

**FRANCE – MOROCCO**

**Scientific impact of the programs  
VOLUBILIS and TOUBKAL  
(2006-2020)**

**MESRI-DAEI / MEAE**

**2020**

**<http://www.enseignementsup-recherche.gouv.fr>**

# GENERAL PRESENTATION OF THE PROGRAM

**Creation : VOLUBILIS : 1982 ; TOUBKAL : 2015**

The aim of this program is to promote new collaborations between French and Moroccan researchers by enhancing forge long-term collaborations, creating networks or taking part to European projects while training Moroccan PhD students.

**Total budget (France + Morocco) : around 636 000 € / year**

>> French budget : around 551 000 € / year

>> Moroccan budget : around 85 000 € / year

Average budget per project (France + Maroc) : around 11 350 € / year

**Number of new funded projects per year : around 19**

**From 2006 to 2020 :**

**1526** applications submitted

**245** projects funded

# DATA SOURCES

## Campus France (2006-2020)

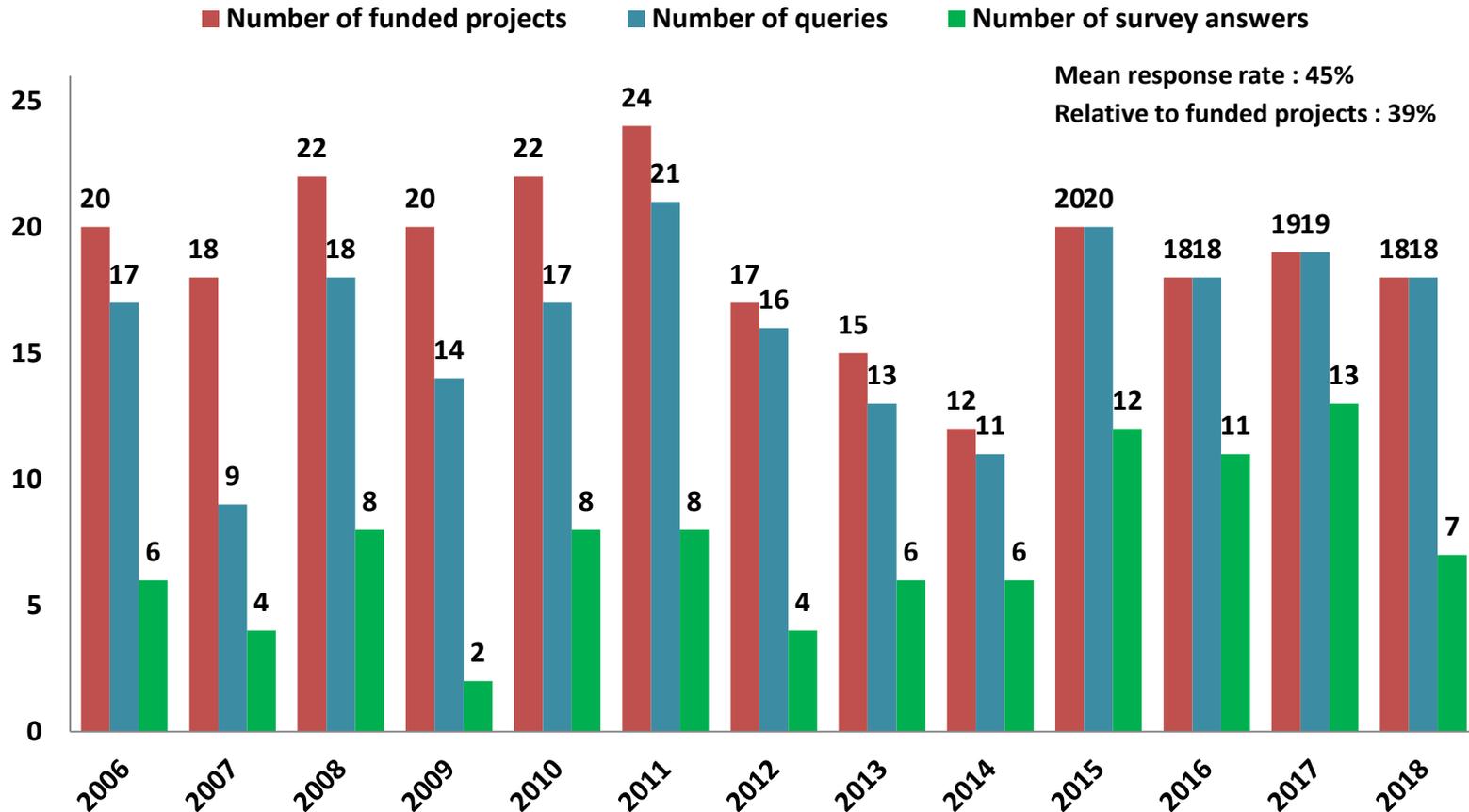
- Information about the PHC Volubilis and Toubkal applications
- List of mobilities (from France to Morocco and from Morocco to France)

## Survey (2006-2018)

- Target : French Principal Investigators of selected projects between 2006 and 2018
- Survey duration : 6 weeks between August and October 2020
- **45%** response ratio (95 respondents for 210 queries)

# ANSWERS TO THE SURVEY

Average response rate to the survey : **45 % (95 answers)**



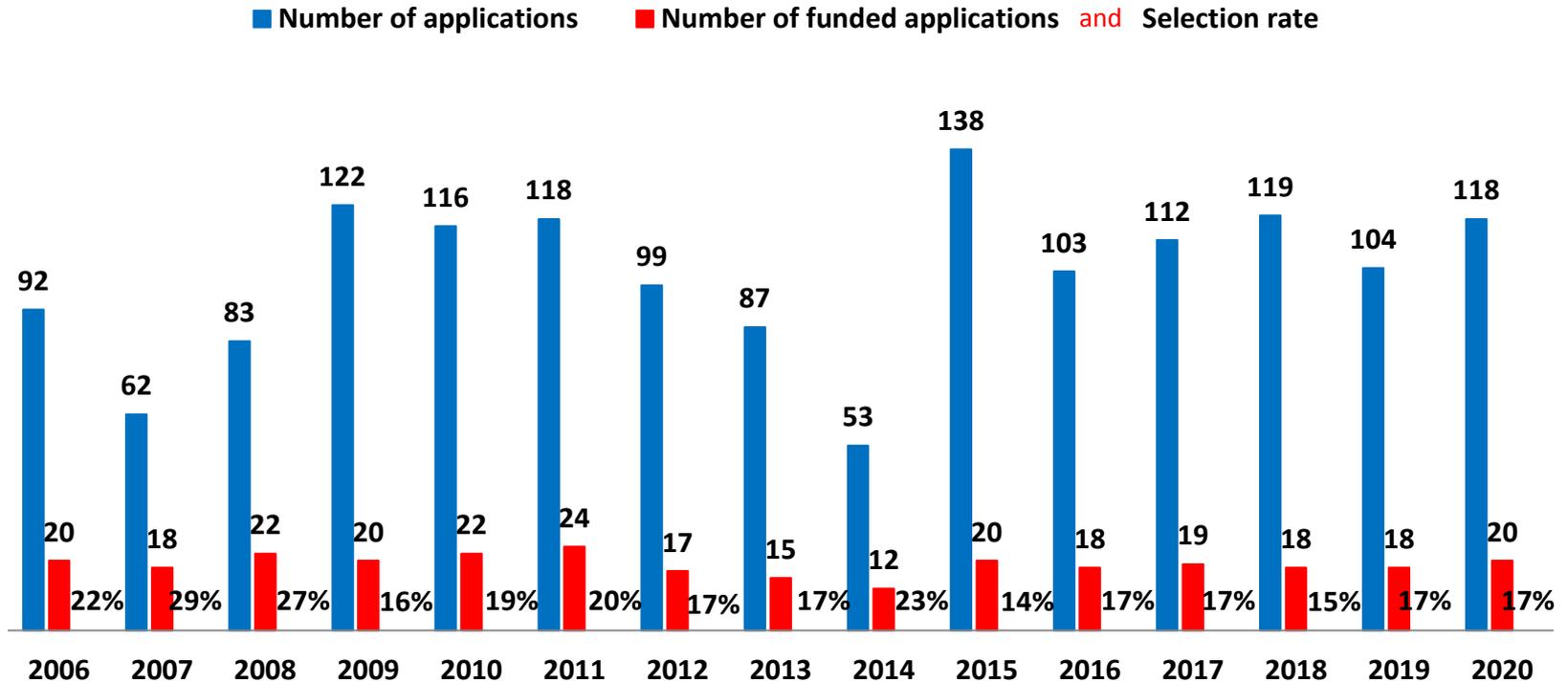
245 funded projects between 2006 and 2018, 210 valid email addresses

# 2006-2020

## Key Points

# NUMBER OF APPLICATIONS AND SELECTION RATE

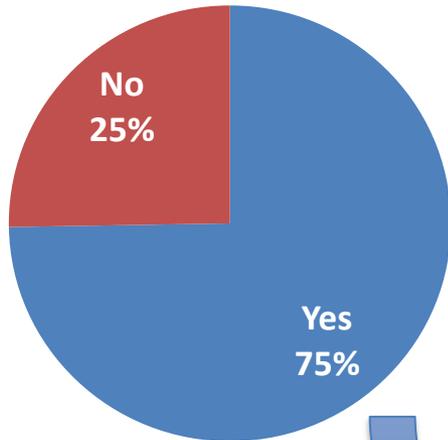
Average selection rate from 2006-2020: **19%**



Rather constant number of applications since 2015

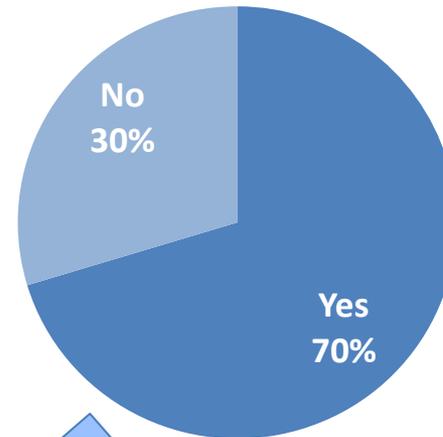
# BEFORE THIS VOLUBILIS/TOUBKAL PROJECT (1/2)

