

Senate Foreign Affairs, Defence and Trade References Committee
ANSWERS TO QUESTIONS ON NOTICE
Inquiry into Australia and the countries of the Indian Ocean Rim
Public Hearing
5 December 2012, Canberra

WITNESS: COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION

TOPIC: Food Security and Agriculture Project

REFERENCE: Hansard 5 December 2012, page 17

CHAIR: That is very interesting as a template. DFAT's submission notes that Australia's role in the South Asian Association for Regional Cooperation is as an observer, with some provision of assistance targeted to that organisation's objectives. The submission notes: In 2010, Australia provided A\$1 million for a joint SAARC-CSIRO Food Security and Agriculture Project. Future work with SAARC is currently being explored.

Could you provide us with some more information about the Food Security and Agriculture Project?

Ms Yuncken: I do not have that information to hand, but I would be very happy to send you some more information after the hearing.

CHAIR: That is fine.

Answer:

The SAARC-CSIRO Food Security and Agriculture Project provides funds to train 24 South Asian scientists in farming systems research. The scientists are from Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka and are undertaking a two-year training program in methods of farming systems research, with a particular focus on the use of modelling as a tool to design better rice-based cropping systems.

The research capacity developed by the project will translate into better defined and more appropriately targeted crop and water management practices for south Asian farmers to implement according to their local circumstances.

Uptake of these practices by farmers is expected to generate reductions in input costs for water (for example, energy for pumping) while maintaining or increasing crop productivity.

This project runs from 2011 to 2013 and is being undertaken by CSIRO's Sustainable Agriculture Flagship, in collaboration with the South Asian Association of Regional Cooperation (SAARC) and the International Rice Research Institute (IRRI).

The main interface with SAARC is through the SAARC Agriculture Centre (SAC) in Dhaka. The project capitalises on SAC's core capability in convening and executing multi-country training courses and workshops, as well as fostering multilateral collaboration across SAARC member states.

The project is funded by the Australian Government through AusAID and Australian Centre for International Agricultural Research (ACIAR). Discussions are underway with AusAID to extend this project by a further two years to continue to train additional trainees and to establish a resident training capacity in the region.

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ANSWERS TO WRITTEN QUESTIONS ON NOTICE
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TOPIC: Indian Ocean Rim Association for Regional Cooperation

Ms Yuncken noted in evidence given at the 5 December hearing that CSIRO has some engagement with the IOR-ARC secretariat group in DFAT. CSIRO have three projects at present, "all three of which are funded by AusAID that incorporate involvement from the IOR-ARC member states. One is based around seasonal forecasting of agriculture, one is looking at ocean forecasting, which is a very new one and has not started yet, and the other new one that also has not yet started is around the impacts of climate on island nations."

1. Are these projects all funded under Australian aid?
2. Which IOR-ARC nation states are involved?
3. What is the timeline for the projects?
4. Once completed, will the projects be able to be extended to other IOR-ARC member states?
5. Does CSIRO work directly with IOR-ARC or does CSIRO go through DFAT?
6. Is input from IOR-ARC nation states managed through IOR-ARC itself or through its scientific groups

Answers:

1. All three projects are funded by AusAID with co-funding from CSIRO and participating organisations from Australia and internationally.
2. Member state involvement, by project, is as follows:
 - Seasonal climate forecasting and food security - India and Sri Lanka. Possible extension to other member states at a later stage via the international workshop addressed below.
 - Ocean forecasting – All member states will be invited to the workshop
 - Climate adaptation – All member states will be invited to the workshop
3. Timelines, by project, are as follows:
 - Seasonal climate forecasting and food security – June 2011 to December 2014
 - Ocean forecasting– January to September 2013
 - Climate adaptation– December 2012 to June 2014
4. The seasonal climate forecasting and food security project will include a workshop to which all IOR-ARC member states will be invited. This workshop will highlight the results from the project, outlining the benefits possible from better climate risk management and canvass the potential for extending the project to other member states, pending funding availability. The ocean forecasting project is open to all IOR-ARC member states. The climate adaptation project includes a workshop involving Indian Ocean Rim member states. The workshop may lead to additional activities in support of the region pending funding availability.

5. CSIRO provides information to DFAT for inclusion in the IOR-ARC planning processes and meetings. CSIRO does not deal directly with the IOR-ARC secretariat.
6. The seasonal climate forecasting and food security project has identified key scientific and NGO partners in the participating countries and works directly with them. Invitations to the workshops for the ocean forecasting and climate adaptation projects will be sent to appropriate representatives of IOR-ARC member states with the assistance of DFAT and the IOR-ARC secretariat.

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TOPIC: Northern Australia tropical potential

REFERENCE: Hansard 5 December 2012, page 18

Senator FAWCETT: If you could hazard a forecast, what do you think the potential is for that northern tropical band in Australia to be turned into a far more productive and intensive agricultural food production area, not only for Australia's benefit, but also to be clearly part of meeting the food task in the coming decades for the world and particularly for the Indian Ocean rim?

