



**SEA-EU-NET**  
partners in science

**Bibliometric studies on ASEAN research  
output and ASEAN-EU cooperation**

A. Degelsegger / F. Gruber

Centre for Social Innovation (ZSI), Vienna/Austria

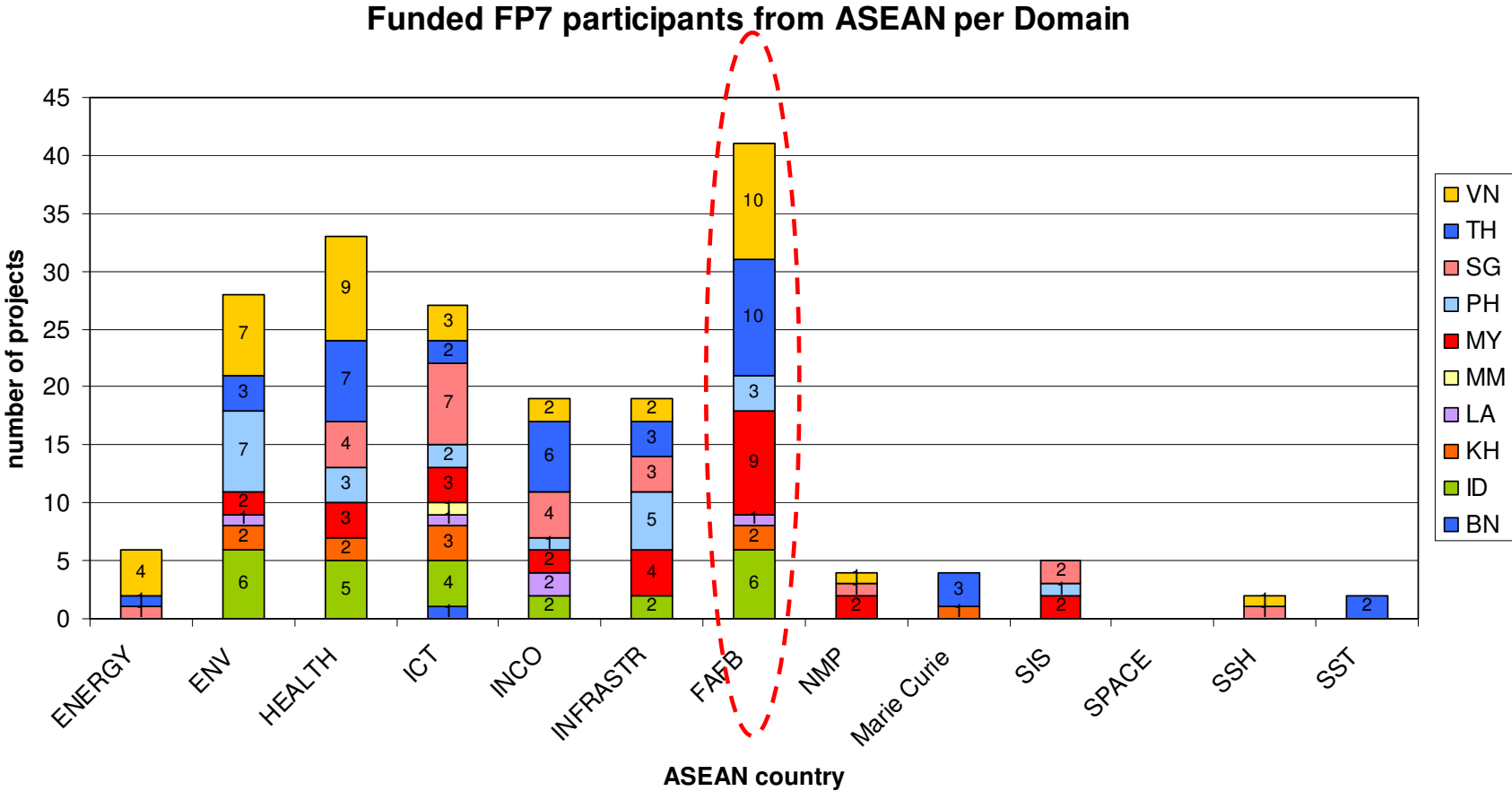
SEA-EU-NET 2 Kick-off meeting with COST Delegates

11 December 2012, Brussels

# Background and Methodology

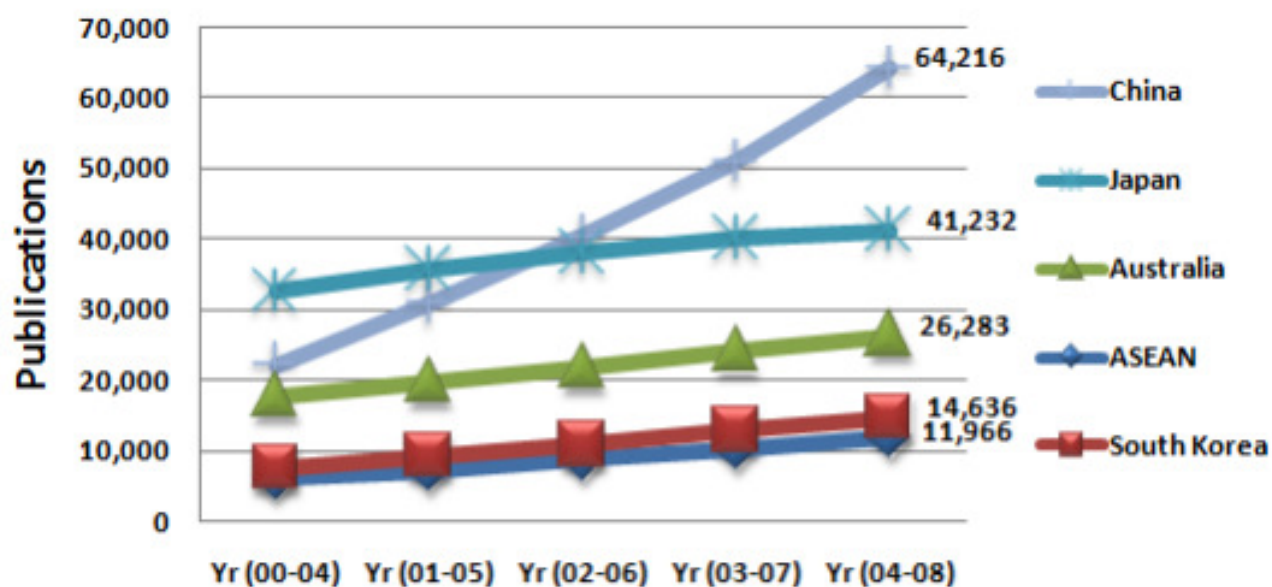
- United Nations University – International Institute for Software Technology commissioned by SEA-EU-NET to conduct studies on research output of ASEAN member states.
  - Publications and citations in FP7 topics
  - national and institutional level plus indicative author data
  - Period covered: 2000-2008 (sliding 5-year windows)
  - Source: Scopus
  
