

# Science academies working together To tackle the Grand Challenges

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# Contribution of Science and Technology

- Major driver for improvement of global living conditions
  - Helps to meet the increasing demand for food, energy and commodities
  - Technological and process innovations in all major areas of life
  - Scientific evidence for national and international policy agreements
- Only science and technology will offer solutions to meet the challenges for the 21<sup>st</sup> century**

## EASAC: enabling European academies to collaborate

- EASAC, European Academies Science Advisory Council, formed by national science academies of EU Member States
- Instrument for the provision of independent, science-based policy advice for the institutions of the EU
- EASAC is committed, as IAP regional academy network, to collaborate with other regional academy networks
- Many EASAC projects are relevant to global sustainable development and innovation

## EASAC – Current Work in Progress

- Carbon Capture and Storage
- Adaptation to Extreme Weather
- „Planting the Future“ (GM Crops)
- Emerging plant diseases
- Marine Sustainability
- New antimicrobial drugs
- Breakthrough technologies for a low carbon future
- Nuclear fuel cycle

## Working with NASAC to pursue mutual interests

- EASAC member academies, individually and collectively, work with African academies and NASAC in developing advice
- Examples to be presented:
  - Leopoldina-GAAS-NASAC: Changing patterns of health problems in Sub-Saharan Africa
  - EASAC-NASAC: Biotechnology and agricultural innovation in EU and Africa
  - EASAC-NASAC: Academy capacity building by sharing good practice for science-policy dialogue

## Leopoldina-NASAC Collaboration: Changing patterns of health problems in Sub-Saharan Africa

- Workshop in Hamburg, November 2012, organised by NASAC and Leopoldina, with leading scientists, policy-makers, programme managers and pharmaceutical industry
- Focusing on both communicable (CD) and non-communicable (NCD) diseases
- Identifying key messages to inform policy options and clarifying continuing role for academies in delivering evidence
- NASAC Working Group will develop Statement with recommendations for WHO, African Union and other organisations

## Specific goals of Leopoldina-NASAC collaboration in the area of health

- To characterize health transitions in SSA, where the CDs and NCDs co-exist
- To recognize where progress has been made
- To identify common issues between CDs and NCDs
- To focus on both on prevention and management of CDs and NCDs
- To identify priorities and provide evidence for appropriate strategic and policy responses to alleviate the burden of CDs and NCDs

## EASAC-NASAC collaboration on biotechnology and agricultural innovation

- Better use of genetic resources is important part of necessary response to challenges in food security
- Complicated EU regulatory framework for GM crops slows agricultural innovation
  - In Europe
  - But also with consequences for decisions on GM crops by developing countries, in particular in Africa
- Critical time for using science to support improved crop development in both Europe and Africa – providing the evidence-base for better-informed strategic choices

## EASAC-NASAC collaboration on biotechnology and agricultural innovation - contd.

- EASAC project with IAP funding “Planting the future”, started April 2012, expected to complete in mid-2013
- EASAC-NASAC work stream to explore implications of EU actions in agricultural innovation in Africa
  - Written Q&A with NASAC academies, May-October, 2012
  - Addis Ababa Workshop, November, 2012
- Two deliverables:
  - EASAC report emphasising that EU policy choices have implications for other countries
  - NASAC support for continuing debate and action in Africa relating to genetics and biotechnology

## Determinants of success in these collaborations:

### 1.) Bringing academies together

- Early preparation: identifying mutual interests and what realistically can be tackled
- Specific project started once good working linkage between academies/networks already in place
- Involving highest quality science from Africa and Europe
- Being distinctive – not duplicating what others have already accomplished

## Determinants of success in these collaborations:

### 2.) Engaging with policy audiences

- Early preparation: identifying who are policy audiences and who else is interested in academy outputs
- Promoting receptive policy environment by engagement throughout the project, not just when output is finalised
- Committing significant effort for sustained follow-up using project outputs
- In addition to objective to communicate strong external messages, there is always internal objective of academy/network capacity building

## “Science-Policy-Dialogue” project and the capacity building of the academies

- EASAC project, funded by IAP, to develop guidelines for academy policy work ([www.easac.eu/home/dialogue-project.html](http://www.easac.eu/home/dialogue-project.html))
- Guidelines cover all stages of academies’ work of policy advice, including: identifying scope, organising working groups, collecting evidence, quality control etc.
- First project phase extremely valuable in sharing good practice between EASAC academies
- Second phase: project extended to involve NASAC academies

## Conclusions: lessons learnt and future directions

- Global Grand Challenges are relevant at the regional level
- Working together across regions can be a very productive approach to addressing mutual interests and developing academy capacity
- IAP support is highly important to ensure critical mass and continuity of effort between regional academy networks
- In addition to initiating collaborations on new topics, there is potential value in using prior work by one regional academy network as resource for sharing with other academies for collective IAP output, where there is worldwide interest. For example, recent EASAC projects on:
  - Plant Genetic Resources for Food and Agriculture
  - Direct-to-Consumer Genetic Testing