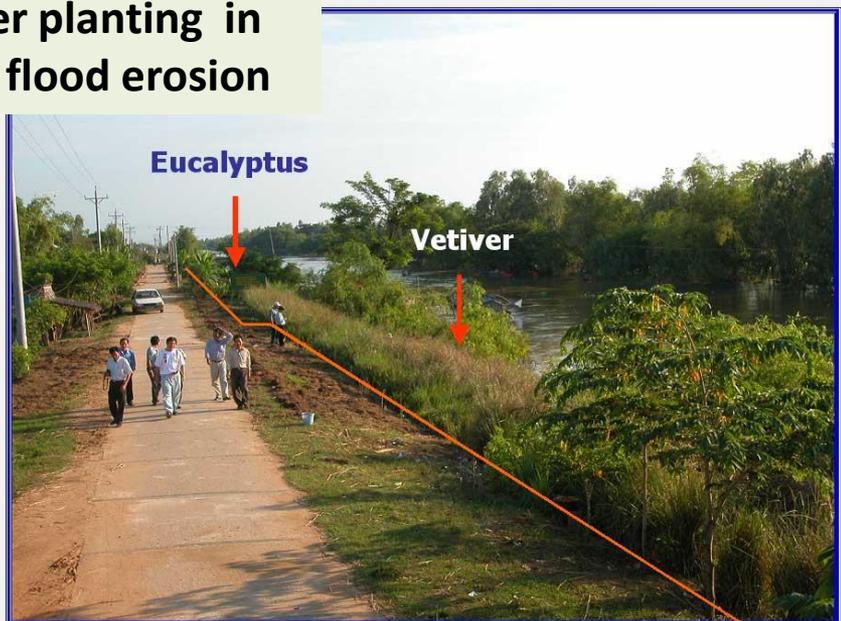
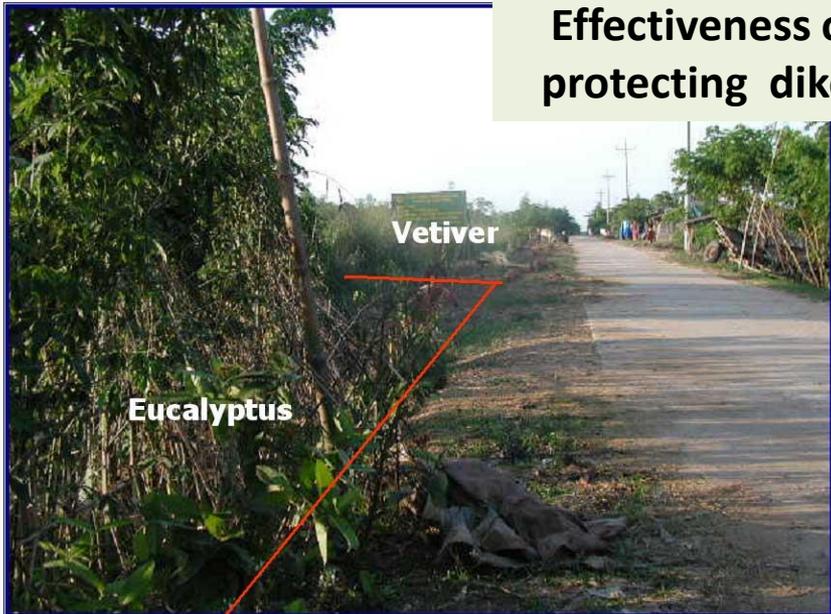
Flood water causing severe erosion on dikes



Vetiver planting on outer wall of the dikes



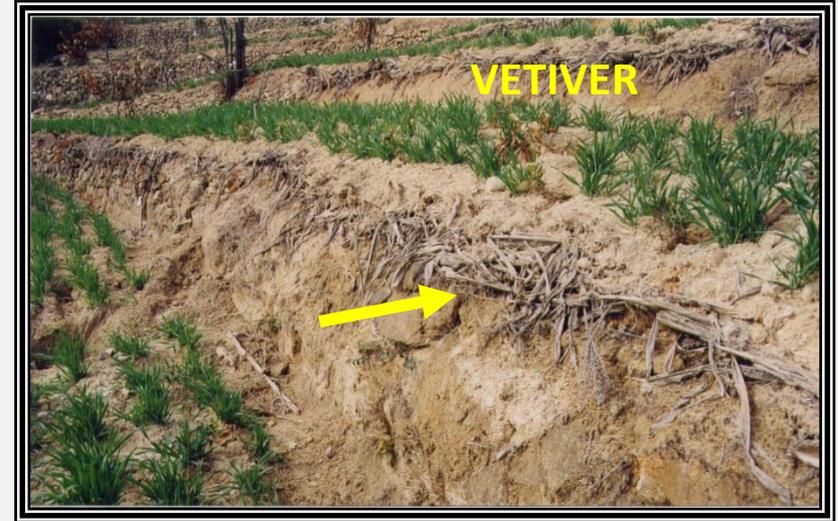
Effectiveness of vetiver planting in protecting dikes from flood erosion