**Did you already cooperate  
with Morocco in the past ?**



Data from 95 responses

**If yes, was it  
with the same  
partner?**



Data from 64 responses

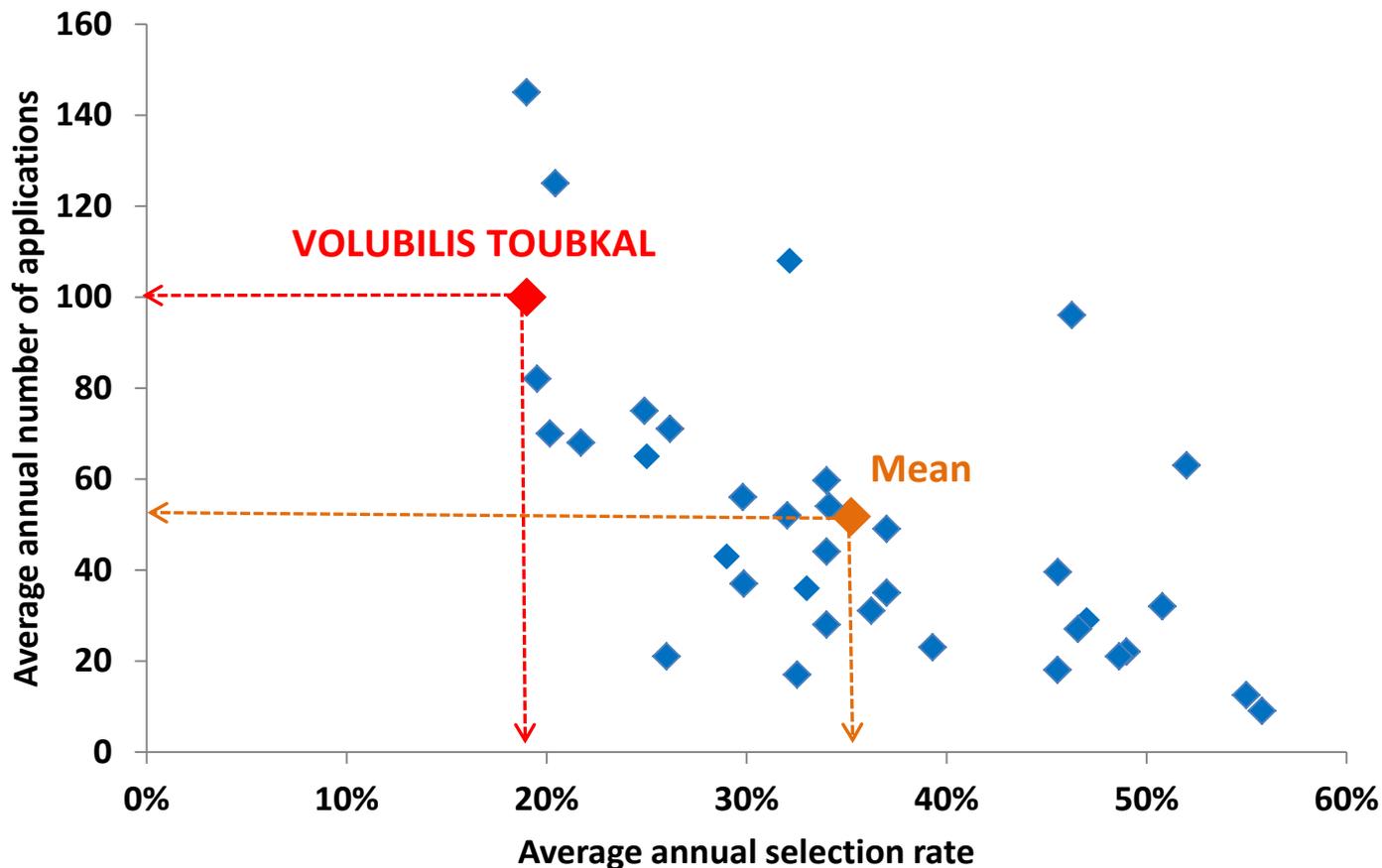
# BEFORE THIS VOLUBILIS/TOUBKAL PROJECT (2/2)

<b>With which scientific collaboration programme ?</b>	
PHC Volubilis/Toubkal/PRAD	46%
CNRS programmes (PRC, PICS, IRN)	14%
Cofunding with moroccan institutions	5%
French Government Grants	2%
European 7th PCRD	2%
Others	31%

**Plus 97 previous cooperations based on other exchanges (co-publication, meetings, joint PhD...)**

Data from 59 responses

# NUMBER OF APPLICATIONS VS SELECTION RATE (COMPARISON BETWEEN 36 DIFFERENT BILATERAL PROGRAMS)

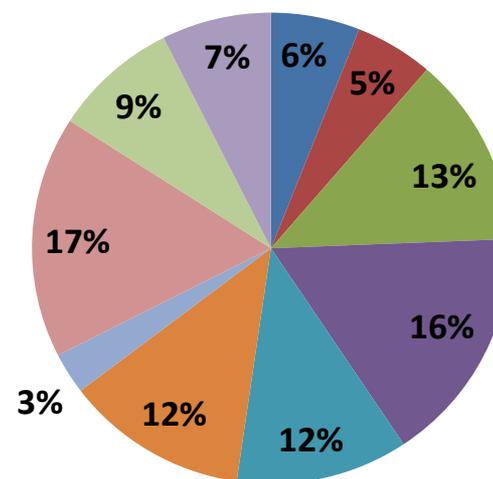
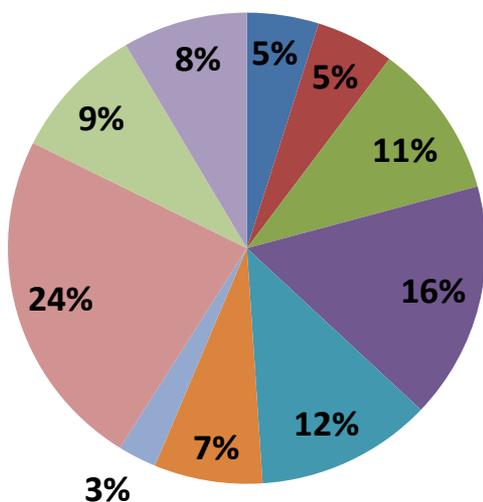


**Average selection rate for 2006-2020 : 19% vs 35% mean**  
**Average annual number of applications 2006-2020 : 100 vs 52 mean**

# SCIENTIFIC DOMAINS OF PROJECTS 2006-2020

Number of applications : **1526**

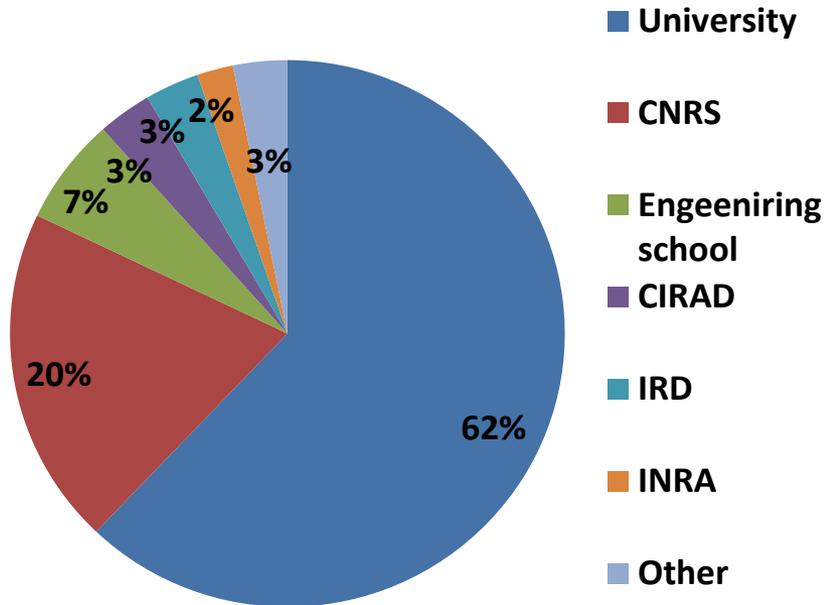
Number of funded projects : **283**



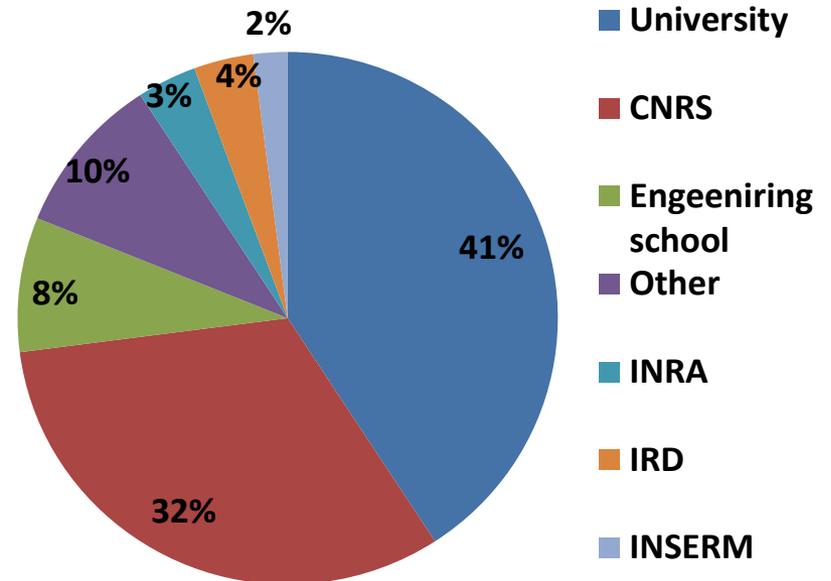
- |                                |                        |
|--------------------------------|------------------------|
| ■ Mathematics                  | ■ Physics              |
| ■ Marine/Earth/Planet Sciences | ■ Chemistry            |
| ■ Biology and Health           | ■ Humanities           |
| ■ Social Sciences              | ■ Engineering Sciences |
| ■ Information Technology       | ■ Agronomy/Ecology     |

