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## SCOPE 2015 - Scenarios for EU RTDI Cooperation with Developing Countries

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**Organizer:** PREST of the University of Manchester  
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### Purpose

The SCOPE 2015 Project, which was conducted during 2005, sought to demonstrate the utility of foresight to EC policy makers and others concerned with RTDI cooperation with developing countries. The project was small in scale but big in ambition, covering four regions of the world: countries of the Commonwealth of Independent States the CIS states excluding Russia, Latin America excluding Brazil, Maghreb and Mashreq, and Sub-Saharan Africa excluding South Africa. The specific purpose of the project was to produce ten-year scenarios focused upon contextualised scientific and technological developments in selected regions of developing countries with a view to drawing implications for European RTDI cooperation policy. The project was led by PREST of the University of Manchester in cooperation with three partners: CKA of Belgium, the Malta Council for Science and Technology, and the Steinbeis-Europa Zentrum in Germany.

### Europe has a long history of international RTDI cooperation . . .

For more than 20 years, the European Union (EU) has been supporting research cooperation with countries in all parts of the world, the objective being to promote sustainable development and research, technological development and innovation (RTDI) partnerships. This cooperation has been implemented through comprehensive International S&T Cooperation programmes (INCO) within the framework of EU research activities.

The EC's INCO Unit already has processes in place in which it has been considering options for how international cooperation might be enhanced in FP7 - the Seventh Framework Programme. SCOPE 2015 was careful not to reproduce these processes but instead to establish a complementary process that looked farther out to FP8 and the

year 2015 in order to consider a variety of visions or scenarios for what international RTDI cooperation might look like. The process of thinking about these contrasting scenarios of the future was intended to encourage policy-makers to examine the long-term implications of the decisions being taken today and, if necessary, to change policy directions to achieve more desirable outcomes. In other words, despite the ten-year time horizon of the project, it was supposed to have implications for policy decisions and actions taken today and in the near-future.

The specific focus of SCOPE 2015 was upon RTDI cooperation with 'developing countries' only a part of EU international RTDI cooperation coverage. Four regions were covered, namely the Commonwealth of Independent States (CIS), Sub-Saharan Africa (SSA), Maghreb and Mashreq (MEDA), and Latin America (LA). Not all countries in these four regions would normally be described as "developing countries", but the label was used to distinguish SCOPE 2015



from a sister project that focused upon the “emerging” BRICS economies (Brazil, Russia, India, China, and South Africa). All four regions are important strategic partners for the EU for a variety of different reasons, such as trade, investment, protection of habitats and the global environment, international security, migration, and so on. In turn, RTDI can make important contributions to all of these policy areas.

In this short brief, the SCOPE 2015 methodology is briefly presented, along with some of the main findings of the project. There is insufficient space to describe findings for each individual region – the reader should consult the SCOPE 2015 web site for this information.

## Defining the contours of the project

The fact that there is no single body analogous to the EU in these four regions meant the project had to focus upon the national level for its RTDI data. Due to the relatively short duration of the project and its modest budget, just 3-4 countries in each region could be covered in detail (see Box 1). Whilst attempts were made to achieve a representative cross-section of countries, it was sometimes difficult to do justice to the full variety in the regions.

### Box 1: Countries covered in SCOPE 2015

CIS	LA	MEDA	SSA
Azerbaijan	Argentina	Jordan	Botswana
Georgia	Chile	Morocco	Ghana
Kazakhstan	Colombia	Tunisia	Kenya
Ukraine	Venezuela		Nigeria

The broad scope of the project and its limited resources also meant it was impossible to identify specific RTDI areas where the EU should focus its cooperation efforts (other than in a general way). Instead, the project concentrated upon those dynamics associated with the *framework conditions* for RTDI activities in the regions. Accordingly, the main focus was upon trends and drivers that are internal and external to the national RTDI systems in the regions and the implications these might have for RTDI cooperation with the EU:

- Internal trends included things like national RTDI spending patterns, the use of science by national socio-economic actors, such as governments and industry, institutional and policy reform programmes, and so on.
- External trends included things like the internationalisation of skilled labour markets, aid donor strategies and the activities of trans-national corporations.

## Scenarios - The Core Methodology

The uncertainty, yet importance, of these sorts of trends and drivers made a scenario approach particularly suitable when thinking about the framework conditions for future RTDI cooperation. However, before scenarios could be constructed, background data on the regions and their existing RTDI collaboration had to be gathered. In other words, to understand and build for the future requires an appreciation of developments and dynamics in the past and the present. Moreover, an important principle of EU RTDI cooperation is

that it should be founded on active and constant dialogue with partner countries and regions, and sensitive to the socio-cultural approach of each partner country.

This was the starting point for the SCOPE 2015 process (see Figure 1), which began with the appointment of appropriate science policy experts as National Correspondents in the fifteen selected countries, each of whom was tasked with providing a **Country Report**. These Reports provided a dynamic picture of past and current developments in national RTDI systems and were validated by other national experts in each country through a web-based discussion forum.