Community nurseries and local employment



CASE STUDY 4: Poverty Alleviation and Resource Protection in China



Soil erosion in the Dabie Mountains: Farmers use dead plants against erosion, but it can not last long time



Tea trees were protected by vetiver



Chestnut tree protected by vetiver

CASE STUDY 4: Handicraft production to alleviate poverty in China



Training : Leaf collection and drying



Training : practice and products ready for marketing

CASE STUDY 4: Local employment to alleviate poverty in China

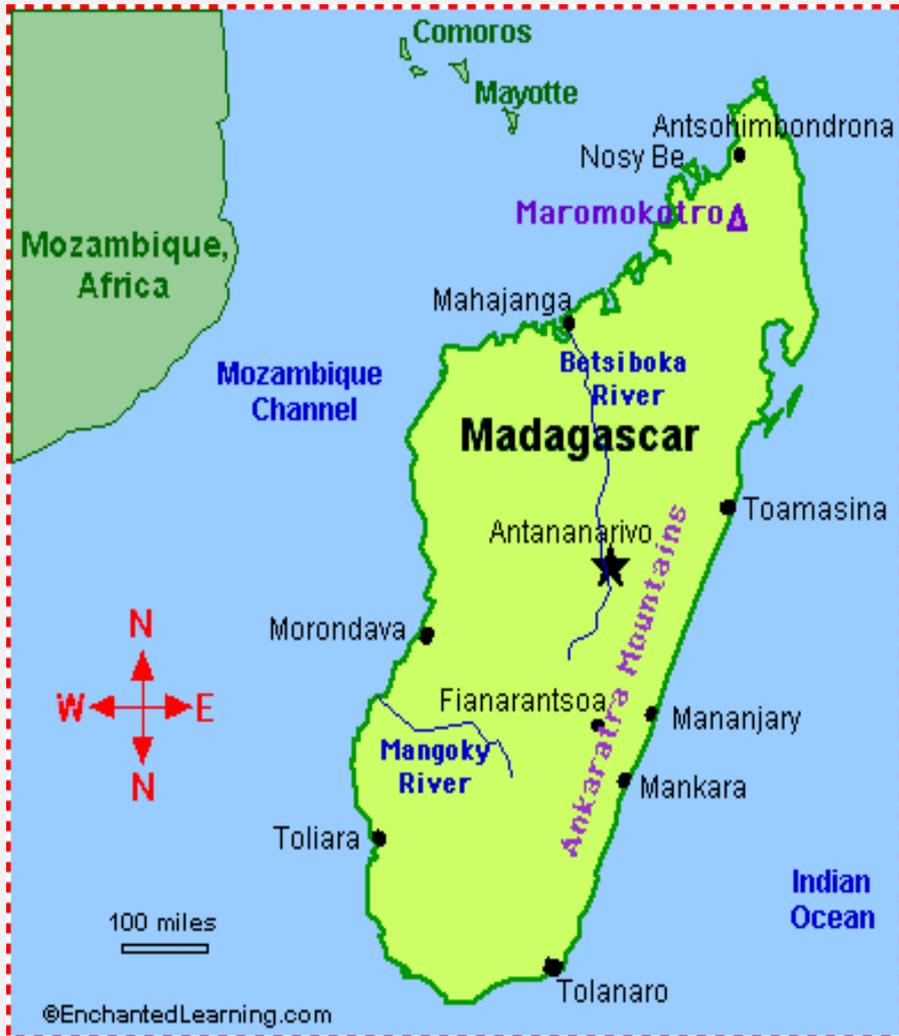
(Xu, 2008)



CASE STUDY 5: Poverty Alleviation and Rural Employment in Madagascar. (Noffke and Coppin 2010).

Madagascar Demographics

- 4th biggest Island in the world with a population around 20 Million.
- 80% of population live below the poverty line.
- Only 54% of population in urban areas & 4% in rural areas have access to potable water.
- Life expectancy is 52 years with 46% literacy.
- Infant Mortality is 89 per 1,000
- Economic isolation for many communities resulted from the collapse of the regional & national road network system with 80% of roads impassable for up to 10 months per year.
- Massive environmental degradation (biodiversity).