# FRENCH PARTICIPATING INSTITUTIONS 2006-2018

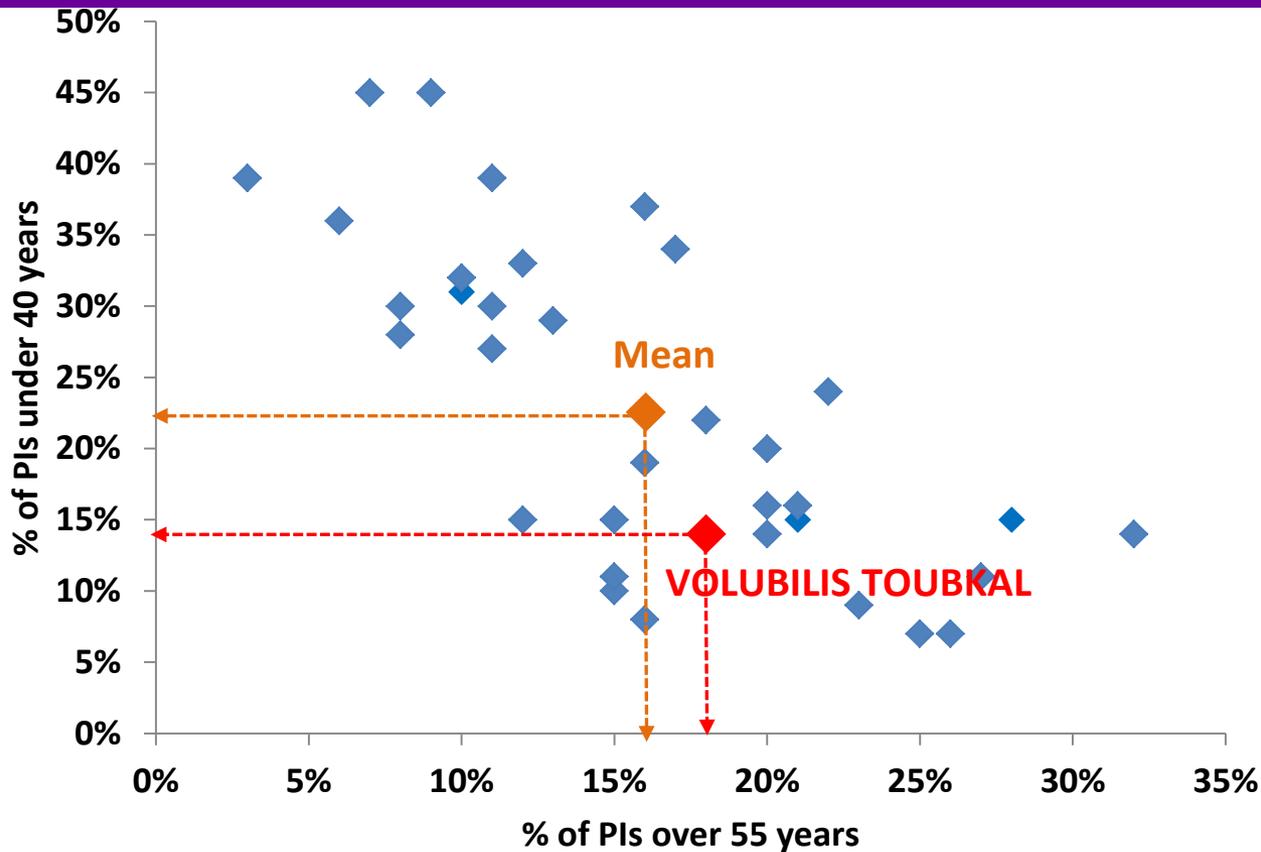
## PI's employers



## Laboratories authorities



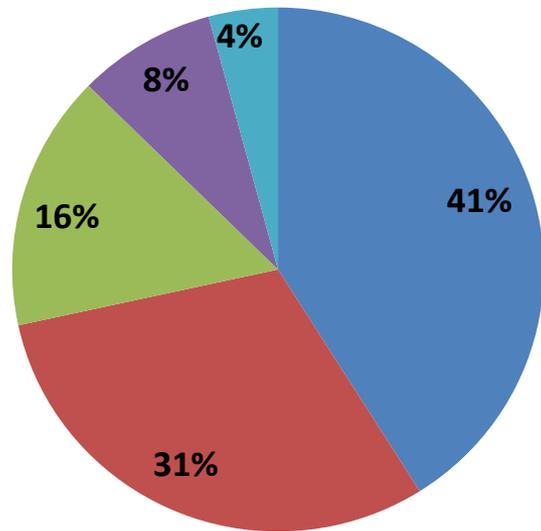
# AGE OF PRINCIPAL INVESTIGATORS (PI) (COMPARISON BETWEEN 36 DIFFERENT BILATERAL PROGRAMS)



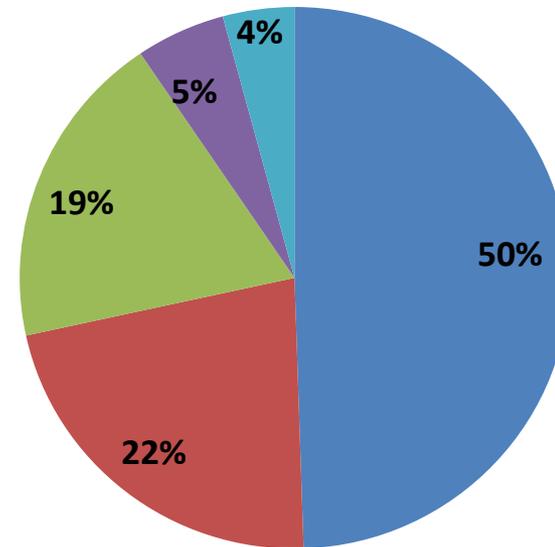
**PIs under 40 years : 14% vs 23% mean**  
**PIs over 55 years : 18% vs 16% mean**  
**68% of the PIs are between 40 and 55 years**

# FRENCH PIS (PRINCIPAL INVESTIGATORS) : STATUS

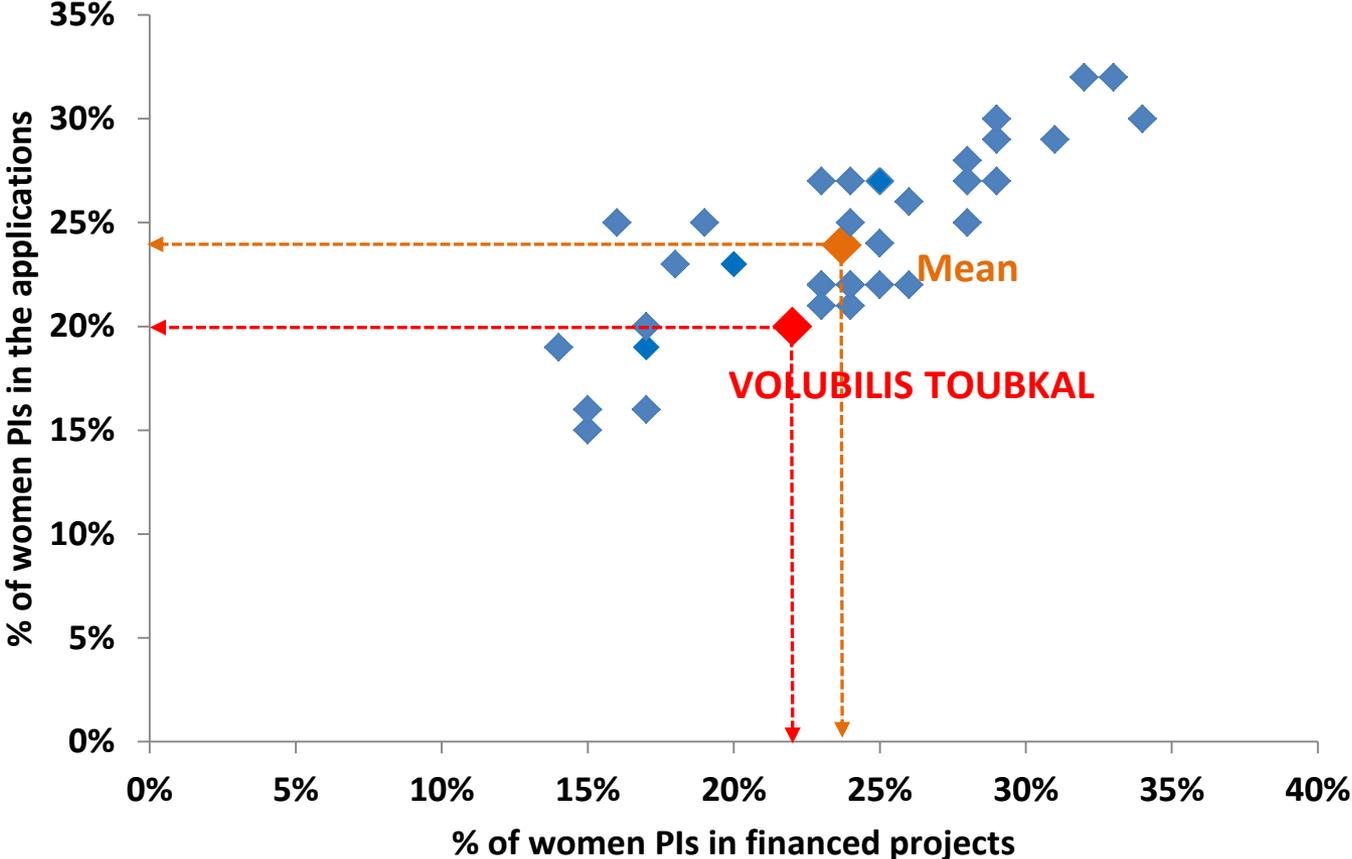
**Previous professional status  
(at the beginning of the project)**



**Current professional status**



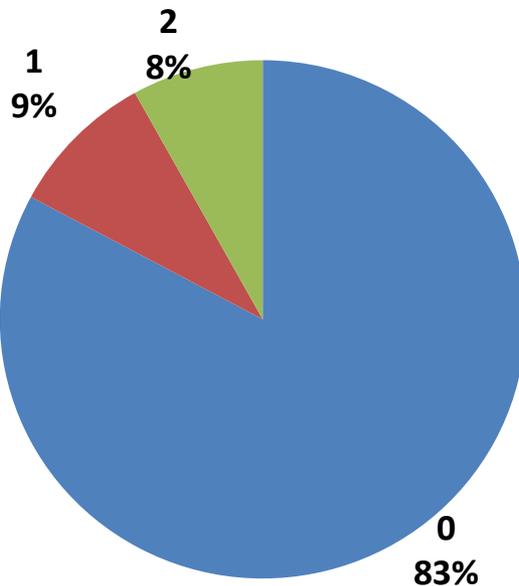
# IMPLICATION OF WOMEN (FRANCE) (COMPARISON BETWEEN 36 DIFFERENT BILATERAL PROGRAMMES)