- Centre for Social Innovation (ZSI) analysed the scientific co-publications between ASEAN and Europe
  - Collaborative research output at ASEAN and ASEAN country level
  - Analysis by research area
  - Period covered: 2000-2010
  - Source: Scopus and Web of Science
  - Institution-level data (Scopus only)

# FP7 grant holders from ASEAN per topic



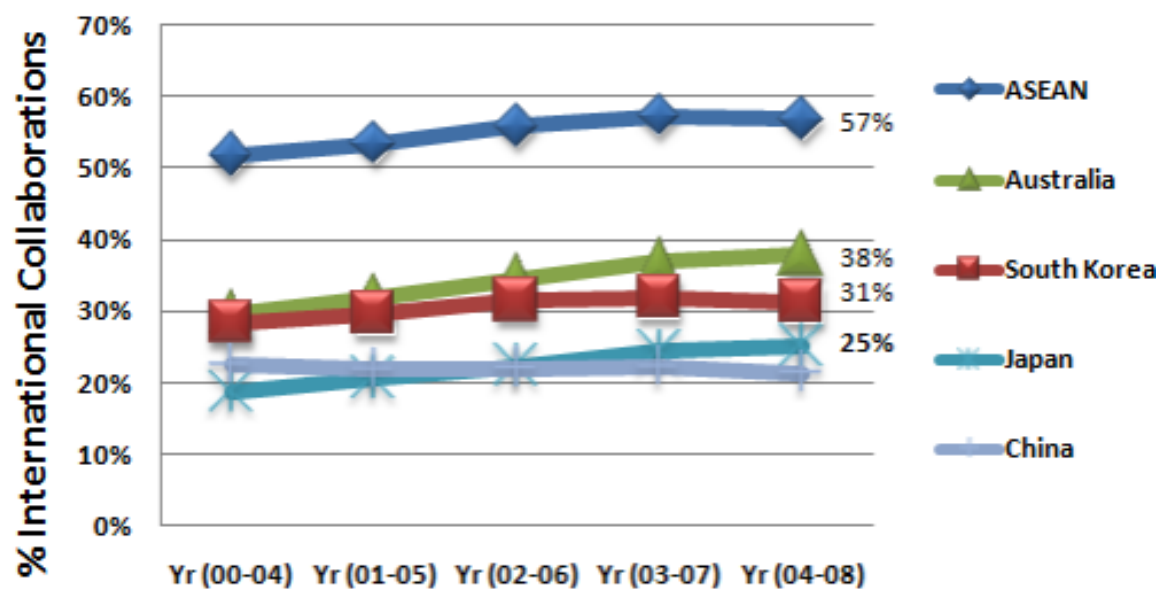
## ASEAN research output

Publications in Food, Agriculture and Biotechnology – comparison with major players in the Asia-Pacific region



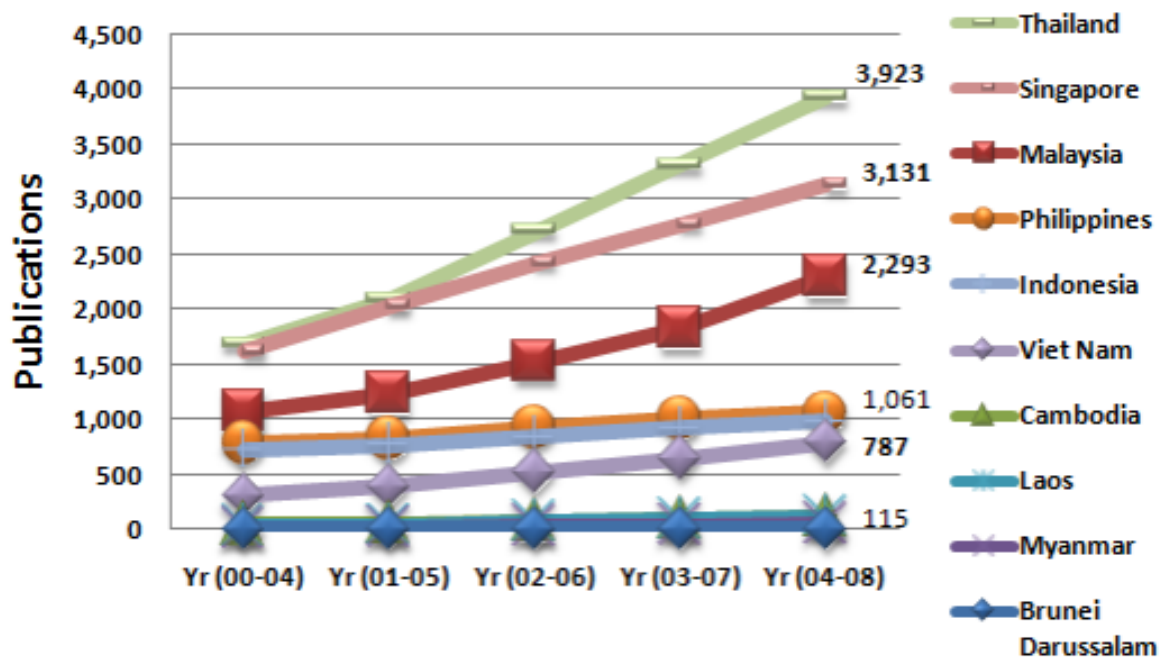
## ASEAN research output

Publications in Food, Agriculture and Biotechnology – percentage of international collaborations in comparison with major players in the Asia-Pacific region