Mrs Bell: I am afraid, as non-agricultural scientists, we can only give the glib answer that we think there is enormous potential. We would love to take that question on notice and provide the committee with a more detailed brief.

Senator FAWCETT: That would be good.

Answer:

In 2009, the Office of Northern Australia commissioned CSIRO to develop a comprehensive Northern Australia Land and Water Science Review. The review is a scientific analysis of the opportunities for and impacts of development in northern Australia that takes in to account contemporary society's values. The review details the key limitations and enablers required for future development in the north, including environmental, social, economic and governance considerations.

In summary, the Science Review found that in northern Australia, approximately 1 million gigalitres (GL) of rain falls between October and April each year. This water performs important roles and is not 'wasted'.

The Science Review identified across northern Australia about 600 GL of renewable groundwater. This volume would be adequate, for example, to irrigate around 40 000 to 60 000 ha of intensive agriculture.

The Science Review also found that several options for further development of the northern beef industry exist, and that water planning processes need to provide greater clarity of water rights in northern Australia to improve Indigenous people's access to water and commercial opportunities.

The Science Review proposed a framework to help develop robust institutions and balance water needs based on the benefits provided to vibrant communities and healthy plants, animals and habitats.

While northern Australia is capable of producing many different agricultural products, grain provides a useful production index: the addition of 60 000 ha of irrigated agriculture in northern Australia could add around 600 000 tonnes to Australia's grain production, or about 2 per cent of the national average annual production.

Northern Australia has the potential to make a significant but minor additional contribution to Australia's food balance. It is worth noting that northern Australia already makes a major contribution to the nation and the world's food balance: if it were a country, northern Australia would be the world's seventh largest beef exporter.

The relatively limited area available for irrigation development in the northern Australia study area does not preclude the possibility of expansion of irrigation in areas such as coastal central and northern Queensland, which were not covered in the Science Review.

CSIRO is currently leading a number of projects that seek to more closely identify the irrigation potential of northern Australia. Notable amongst these is the Flinders and Gilbert Agricultural Resource Assessment, details of which can be found at:

<http://www.csiro.au/en/Organisation-Structure/Flagships/Water-for-a-Healthy-Country-Flagship/Water-Resources-Assessment/Flinders-and-Gilbert-Agricultural-Resource-Assessment-overview.aspx>

The full text of the Science Review report is available at:
www.nalwt.gov.au/science_review.html

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WITNESS: COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION

TOPIC: AusAID funds

REFERENCE: Hansard 5 December 2012, page 19-20

Senator FAWCETT: I wanted to follow up on one of those questions. The funds from AusAID—is that a direct government-to-government contract, or do you have to tender for that and bid against, for example, universities or the private sector to do research? Is it on a competitive basis?

Mrs Bell: We would need to take on notice the actual genesis of that particular contract with Africa. Our partnership with AusAID—the broader partnership; I am not referring to the East African work—is a co-investment arrangement to which CSIRO contribute some funds and AusAID contribute some funds as well. To date, that has been the way it is structured.

Senator FAWCETT: Sure. If you could take on notice, not just for the African one but for any of those others, other than your partnership, whether you compete for that or whether that is just a part of the partnership that is sort of extrapolated on a case-by-case basis.

Mrs Bell: Yes.

Ms Yuncken: The Pacific Public Sector Linkages fund, which we mentioned earlier, is absolutely a competitive fund, so we are competing against other organisations across Australia for that. We will take the others on notice.

Senator FAWCETT: Thank you.

Answer:

Funding for CSIRO engagement in international research for development comes from a variety of sources, most often AusAID and/or ACIAR. On some occasions, funds come from international organisations such as the Food and Agriculture Organization (FAO) of the United Nations or World Bank. Typically some co-investment from CSIRO will occur when there are strategic research objectives that have wider benefit to CSIRO's science programs. Some work is fully funded from sources external to CSIRO. In all cases CSIRO's involvement is assessed in terms of what is in Australia's national interest and is consistent with CSIRO's role under the *Science and Industry Research Act (1949)* under which CSIRO operates. Sometimes these activities are developed as strategic partnerships between CSIRO and AusAID and/or ACIAR and the work is effectively commissioned as part of the governance process in such partnerships. On other occasions CSIRO might submit a bid for an activity as part of a competitive process. CSIRO seeks to engage in activities that are appropriate for a national science agency with deep international connections and actively seeks to avoid competing with private sector or NGO sector groups who routinely deliver development support services to Australia's development assistance program.

With reference specifically to CSIRO's involvement in food security research and development in west and east Africa, this initiative grew out of funding provided for food security through rural development in the 2009-10 Federal Budget. AusAID has the lead on this initiative and remains responsible for its overall governance. However, CSIRO and ACIAR supported AusAID with agricultural research expertise in the initial development of the initiative and in the consultations with African national and regional institutions as part of the design and implementation process. CSIRO was commissioned by AusAID to manage the implementation of two components of this initiative, one in east/central Africa in a partnership with Biosciences east and central Africa (BeCA) and one in west and central Africa in partnership with the West and Central African council for agricultural research and development (CORAF/WECARD). ACIAR are managing other elements of the overall food security investment in Africa. The CSIRO managed projects are both capacity building partnerships between African agricultural research and development bodies and CSIRO. CSIRO does draw in additional expertise from Australian Universities and other research institutions to complement its own capabilities.