**% of women PIs in the applications : 20% vs 24% mean**  
**% of women PIs in the selected projects : 22% vs 24% mean**

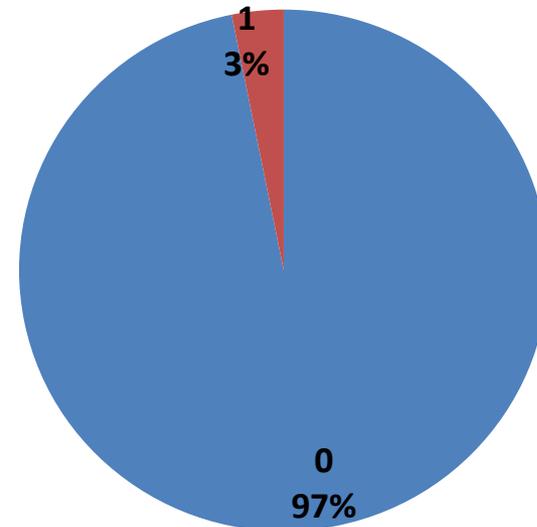
# PARTICIPATION OF FRENCH YOUNG RESEARCHERS

## Number of French PhD students



**17%** of projects involve at least one French PhD student

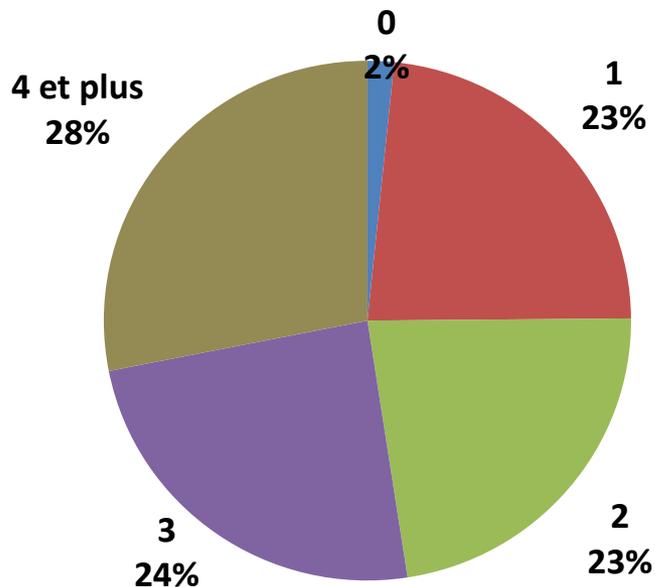
## Number of French post-doctoral researchers



**3%** of projects involve at least one French post-doctoral researcher

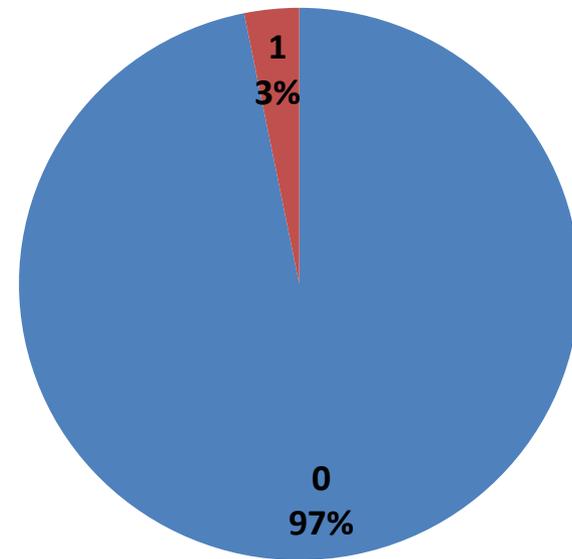
# PARTICIPATION OF MOROCCAN YOUNG RESEARCHERS

## Number of Moroccan PhD students



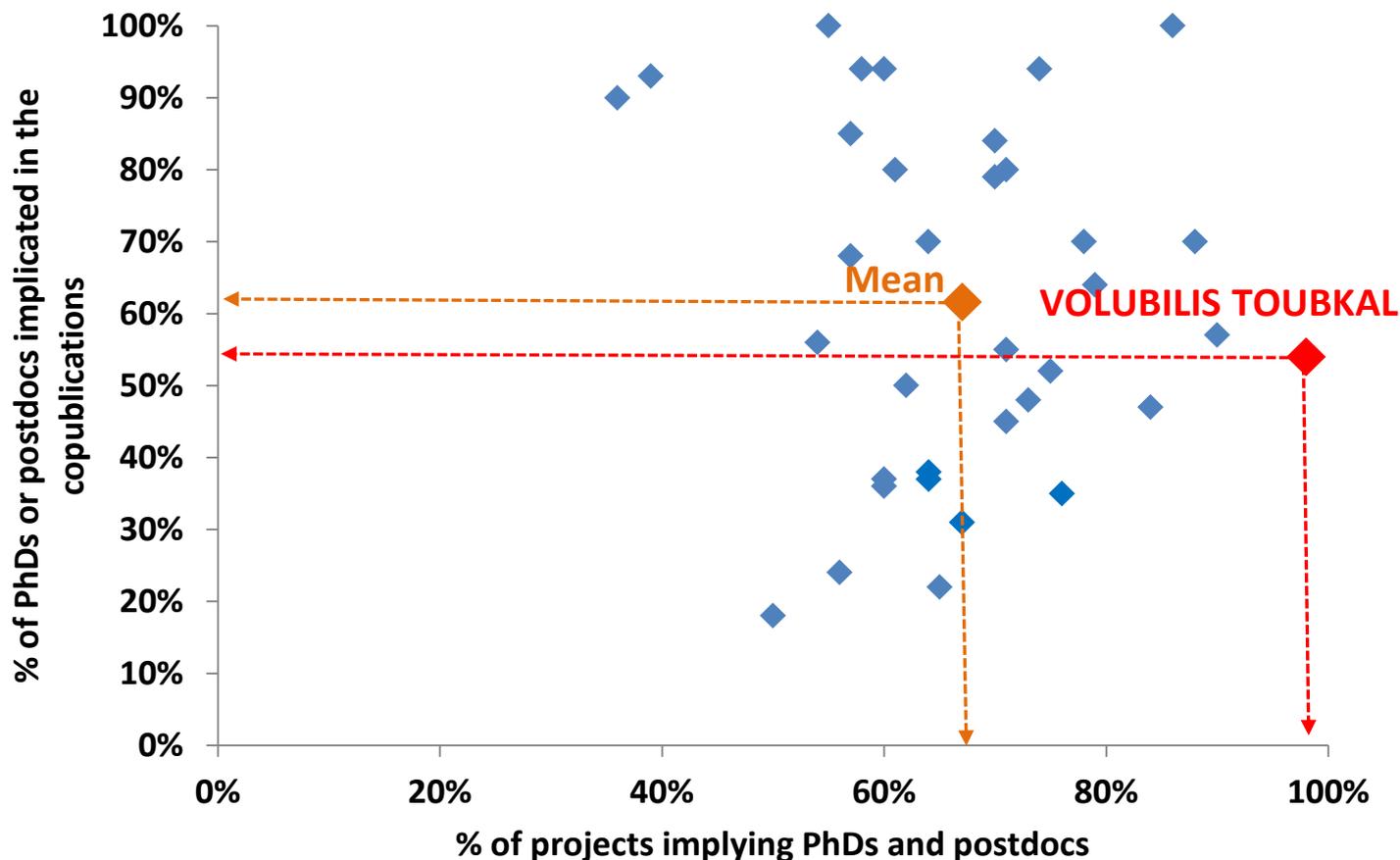
**97%** of projects involve at least one Moroccan PhD student

## Number of Moroccan post-doctoral researchers



**3%** of projects involve at least one Moroccan post-doctoral researcher

# IMPLICATION OF YOUNG RESEARCHERS (COMPARISON BETWEEN 36 DIFFERENT BILATERAL PROGRAMS)



**% of projects implying young researchers : 98% vs 67% mean**

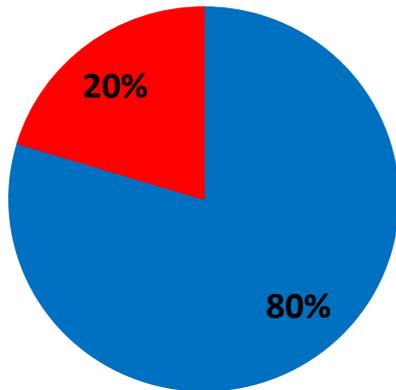
**% of PhD or postdoc implicated in the copublications : 54% vs 62% mean**