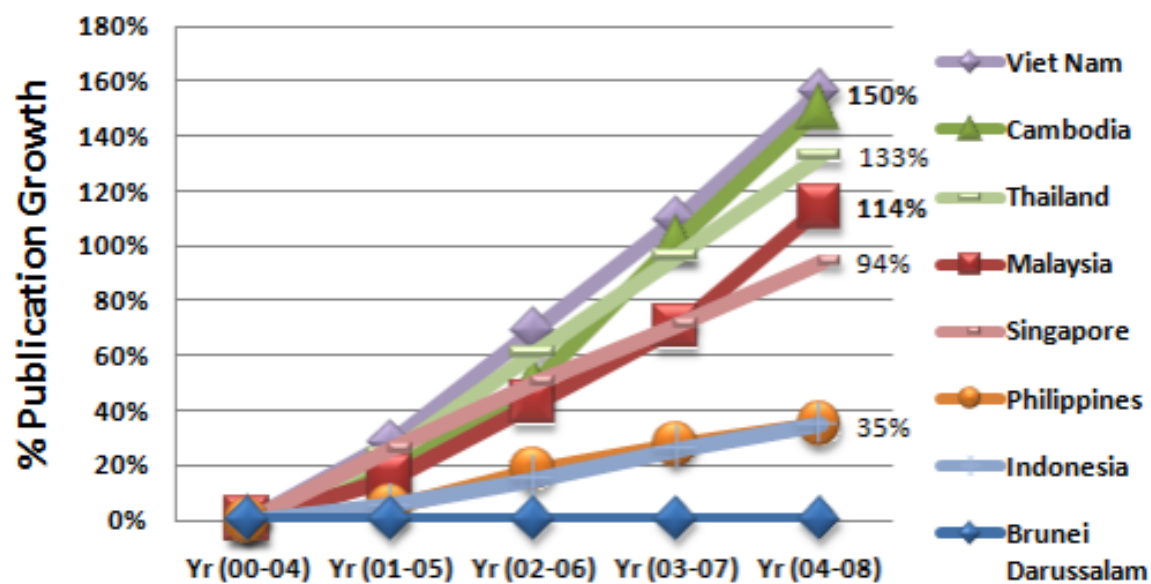
# ASEAN research output

Publications in Food, Agriculture and Biotechnology – country-level



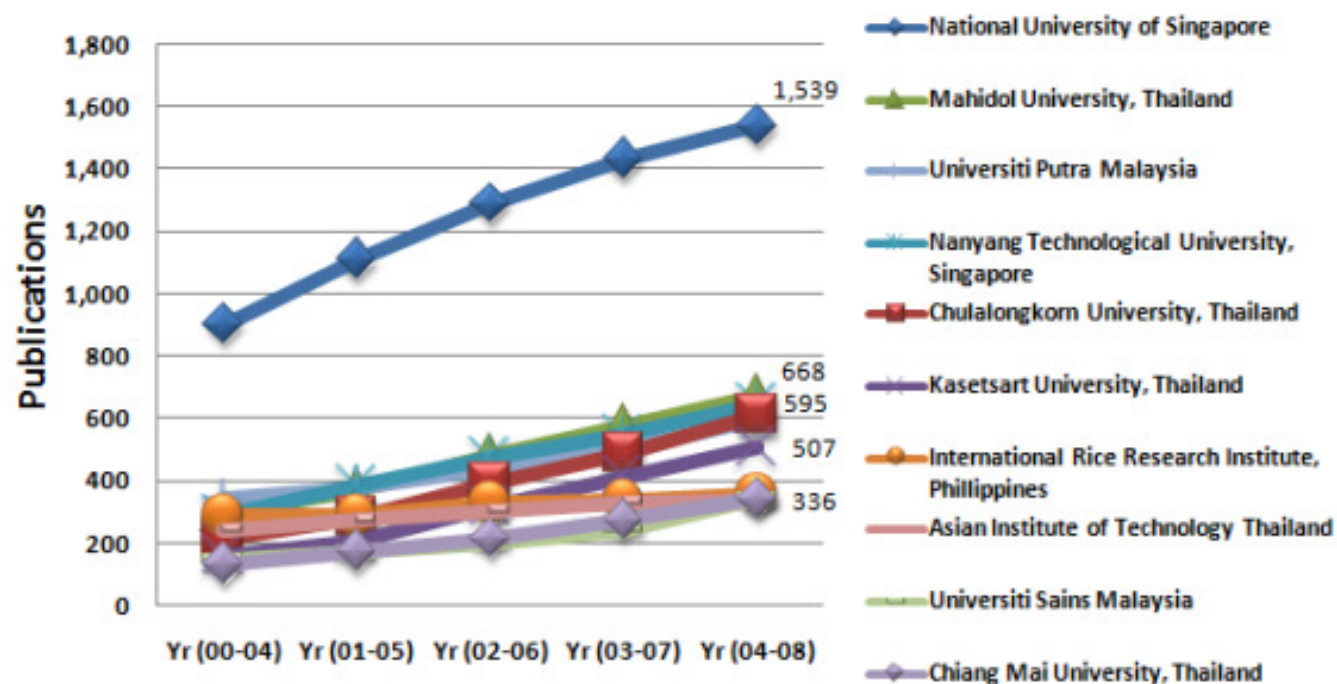
# ASEAN research output

Publications in Food, Agriculture and Biotechnology – country-level, publication growth



# ASEAN research output

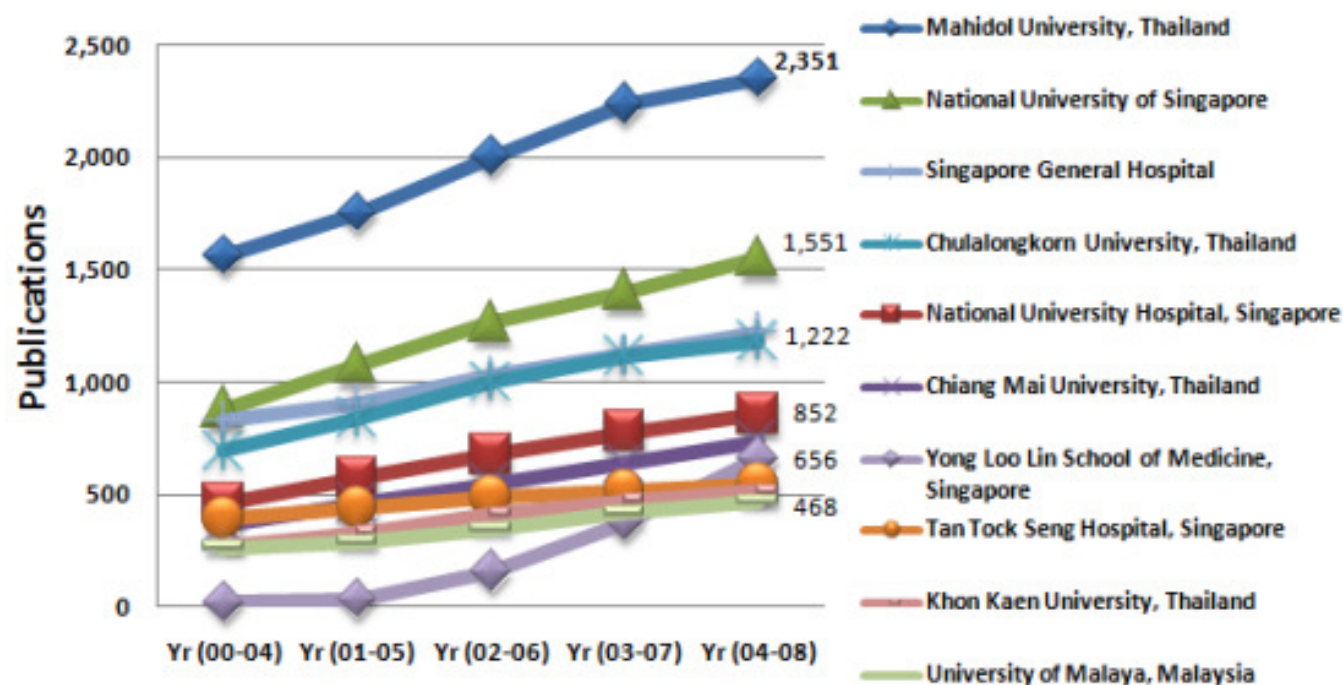
Publications in Food, Agriculture and Biotechnology – main research performing institutions





