

EDUCATION AND INNOVATION FOR DEVELOPMENT:
CASE OF MOZAMBIQUE AND EL SALVADOR

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Outline

- 1 Introduction
- 2 Transfer in El Salvador
- 3 Transfer in Mozambique
- 4 Conclusions

International Cooperation Projects

- Concern about the world around us
- University development
- Knowledge transfer
- Social action

Lectures collaborating in our faculty

The lectures from our Faculty collaborating in some of the projects have been:

- Carlos Rivero
- Omar Casas
- Adolfo Hernández
- David Casado
- F. Javier Martín

Context



Country situation

- Civil war 1980-92
- Unstable situation after the peace process
- Promotion in 1994-95: Starting the university cooperation

Knowledge transfer

- Master program in didactic and statistics, first promotion
- Collaboration with Spanish University Cooperation (CUES)
- Most of the participants were from the UCM
- Funded projects: AECID, UCM, ...

Syllabus

- Teaching period
- Research period
 - Final work (master's thesis) based on the salvadorean reality
 - Direction from UCM (lectures)
 - Three public defenses
 - Public-Private collaboration

Some master's thesis I

- Spatiotemporal geostatistical model of crime in El Salvador: Structural and predictive analysis
- Multistage stochastic optimization model of hydrothermal system of El Salvador
- Analysis of macroeconomic variables in El Salvador: Period 1995 to the second quarter of 2009
- Estimating the susceptibility to landslides in the metropolitan area of San Salvador using artificial neural networks

Some master's thesis II

- Modeling and forecasting of electricity demand in the medium term in El Salvador
- Economic factors affecting private investment in El Salvador
- Comparison between discriminant analysis and logistic regression in the classification of a colony of crabs
- Development of synthetic indicators of economic activity in El Salvador

Results after the cooperation with El Salvador

- 5 promotions for the Master in Statistics
- 1 PhD in the UCM
- Stays in Spain for students
- Degree in Statistics
- Improvement in the Degree in Mathematics
- Some students take responsibility for high positions at Government and University
- Collaborations University-Public Administration in El Salvador
- Developing a doctorate plan

My stays in El Salvador

- Summer 2012
 - Making contact with cooperation programs in El Salvador
 - Teaching (optimization)
 - Advisor in some master's thesis
 - Supervising the Bachelor's thesis: Stochastic optimization models in thermal power generation
- November-December 2013
 - Teaching
 - Starting a Bachelor's thesis: Humanitarian logistics for El Salvador (tropical depression)

Some pictures



Some pictures



Context



Maputo



Country situation

- Independence 1975 (it was a Portuguese colony)
- Civil war 1977-92
- Extreme poverty
- HIV, malaria, other diseases
- Year 2011: The university cooperation starts

Knowledge transfer

- Master degree in Statistics, first promotion
- Lectures from the UCM
- Funded projects: AECID, UCM, CIMPA, ...

Syllabus

- Teaching period
- Research period
 - Master's thesis based on Mozambican reality
 - Spanish lectures as advisors
 - Two public defenses
 - Public-Private administration collaboration

Some projects I

- Humanitarian logistics
- Optimization model for inventory management in anti-retroviral medicine in Zambezia
- The estimated revenue of the tax authority (Bayesian regression)
- A model to analyze the problem of queues in a health center for people living with HIV.
- A regression model to explain the factors influencing the employment index in Mozambique

Some projects II

- Analysis of health status of tilapia through physical-chemical parameters that contribute to the development of these species in the Company Aquaquel-Quelimane by multivariate techniques
- Factors associated with non-retention of participants in the prospective study of HIV in Mozambique
- Prediction Customs revenues in Mozambique
- Factors influencing the weight of newborns

Results after the cooperation with Mozambique

- 2 promotions in the Master degree in Statistics
- Improving the studies in Mathematics
- Public-Private collaborations
- We hope to bring a student to study his/her doctorate in Spain.

My stays in Mozambique

- October 2012
 - Making contact with cooperation programs in Mozambique
 - Teaching (queue theory and simulation)
- October 2014
 - Teaching (queue theory and simulation)
 - Visiting the hospital to supervise a Master's thesis
 - Supervising a Master's thesis

Where's Javier?



Where's Javier?



Conclusions

- University cooperation in El Salvador and Mozambique
- Knowledge transfer in El Salvador almost complete
- Knowledge transfer in Mozambique in process
- Great results
- Give for free everything I received for free

Thanks a lot for your attention!

¡Muchas gracias por su atención!

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