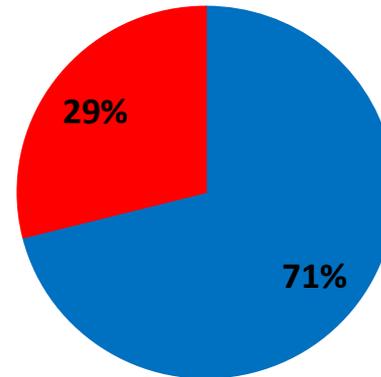
# MOBILITY 2006-2019

# MOBILITY : GENDER DISTRIBUTION

France → Morocco



Morocco → France

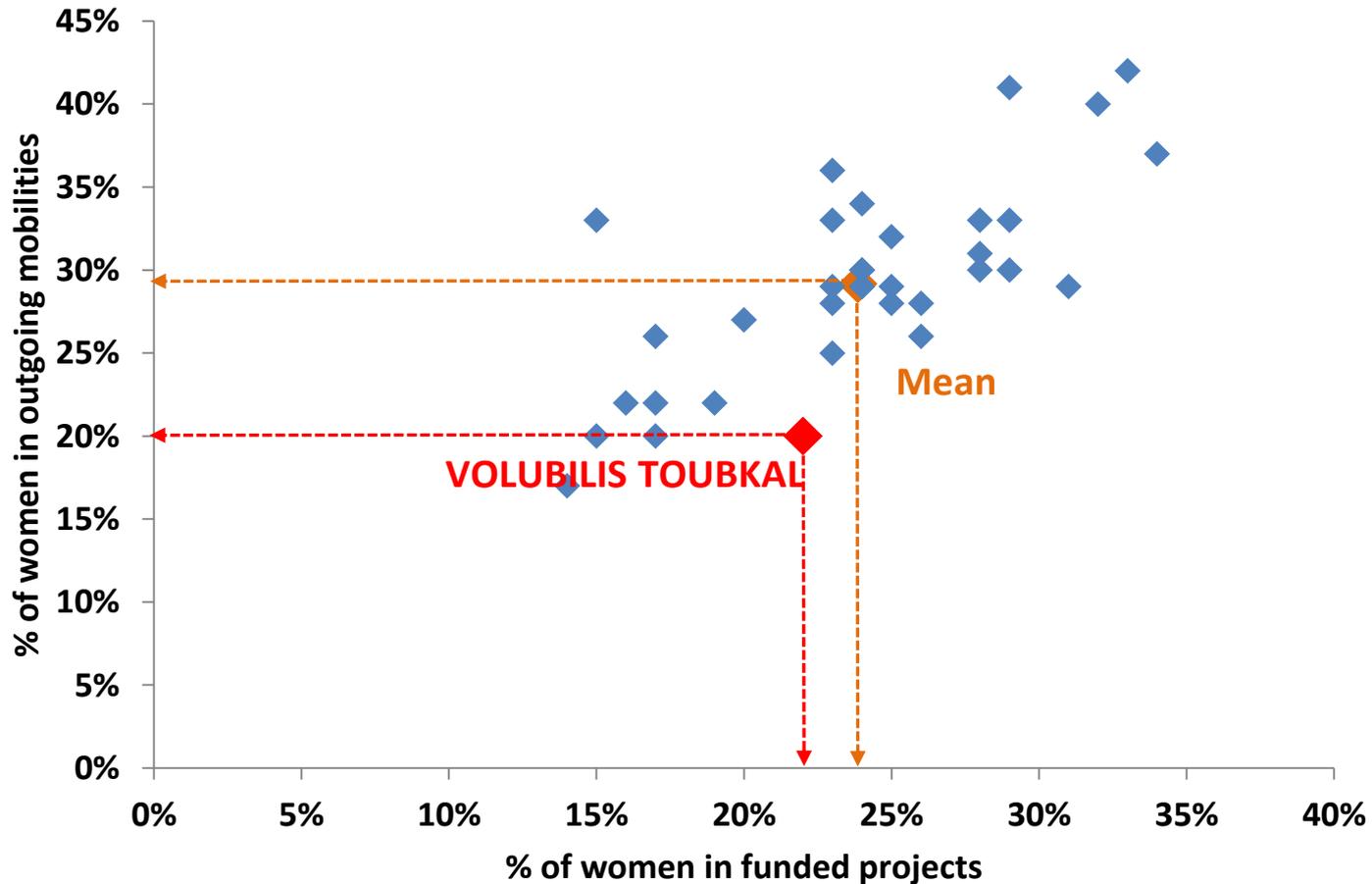


■ Men ■ Women

Data from 263 funded projects

# WOMEN MOBILITY FRANCE – MOROCCO

(COMPARISON BETWEEN 36 DIFFERENT BILATERAL PROGRAMS)



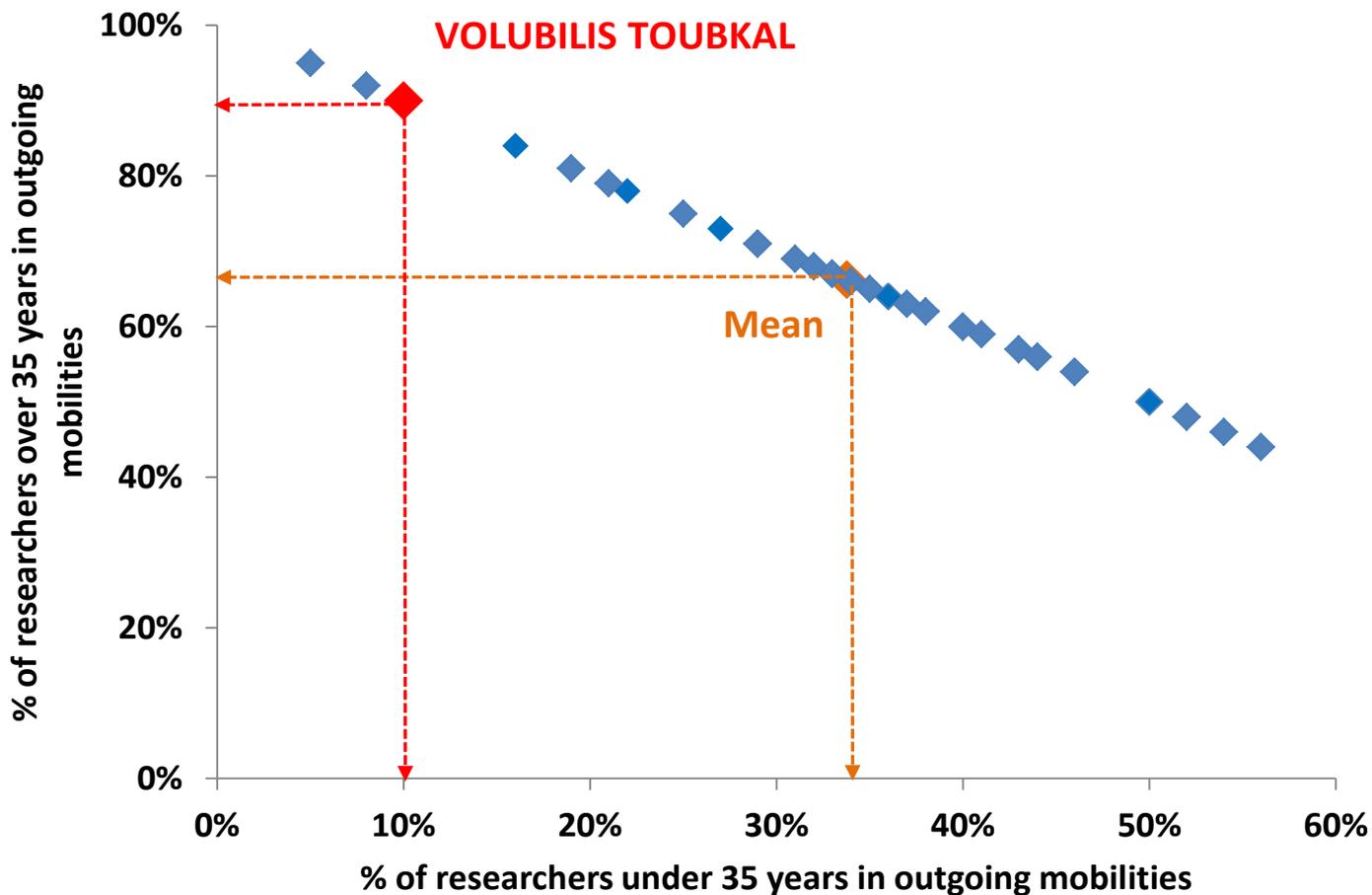
**% of women researchers in the selected projects : 22% vs 24% mean**

**% of women researchers in outgoing mobilities : 20% vs 29% mean**

# FRENCH YOUNG RESEARCHERS' MOBILITY

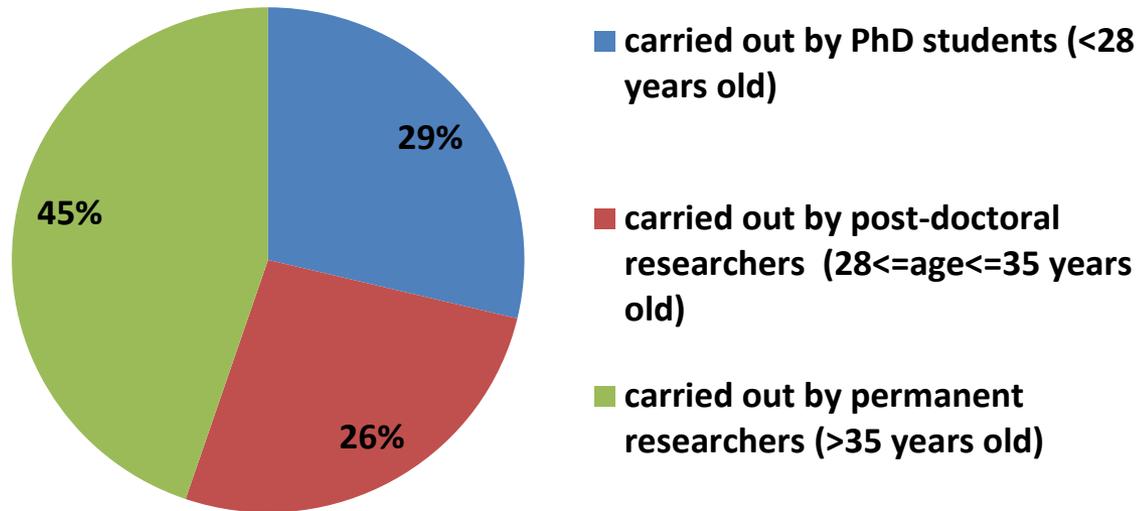
## FRANCE – MOROCCO

(COMPARISON BETWEEN 36 DIFFERENT BILATERAL PROGRAMS)



% of French young researchers in outgoing mobilities : **10% vs 34% mean**

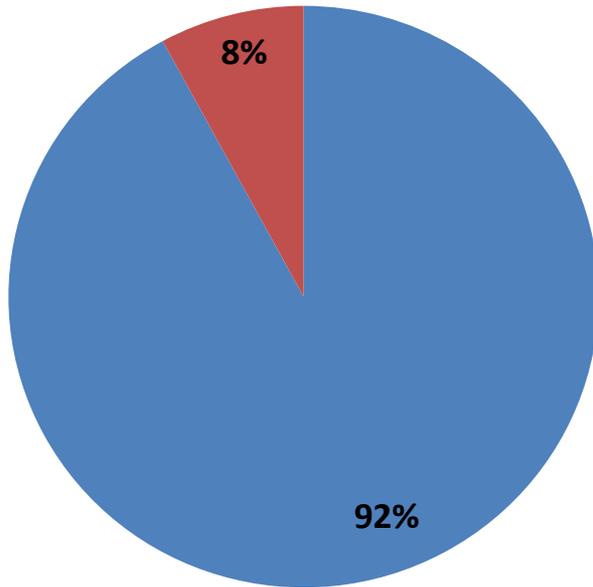
# MOROCCAN RESEARCHERS' MOBILITY MOROCCO- FRANCE