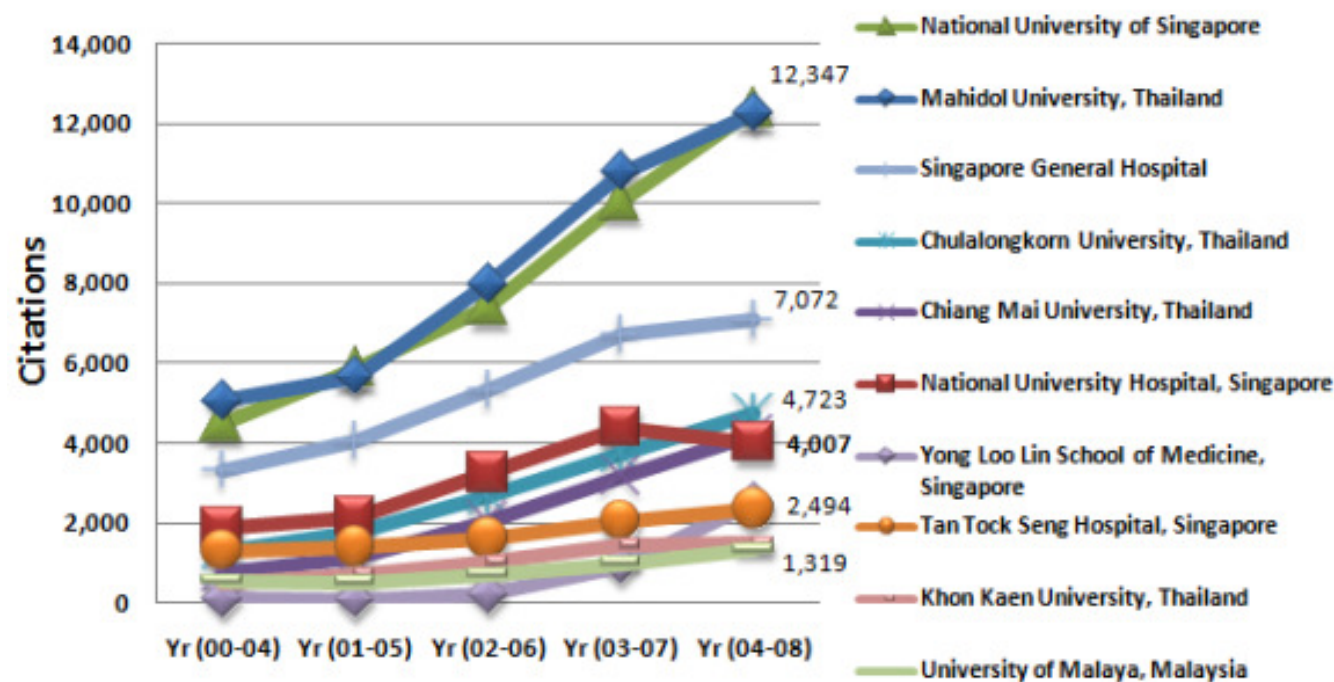
# ASEAN research output

Publications in **Health** – main research performing institutions



# ASEAN research output

**Citations** in **Health** – main research performing institutions



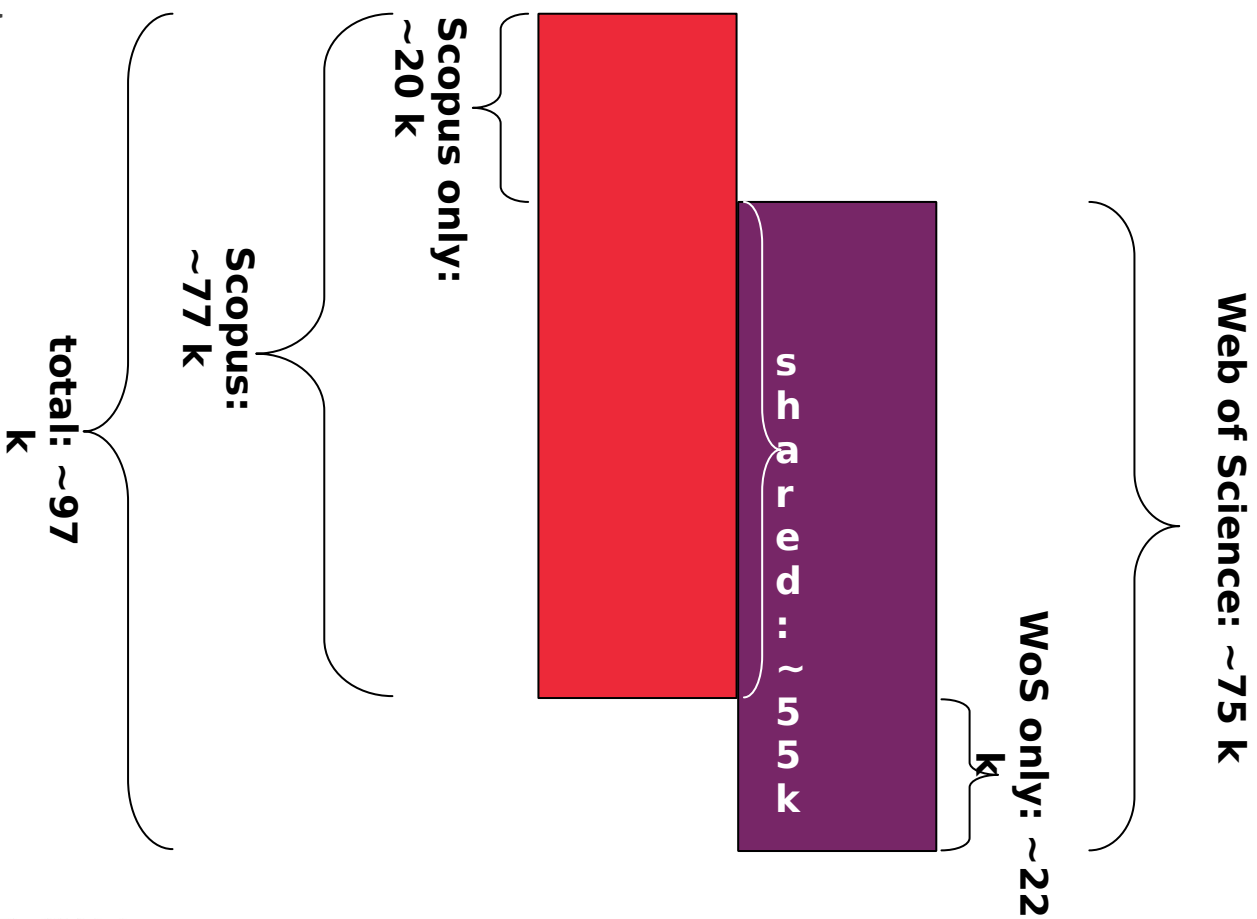
# ASEAN-EU co-publications

What exactly is an '**international co-publication**'

- It can be defined as a publication (academic article, proceedings paper, letter) with 2 or more authors affiliated to institutions from 2 or more different countries.
- The number of international co-publications has risen at a steeper pace than overall publications.