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TOPIC: East African research agency, BecA

REFERENCE: Hansard 5 December 2012, page 19

Senator KROGER: That is what I am trying to ascertain—whether they are local organisations or whatever you want to call them.

Ms Yuncken: Yes, they are regional organisations that take in several countries within that area of Africa.

Senator KROGER: So they are NGOs?

Mrs Bell: No, research agencies.

Senator KROGER: Under the structure of governments?

Mrs Bell: I am not sure who the East African research agency, BecA, is with. We can take that on notice, though, and certainly provide you with the information.

Senator KROGER: That would be helpful.

Answer:

Biosciences eastern and central Africa (BecA) is an initiative endorsed by the Steering Committee of the New Partnership for Africa's Development (NEPAD – a programme of the African Union) to support eastern and central African countries in development and application of bioscience research and expertise to produce technologies that help poor farmers secure their assets, improve their productivity and income, and increase their market opportunities. It provides a focal point for the African scientific community to support the activities of national, regional, and international agencies as they address agricultural problems of the highest priority for alleviating poverty and promoting development.

Participating countries in the BecA initiative are: Burundi, Cameroon, Central Africa Republic, Congo Brazzaville, Democratic Republic of Congo, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Kenya, Madagascar, Rwanda, Sao Tome and Principe, Somalia, South Sudan, Sudan, Tanzania, Uganda.

The BecA Hub is hosted and managed by the International Livestock Research Institute (ILRI) in Nairobi, Kenya. BecA nodes are based at the following institutions:

- University of Buea, Cameroon
- Ethiopian Institute of Agricultural Research, Ethiopia
- Sokoine University of Agriculture, Tanzania
- National Agricultural Research Organization, Uganda
- Kigali Institute of Science and Technology, Rwanda
- University of Nairobi

- Jomo Kenyatta University of Agriculture and Technology

BecA funding is provided by a range of government and non-government 'investors'. These are listed below.

Governments

- Australian Agency for International Development (AusAID)
- Canadian International Development Agency (CIDA)
- European Development Fund/European Union
- Federal Ministry for Economic Cooperation and Development (Germany)
- Swedish Ministry for Foreign Affairs
- Swedish International Development Cooperation Agency (SIDA)
- The Government of Kenya
- United States Agency for International Development (USAID)

Foundations

- Bill & Melinda Gates Foundation
- Born Free Foundation
- Doyle Foundation
- Google Foundation
- McKnight Foundation
- Syngenta Foundation for Sustainable Agriculture (SFSA)
- The Gatsby Charitable Foundation
- The Kirkhouse Trust
- The Rockefeller Foundation
- The Wellcome Trust

Global

- Commonwealth Scholarship Commission
- Food and Agriculture Organization (FAO) of the United Nations
- Generation Challenge Program
- The World Bank
- Third World Organisation for Women in Science (TWOWS)

Regional and Others

- Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)
- Cornell Center for a Sustainable Future
- German Academic Exchange Service (DAAD)
- Heifer Project International, USA
- Roche

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WITNESS: COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION

TOPIC: Number of CSIRO staff engaged in India Ocean Rim activities

REFERENCE: Hansard 5 December 2012, page 19

Senator KROGER: That would be helpful. You might have to take this on notice too: in terms of what CSIRO does, the extraordinary work that it does, how many people would be engaged in the Indian Ocean rim holistically in terms of activities? Apart from those in East Africa and India, are there any others that would be focused on the rim—even if it is as a proportion of the work CSIRO does, like five per cent or 30 per cent? I am not trying to be too specific; it is just to get an indication of what the priorities are.

Ms Yuncken: Can I first just clarify that we do not actually have any staff in those countries permanently. All of our staff are based in Australia, and we spend some time over there.

Senator KROGER: I appreciate that. So, of the overall activities, how many would be currently dedicated to in that region, whether based here or there? As I said, I am just interested in getting a rough idea, an understanding, of the focus that is applied to the area.

Mrs Bell: Yes. We will certainly take that on notice. I suspect it would be quite a big—

Senator KROGER: It does not have to be too accurate; that is what I am saying—just a rough guesstimate.

Mrs Bell: Okay.

Ms Yuncken: No problem.

Senator KROGER: Thanks.

Answer:

Most Indian Ocean Rim projects and activities are of a fluid nature with varying numbers of staff working on them at any one time. In addition, most CSIRO research staff work on several projects and activities concurrently, and many of CSIRO's activities have impacts in several different regions around the world. This makes a precise answer very difficult to provide.

However, based on calculations related to the budget of various Indian Ocean region projects and activities, we estimate that around 365 staff members are currently contributing to work on projects or activities that have a key focus on the Indian Ocean Region. This compares to a total of 6486 staff in CSIRO (as at 31 December 2012).