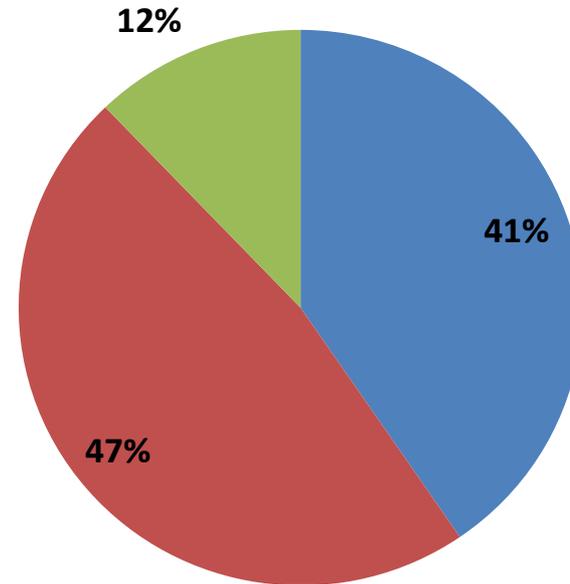
**% of moroccan young researchers in incoming mobilities : 55%**

# MOBILITY : DURATION

## France → Morocco



## Morocco → France



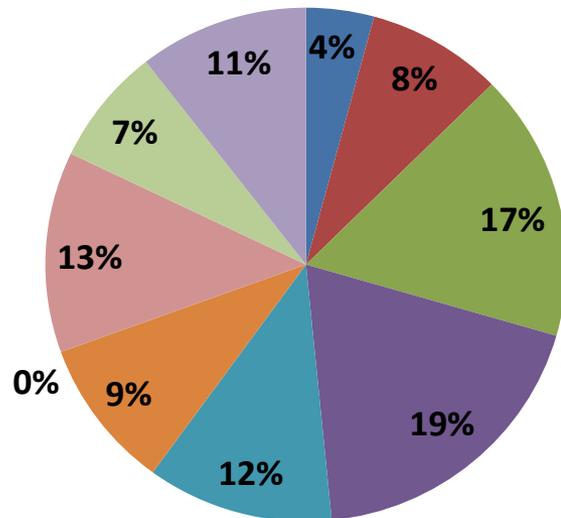
- < 15 days
- between 15 days and 3 months
- > 3 months



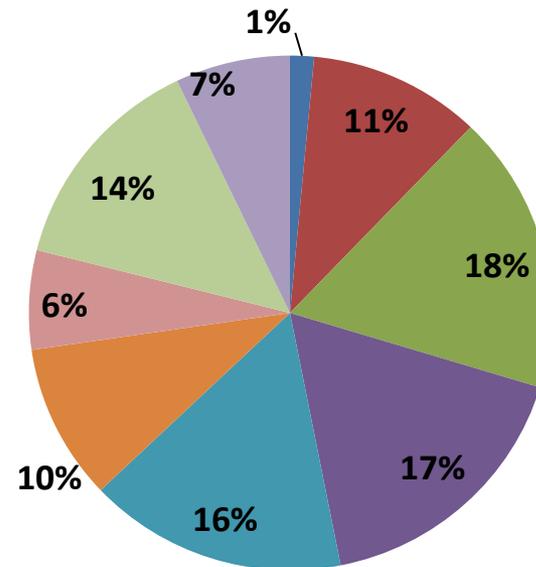
# SCIENTIFIC PRODUCTION 2006-2017

# SCIENTIFIC OUTPUT (1/2)

Funded projects with responses to the survey (95)



Percentage of copublications



- Mathematics
- Physics
- Marine/Earth/Planet Sciences
- Chemistry
- Biology and Health
- Humanities
- Social Sciences
- Engineering Sciences
- Information Technology
- Agronomy/Ecology

# SCIENTIFIC OUTPUT (2/2)

## Data from 95 funded projects

	Number of financed projects in the survey	Average number of co-publications per project
Mathematics	4	1,25
Physics	8	4,50
Marine/Earth/Planet Sciences	16	3,69
Chemistry	18	3,22
Biology and Health	11	4,91
Humanities	9	0
Social Sciences	0	0
Engineering Sciences	12	1,75
Information Technology	7	6,71
Agronomy / Ecology	10	2,40
<b>TOTAL</b>	<b>95</b>	<b>3,55</b>

Overall average **annual** number of copublications per project : **1,18 vs 0,93 mean**

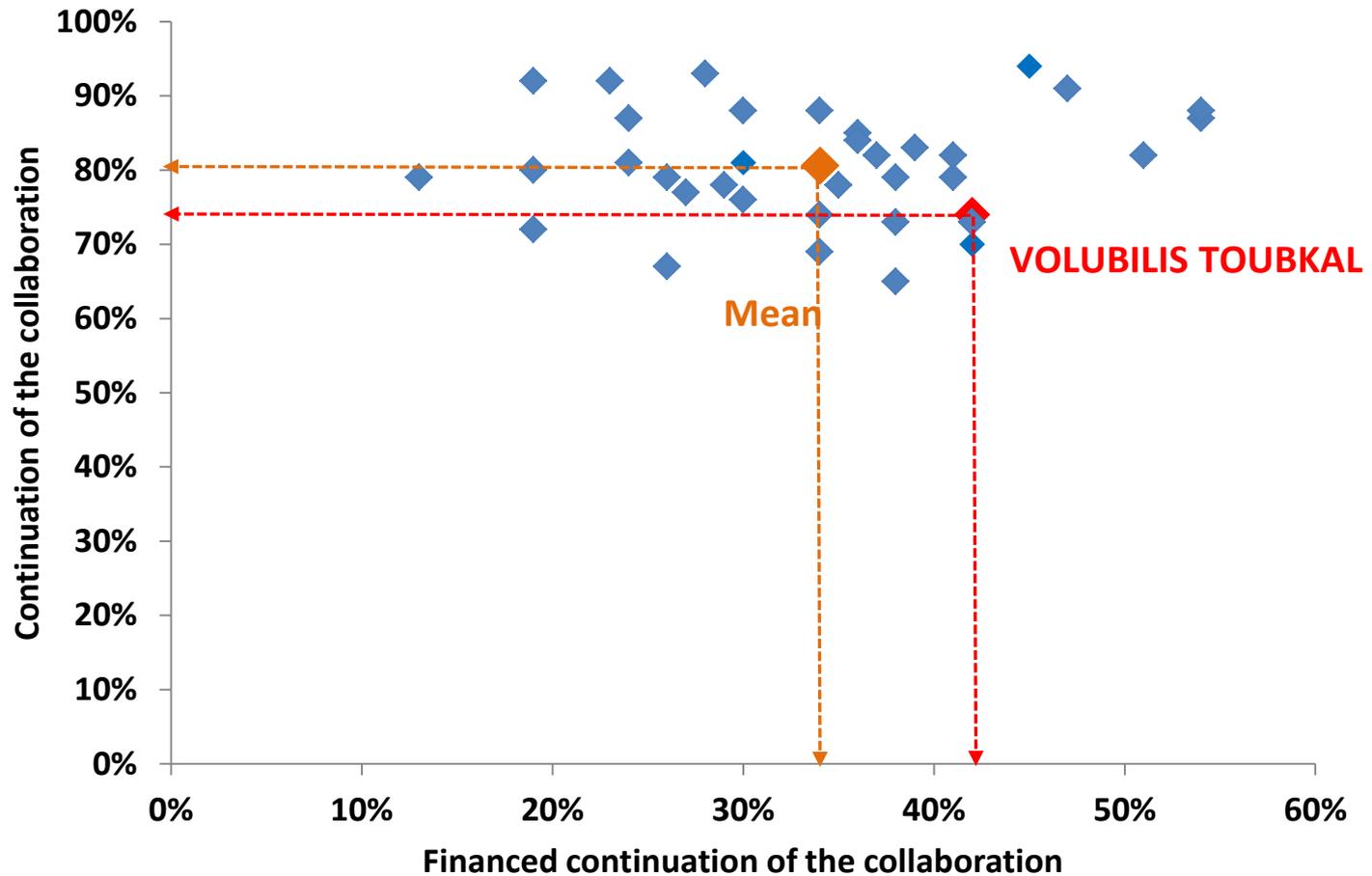
**81%** of funded projects led to one co-publication at least

**75%** of copublications include at least 1 PhD or PostDoc

The average annual rate of publication for young researchers involved in the projects is **0,50**

# WHAT HAPPENS AFTER A VOLUBILIS/TOUBKAL PROJECT ?

# CONTINUATION OF THE COLLABORATION (1/5) (COMPARISON BETWEEN 36 DIFFERENT BILATERAL PROGRAMS)



**Continuation of the collaboration : 74% vs 81% mean**

**Continuation of the collaboration with other sources of subvention : 42% vs 34% mean**

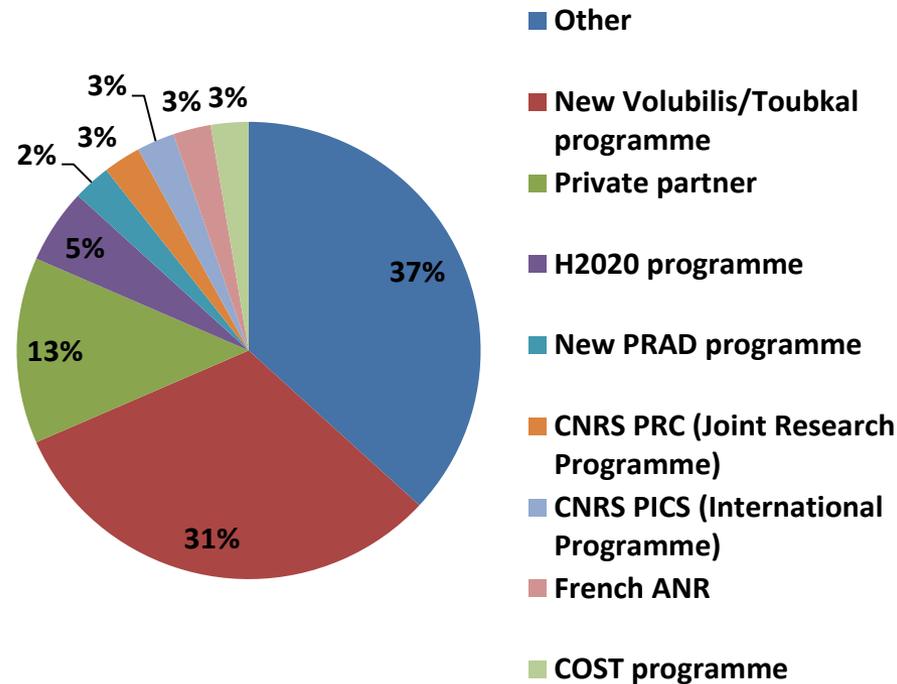
## CONTINUATION OF THE COLLABORATION (2/5)