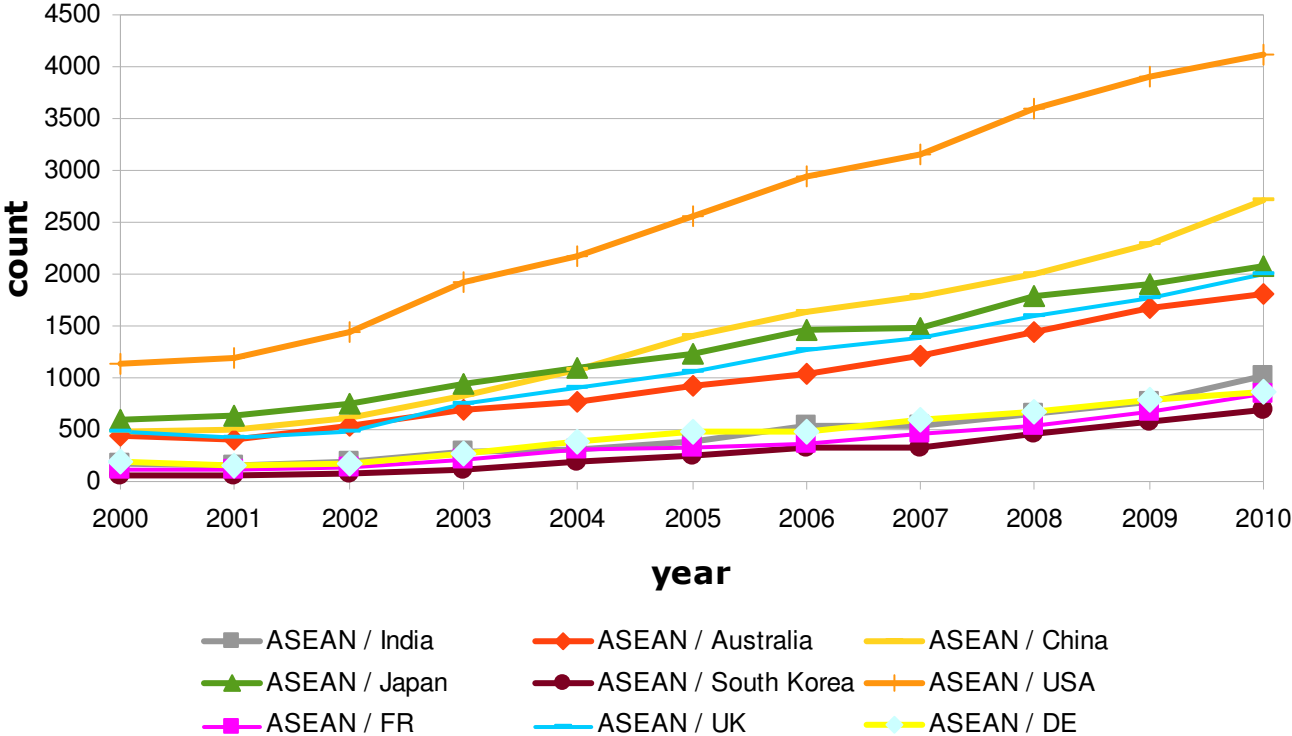
# ASEAN-EU co-publications

Source data



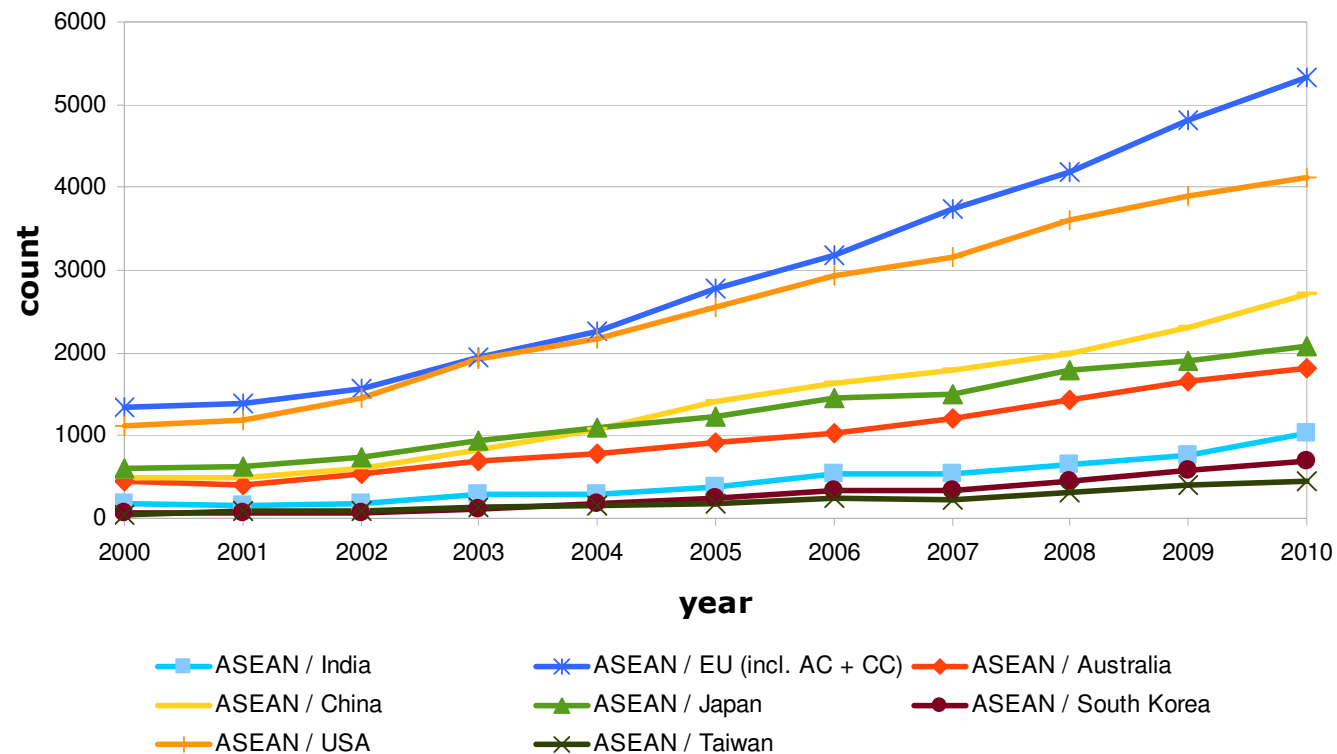
# ASEAN-EU co-publications

Articles co-published by authors from ASEAN and EU,  
and ASEAN and other major players(\*)