The Project

- Started in 2006 with 15 communities.
- Expanded to 32 communities by 2008
- Involved 133 families over the project period.
- 40 hectares were stabilised and revegetated.
- 4,000,000 plants were propagated & supplied.
- All Vetiver material sourced locally.
- Applied a hydroseeding mixture to all areas
- Commercial and locally harvested native grass seed species used in mixture
- Interplanted Vetiver areas with native dune vegetation



Nursery establishment training



Family nursery



Project implementation

CASE STUDY 5: Poverty Alleviation in Madagascar.



Above: Obtaining Vetiver for home nurseries

Below: Well established home nurseries



CASE STUDY 5: Rural Employment in Madagascar.



Indigenous people at Fort Dauphin



Project implementation



The Project: Erosion and sediment control of highly erodible sand dunes on service road at Rio Tinto Ilminite mine at Fort Dauphin

Before



After



CASE STUDY 6: Poverty Alleviation and Rural Employment in Venezuela. Implementation Process



Introduction



Training



Growing Vetiver



Harvesting



Handicraft Production



Marketing

Harvesting



Production



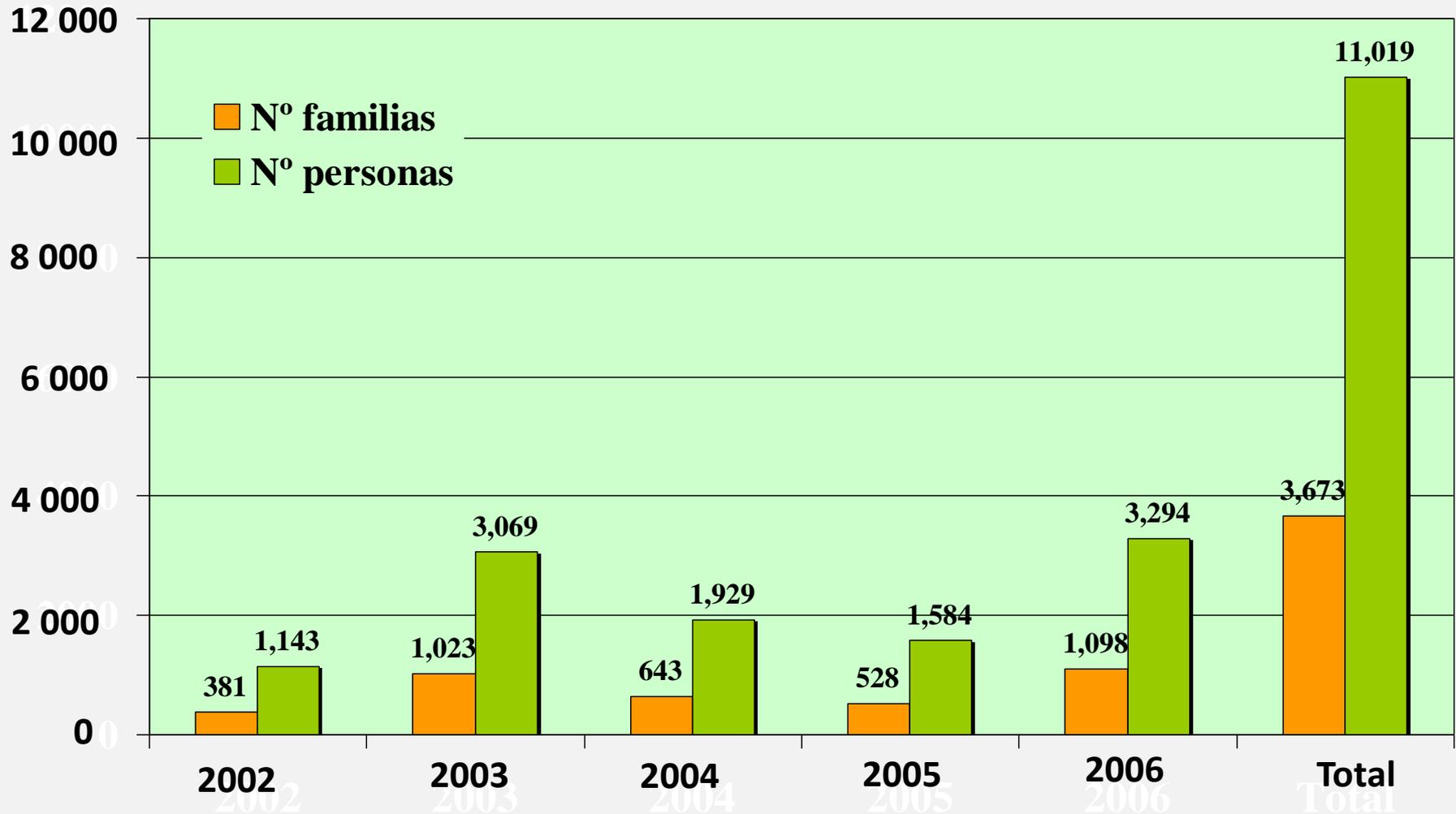
Promotion



Marketing

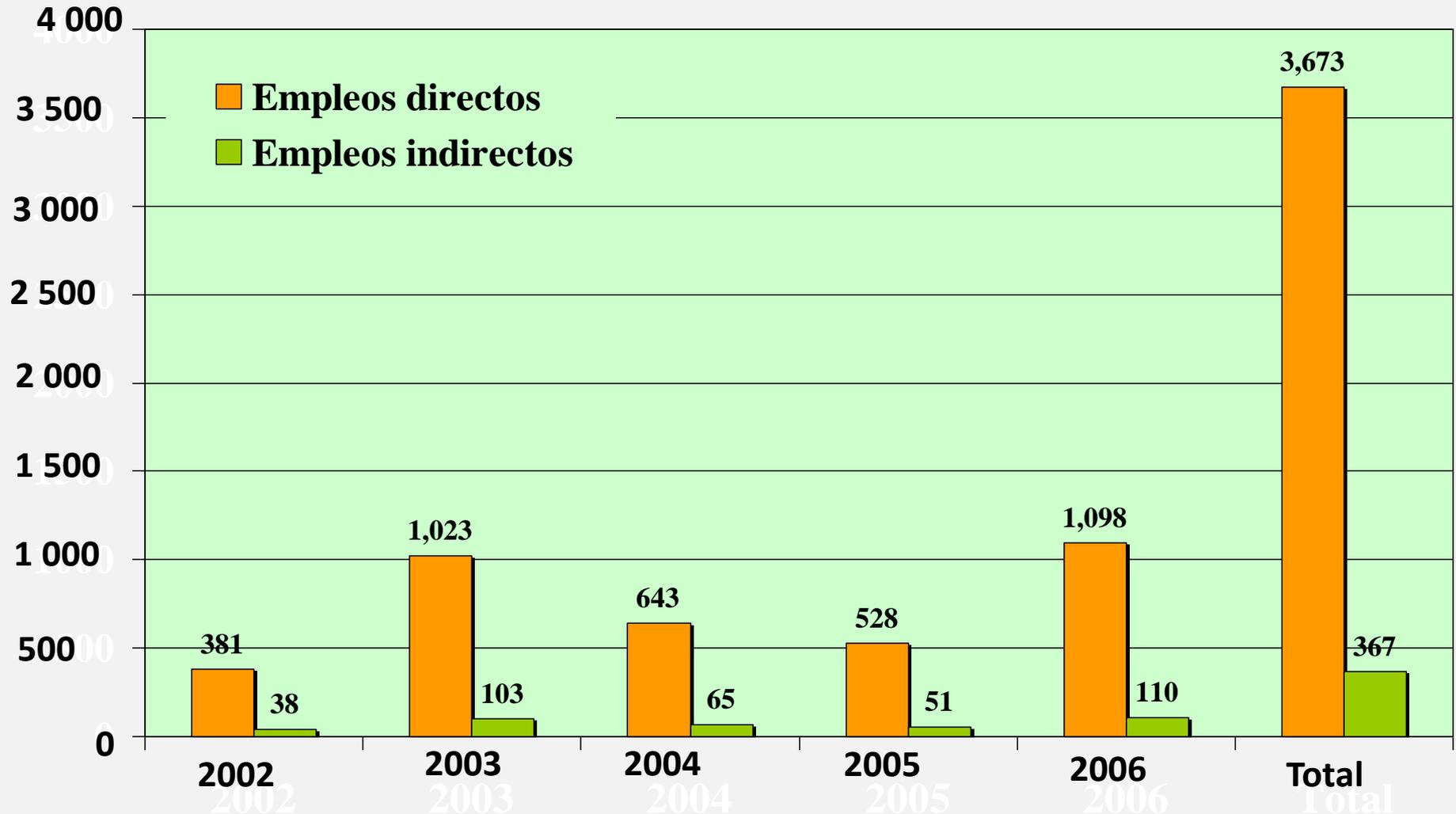


Number of family and people involved from 2002-2006 (3,673 families and 11,019 local people)



Number of direct and indirect people employed from 2002-2006

(3,673 direct and 367 local people employed)



Thank You