**74%** of the collaborations continued after the Volubilis/Toubkal project

Which activities?	
Co-publications	70%
Collaborative research	62%
Researchers mobility	42%
Joint participation to conferences	38%
Joint participation to PhD thesis	29%
PhD mobility	28%
Co-organisation of scientific events	25%
Joint diplomas (Master, PhD...)	6%
Others	14%

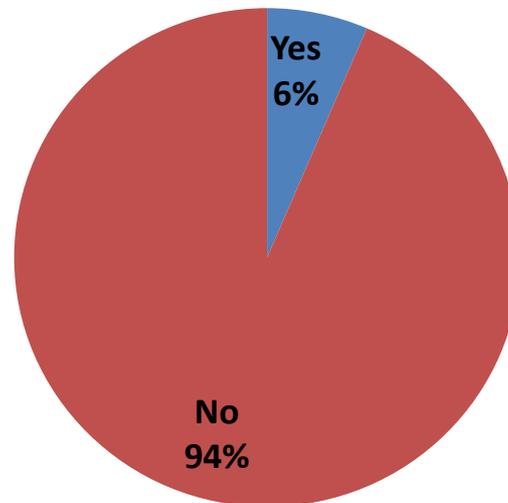
# CONTINUATION OF THE COLLABORATION (3/5)

## What kind of funded collaborations after the Volubilis/Toubkal project ?



# CONTINUATION OF THE COLLABORATION (4/5)

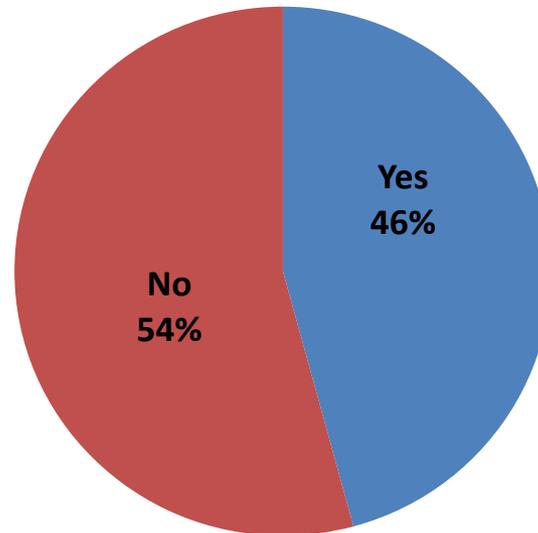
**Has the Volubilis/Toubkal project led to the set-up of joint structures?**



- 1 CNRS International Joint Laboratory (LIA)
- 1 CNRS International Research Network (IRN)
- 1 Other International Joint Laboratory
- 1 Observatory
- 1 Research Center Rabat University

# CONTINUATION OF THE COLLABORATION (5/5)

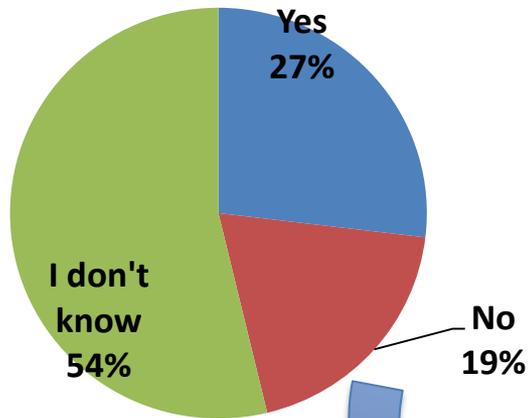
**Has the France-Morocco collaboration involved new partners?**



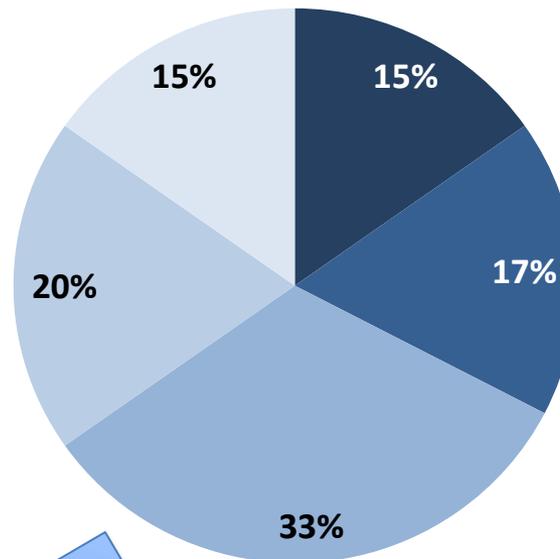
For a total of 35 new partners from 14 different countries

# IMPACT ON FRENCH YOUNG RESEARCHERS' CAREER (1/4)

Was french young researchers' career impacted by the Volubilis/Toubkal programs ?



Type of impacts



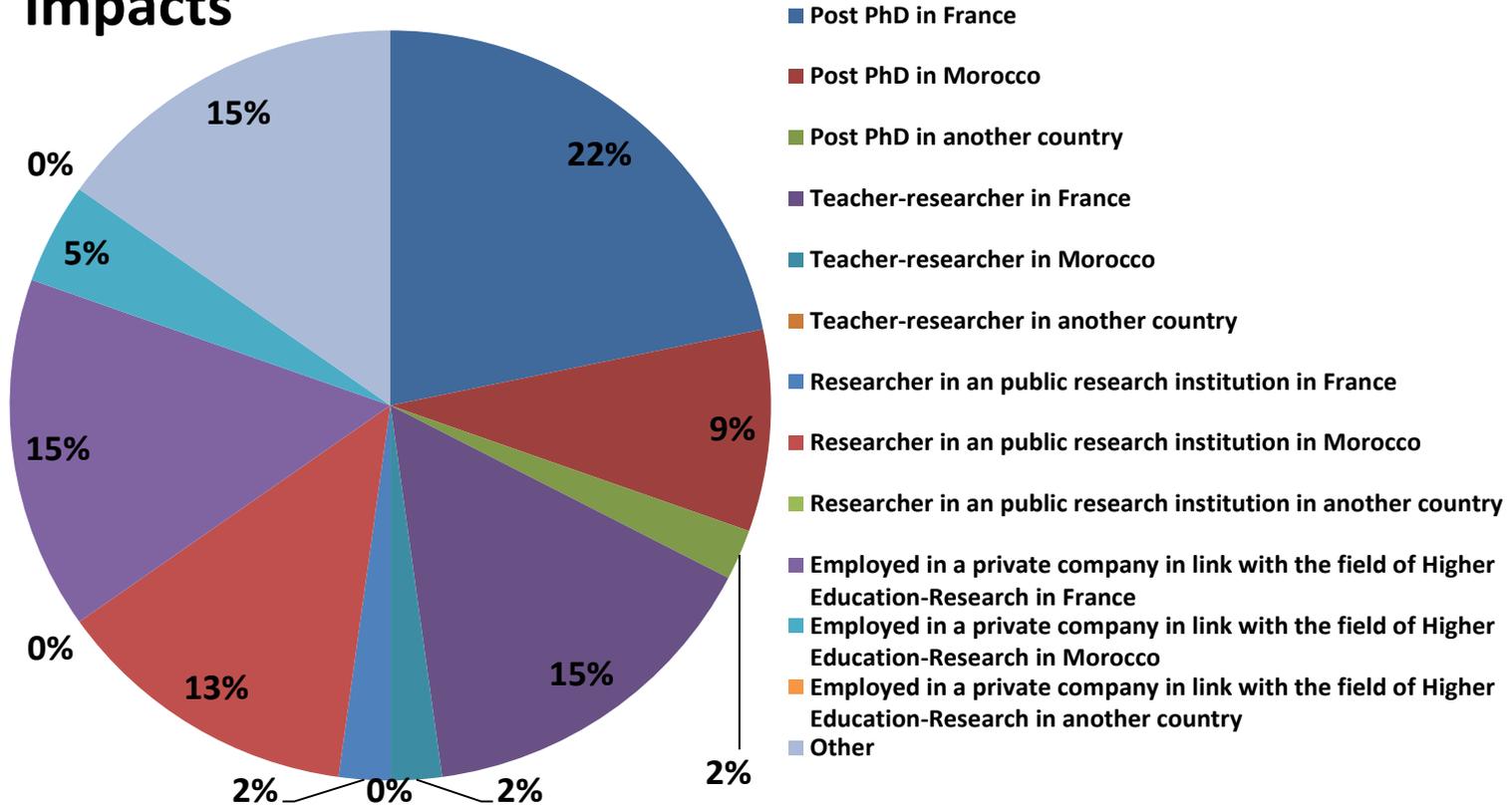
- Researcher in a public research institution (permanent position)
- Teacher/Researcher (permanent position)
- Postdoc/Teacher/Researcher (temporary position)
- Employed in a private company in link with the field of Higher Education - Research
- Other

Data from 93 responses

Data from 25 positive responses  
for a total of 46 french young researchers

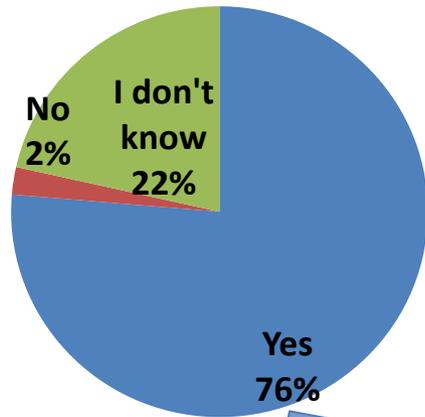
# IMPACT ON FRENCH YOUNG RESEARCHERS' CAREER (2/4)

## Detailed types of impacts

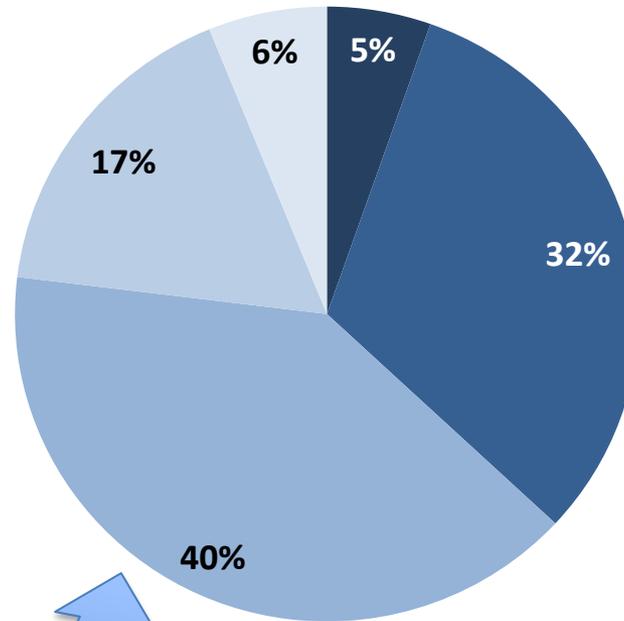


# IMPACT ON MOROCCAN YOUNG RESEARCHERS' CAREER (3/4)

Was moroccan young researchers' career impacted by the Volubilis/Toubkal programs ?