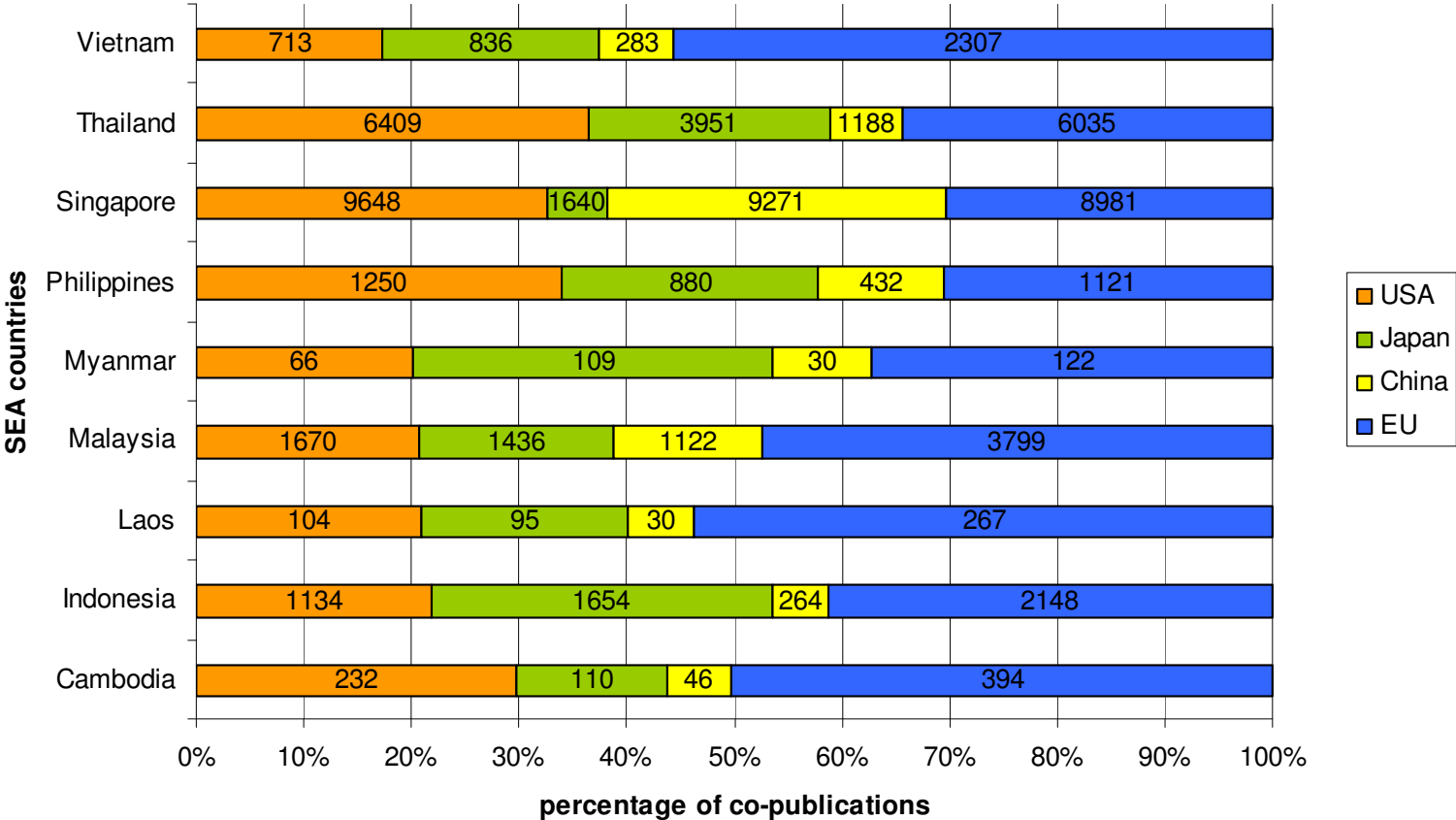
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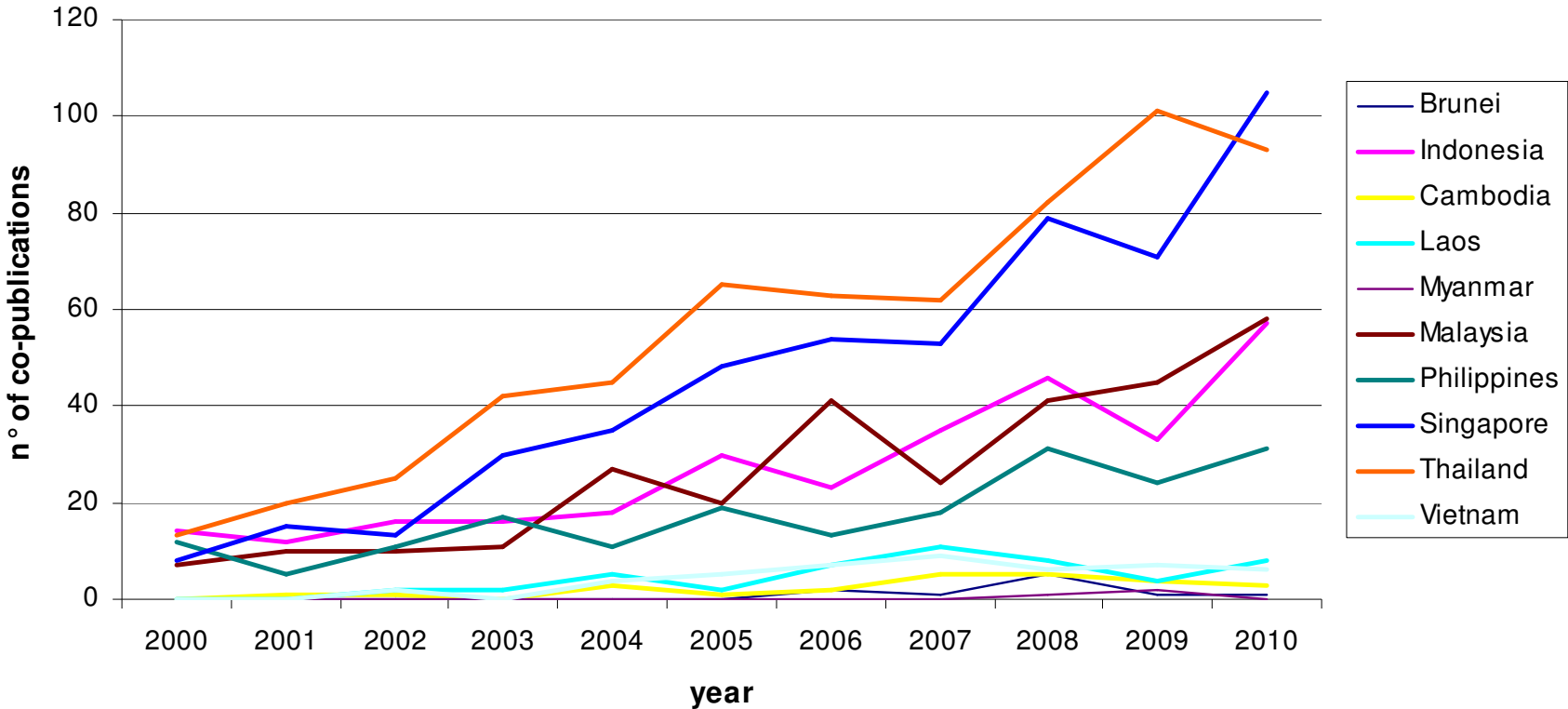
# ASEAN-EU co-publications

n° of co-publications 2005-2010 (relative)



# ASEAN-EU co-publications

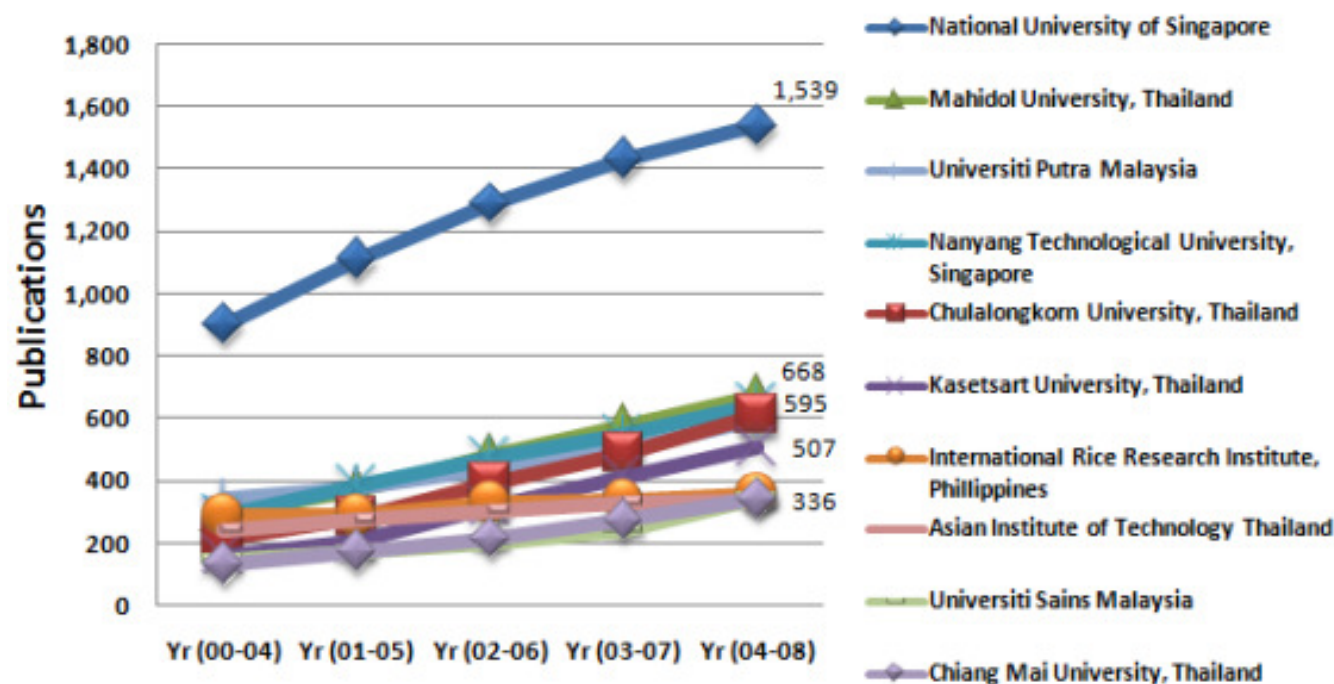
Co-publications between individual ASEAN countries and EU partners in Food, Agriculture and Biotechnology





# ASEAN research output

Publications in Food, Agriculture and Biotechnology – main research performing institutions



## ASEAN-EU co-publications

Most important European partners of most productive ASEAN research performers in Agricultural and Biological Sciences

- **National University of Singapore:** **Natural History Museum London**, University of Cambridge, Museum National d'Histoire Naturelle, University of Oxford, ETH Zurich
- **Mahidol University:** University of Oxford, IRD Montpellier, Nuffield Department of Clinical Medicine, Churchill Hospital, **Natural History Museum London**
- **University Putra Malaysia:** Universiteit Gent, **Wageningen University**, University of Nottingham, Buckinghamshire New University, University of Cambridge
- **Nanyang Technological University:** Kobenhavns Universitet, Ben-Gurion University of the Negev, University of Nottingham, University of Durham, British Geological Survey
- **Chulalongkorn University:** **Swedish University of Agricultural Sciences**, **Natural History Museum of London**, Utrecht University, Universidade do Porto, **Imperial College London**

(range: 3-92)



## ASEAN-EU co-publications

Most important European partners of most productive ASEAN research performers in Agricultural and Biological Sciences

- **Kasetsart University:** **Wageningen University and Research Centre**, **CIRAD Centre de Recherche de Montpellier**, Universität Wien, Universidade do Porto, Utrecht University
- **International Rice Research Institute:** **Wageningen University**, **CIRAD Montpellier**, Karlsruhe Institute of Technology, University of Sheffield, University of Reading
- **Asian Institute of Technology:** **University of Stirling**, University of Hannover, **CIRAD Montpellier**, Freshwater Biological Laboratory, DK, **Imperial College London**
- **Universiti Sains Malaysia:** **Imperial College London**, University of Sheffield, University of Bristol, University of Liverpool, **University of Stirling**
- **Chiang Mai University:** Universität Hohenheim, Universität Göttingen, **Natural History Museum London**, University of Manchester, Universität Bonn

(range: 3-92)

## ASEAN-EU co-publications

Most important European partners of most productive ASEAN research performers in Agricultural and Biological Sciences

- Center for International Forestry Research: **CIRAD Montpellier**, **Wageningen University**, **Swedish University of Agric. Sc.**, University of Aberdeen, Universidad Autónoma de Madrid
- Can Tho University: **Wageningen University**, **Swedish University of Agric. Sc.**, Aarhus University, **University of Stirling**, Katholieke Universiteit Leuven

(range: 3-92)