Type of impacts



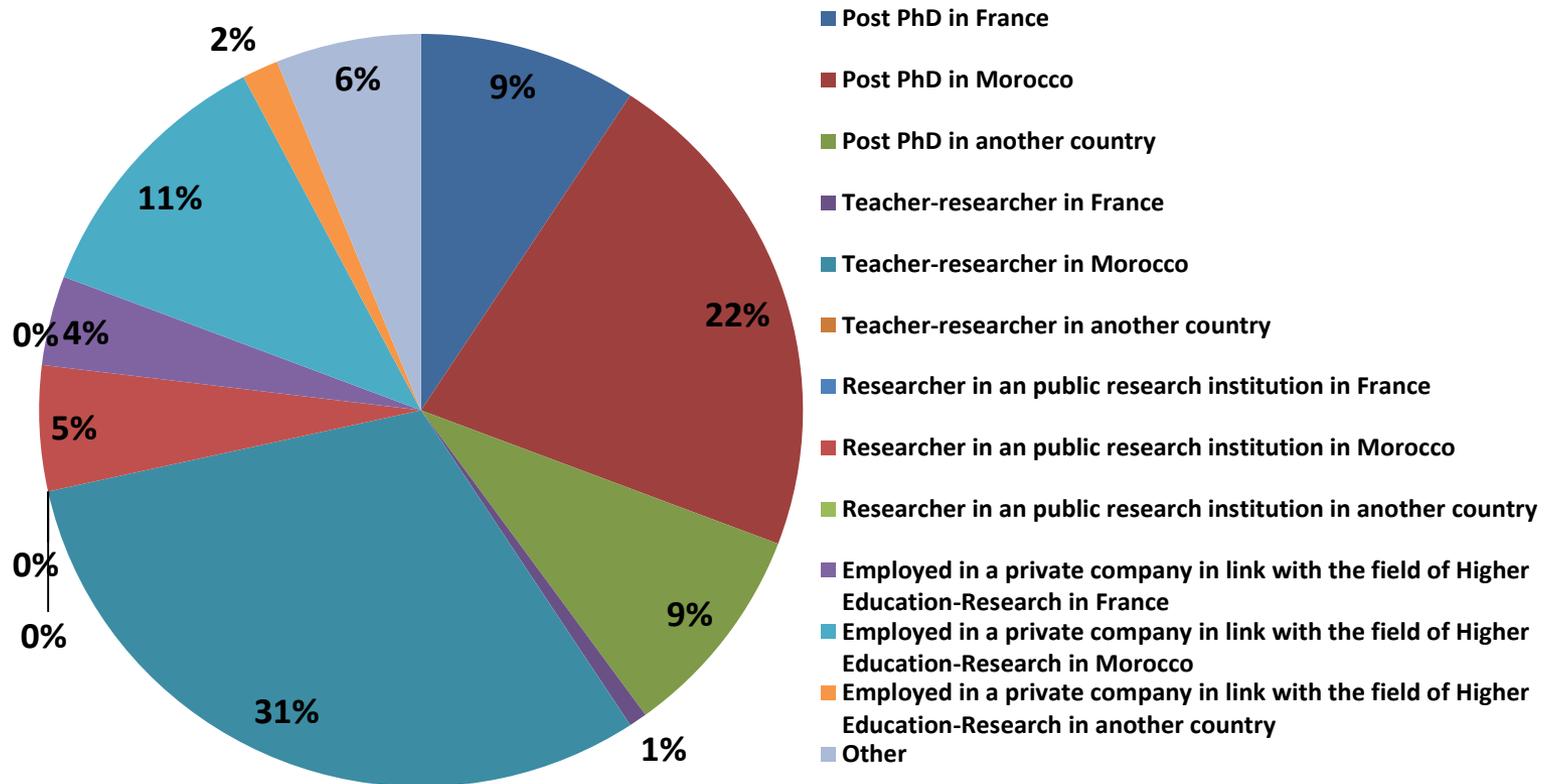
- Researcher in a public research institution (permanent position)
- Teacher/Researcher (permanent position)
- Postdoc/Teacher/Researcher (temporary position)
- Employed in a private company in link with the field of Higher Education - Research
- Other

Data from 93 responses

Data from 71 positive responses for a total of 130 moroccan young researchers

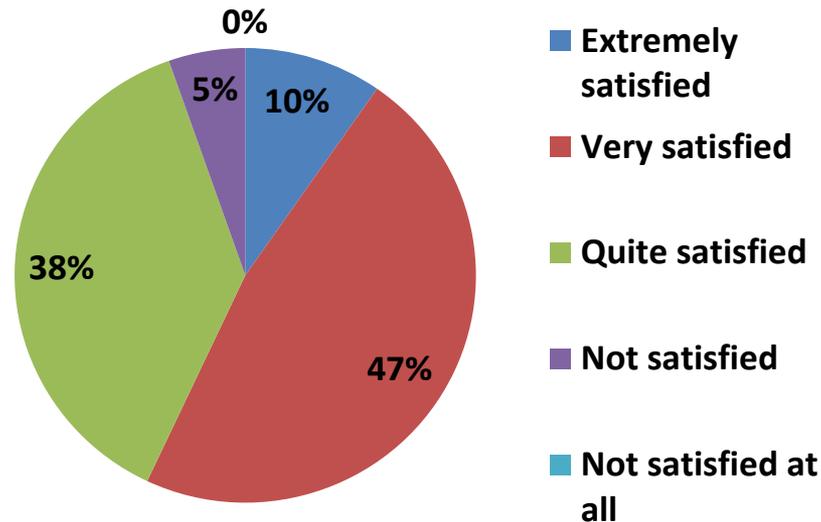
# IMPACT ON MOROCCAN YOUNG RESEARCHERS' CAREER (4/4)

## Detailed types of impacts



# GENERAL OPINION OF FRENCH PIS ON THE PROGRAM

**95%** of French principal investigators are satisfied



Data from 93 responses

# GENERAL OPINION OF FRENCH PIS ON THE PROGRAM (2/3) POSITIVE COMMENTS

## SURVEY OF 93 FUNDED PROJECTS



Strengths of this program	Number of occurrences (out of 525)	% (out of 93)
Allows the training of the young researchers	79	83%
Allows the mobility of the researchers	70	74%
Allows an international scientific collaboration	62	65%
Allows exchanges which allow a scientific production	50	53%
Simplicity of the application process	48	51%
Allows a knowledge of the country partner	33	35%
Sufficiently long duration of the projects	30	32%
Financial means sufficient for the expenditure of mobility	27	28%
Easy implementation (administrative flexibility)	27	28%
Is used as starting for raising other funds	25	26%
Financial autonomy towards your institution	25	26%
Duration of mobilities adapted to the needs	24	25%
Good scientific appreciation compared to the financial investment	13	14%
Transparency of the methods for selecting the projects	5	5%
Timetable for implementation	5	5%
Others	2	2%
No strenght point	0	0%
<i>Total number of occurrences</i>	<i>525</i>	

# GENERAL OPINION OF FRENCH PIS ON THE PROGRAM (3/3) NEGATIVE COMMENTS

## SURVEY OF 93 FUNDED PROJECTS



Weaknesses of this program	Number of occurrences (out of 252)	% (out of 93)
No funding of the operation and capital expenditures	64	67%
Financial means insufficient for the expenditure of mobility (per diem)	25	26%
Difficult perpetuation of collaboration	25	26%
Financial means insufficient for the expenditure of mobility (transport)	22	23%
Too short duration of mobilities	21	22%
Lack of transparency on the methods of projects selection	19	20%
Insufficient communication on the evaluation's results	19	20%
Too low number of mobilities	15	16%
Too short duration of the projects	11	12%
Other	11	12%
Administrative heaviness of the missions management	9	9%
Timetable for implementation	5	5%
Heaviness of the process of applications	3	3%
Financial autonomy towards your institution	2	2%
Flexibility of the programme for actions co-financed with the partner	1	1%
Too long duration of mobilities	0	0%
No weakness	0	0%
Number of occurrences	252	

# PRELIMINARY CONCLUSIONS

Preliminary conclusions suggest that the funding scheme has efficiently contributed to create (or to maintain) fruitful and long-term cooperation, despite the relatively low financial support, which is to be considered as “seed money”.



Rather constant number of applications each year

98% of the projects involve at least one moroccan young researcher

55% of moroccan young researchers involved in the mobilities

76% of positive impact in young Moroccan researcher' career.

Annual number of copublications per project better than the mean (1,18 vs 0,93)

High rate of copublications (81% of funded projects vs 63% mean)

75% of copublications include at least 1 young researcher

High percentage of funded continuation of the collaboration (42% vs 34% mean)

**Volubilis/Toubkal programs initiate only 25% of new collaborations and 46% of the PIs have already benefited from a bilateral cooperation program with Morocco**

**Too weak implication of women PIs in the applications and the mobilities**

**Insufficient implication of moroccan postdoctorates (3%) in the projects**

**Only 12% of incoming mobilities (Morocco to France) are more than 3 months.**

**0% of copublications in Humanities.**

**Only 5% of funded collaborations after the project are in H2020 program.**



# PRELIMINARY RECOMMENDATIONS

- **Promote newer cooperations between France and Morocco.**
- **Encourage French women researchers to apply**
- **Encourage French young researchers to apply**
- **Encourage French PIs to increase the implication of Moroccan young researchers in the projects**
- **Encourage French and Moroccan PIs to increase the implication of young Moroccan women researchers in the projects**
- **Encourage mobility for more than 3 months for PhD students.**
- **Encourage copublications in Humanities**
- **Consider a “TOUBKAL +” program to help PIs at the end of their financing to apply to international programs ?**

French national ministries (MESRI / MEAE) will provide a complete analysis of the survey. It will be sent to the recipients of the funding and participants in this symposium.

## CONTACTS

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*Thank you for your attention*