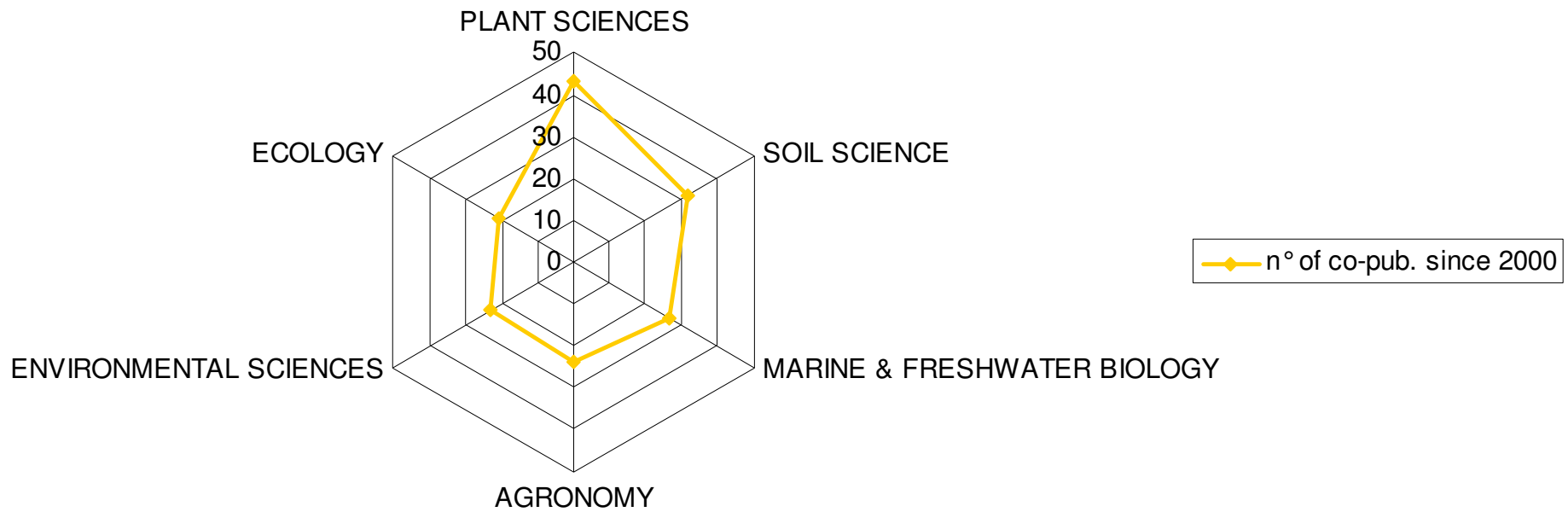
## ASEAN-EU co-publications

ASEAN APAST Flagship Programmes – strongest co-pub links

- **Biofuels** – strongest links of MY in this area: Great Britain, Germany, Netherlands, France, Denmark, Italy, Belgium, Spain
- **Open source systems** – ID: Netherlands, Germany, Great Britain, Norway, France
- **Functional food** - TH: Great Britain, Germany, Israel, Netherlands, Poland, Austria, Switzerland, France, Spain, Denmark
- **Health** – SG: Great Britain, Germany, France, Sweden, Switzerland, Spain, Italy, Denmark, Poland
- **Climate Change**  
PH: Great Britain, Germany, Netherlands  
VN: France, Switzerland, Belgium, Denmark, Germany, Netherlands
- **Early Warning System** (ID): no data

# ASEAN-EU co-publications

PH-DE: n° of co-pub. since 2000

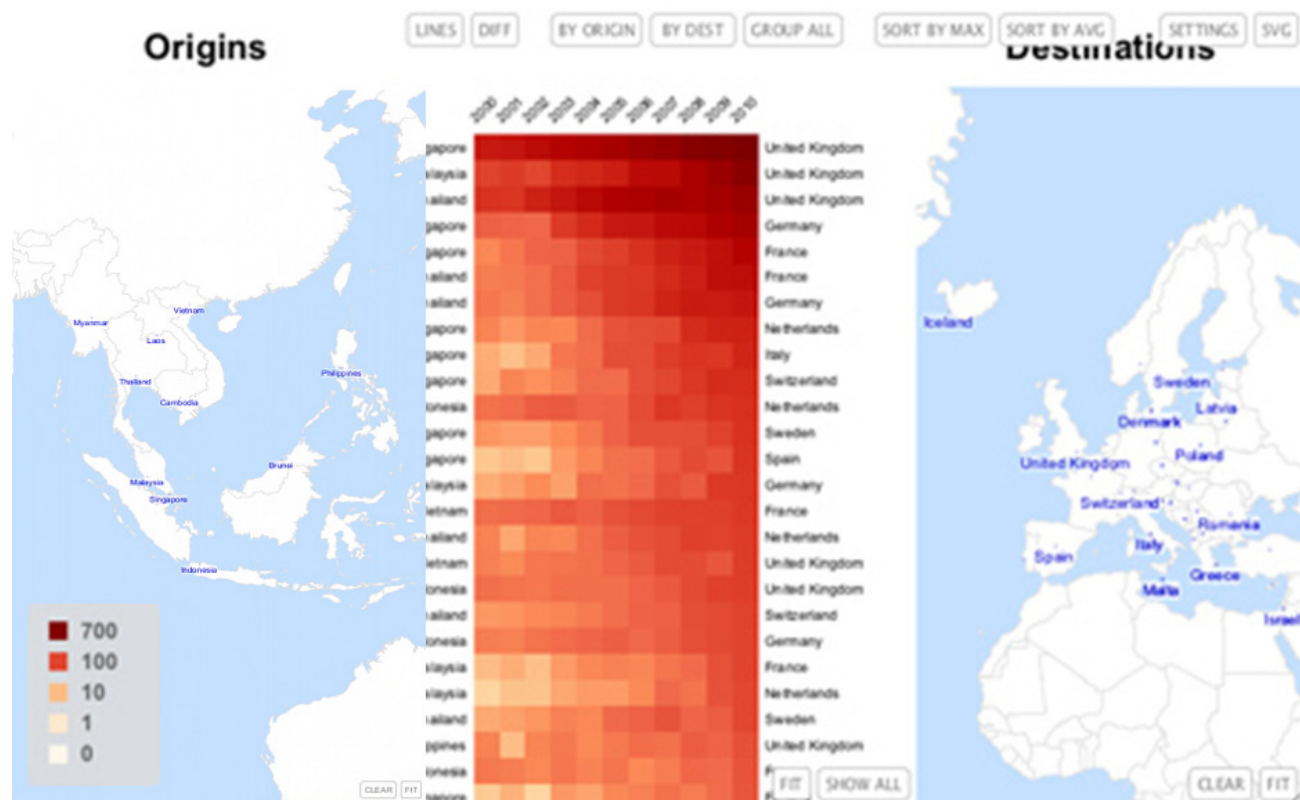


## ASEAN-EU co-publications – visual analysis



The map view presents all co-publications links between ASEAN and EU countries. Each link can be examined, i.e. the co-publication output will be shown in a given year. By pressing the *play* button, an animation of the development over the years 2000 to 2010 can be viewed.

# ASEAN-EU co-publications – visual analysis



The strates view presents all co-publications links between ASEAN and EU countries. The heatmap (centre) displays the intensity of the co-publications, i.e. a deeper shade means a higher value. Moving the mouse cursor over a cell shows the value in a given year (column) and the relative difference to the previous year. Countries on either side can be selected. Hold down CTRL key to select multiple countries.



## Summary

- Europe is the most important scientific cooperation partner of ASEAN in terms of international co-publications
- ASEAN-EU co-publications grow at a pace comparable to ASEAN publications and; growth rates of European publications are lower
- In terms of scientific co-publications, ASEAN's links with Europe are closest in the following areas: biological sciences, health sciences/medicine, physical sciences, chemical sciences, earth and related environmental sciences
- With the exception of ICT, this corresponds well with the FP7 participation characteristics (taking into account that physical sciences do not figure that prominently in the FP7 Cooperation programme, but are often carried out in big science consortia, thus producing a high number of co-publications)

**All the material is online at:  
[www.sea-eu.net/bibliometrics](http://www.sea-eu.net/bibliometrics)**

**Thank you!**

**For further information:**

Florian Gruber | Alexander Degelsegger  
Centre for Social Innovation | Vienna/Austria  
[gruber@zsi.at](mailto:gruber@zsi.at) | [degelsegger@zsi.at](mailto:degelsegger@zsi.at) | +43 1 495 04 42 - 59