Figure 1: Overview of the methodology

After validation, the Country Reports were synthesized and collated into four **Regional Synthesis Reports**, which sought to draw out the main trends and drivers at work in each of the four regions and to speculate on their possible future trajectories. The latter were articulated as sets of **ten-year forecasts**, which were discussed and debated among National Correspondents through teleconference consultations. In the wake of these consultations, three **baseline scenarios** were generated for each region. The aim was to expand the “possibility space” for RTDI-related developments over the coming decade by articulating distinct and contrasting future

visions and “future histories” in each of the scenarios. *None of the scenarios were intended to be predictions of the future.* Instead, they were suggestive of the ways in which future developments might unfold and attempted to highlight the links between current and near-future policies and longer-term consequences.

The scenarios were the main input into a **Scenario Workshop** organised in Brussels in June 2005, where all National Correspondents were brought together with EC officials and others with an interest in RTDI cooperation for development issues. The aims of the Scenario Workshop were to generate a “**Success Scenario**” for RTDI cooperation between the EU and each of the four regions and to identify a set of concrete **action points** (see Figure 2). The results of this Scenario Workshop were later presented and discussed at a **Policy Forum** in Brussels in November 2005, and a number of practical actions suggested.

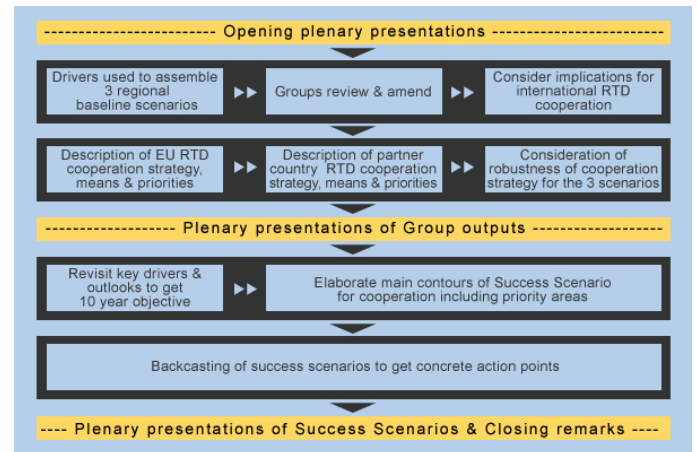


Figure 2: Overview of the Success Scenario Approach

## Many Trends and Issues are a Major Source of Concern

An initial concern of the project team was that the four regions under study are all very different and that this would make bringing them together into a single project of this modest scale problematic. Whilst there are a number of regional specificities that must be considered, it was nevertheless rather surprising to discover the scale of commonality:

- All regions suffer from chronic under-investment in RTDI. Whilst it is difficult to assign an appropriate target for research funding in developing countries, the levels of spending in many areas have actually fallen over the last two decades, leading to the deterioration of infrastructures and the loss of human resources. Funding regimes are rarely transparent and prefer, for the most part, to distribute resources through institutional block grants rather than competitive calls for research proposals.
- The so-called brain drain is of serious concern in all regions covered in the project. Whilst new thinking on mobility talks of brain circulation, the simple fact is that many countries covered by the project have few opportunities available for returning researchers. Mobility is therefore almost entirely in one direction towards the West and to the detriment of the regions, at least for the time being.
- To varying degrees, in many countries, RTDI institutions and governance are weakly developed and/or in need of reform. Institutional regimes tend to be modelled along traditional lines that see the academy (whether in the form of universities or other academic institutions) separated from the worlds of policy and business. This separation acts as a barrier to linking RTDI to real world socio-economic problems. It means that national systems of

innovation fail to function in most countries across the four regions.

- At the same time, the private sector is disinclined to conduct its own research. Moreover, most indigenous firms show little interest in engaging with the science base and instead prefer to source their technology off-the-shelf from abroad. The linkage of local science to innovation therefore remains weak.
- For most countries in the four regions, capacities tend to be minimal or are non-existent in new technologies such as nanotechnology. This raises the prospect of an ever-widening technological divide between the countries in these regions and the OECD countries.
- Common problems and challenges, particularly around the natural environment and the sustainable and efficient use of resources, loom large across all regions. Yet, the full potential of RTDI to contribute to the solving of these problems is rarely realised.
- There is an enthusiasm across the four regions for further collaboration with scientists in the EU, but a general lack of awareness of available opportunities, coupled with the bewildering complexity of the Framework Programme, have made cooperation difficult. The EC is well aware of many of the problems here, but the message from the scientists in the regions is that more needs to be done in FP7 to address them.
- To a varying degree, there is in all regions considerable interest in increasing RTDI linkages between countries within the regions. This is most pronounced in SSA and LA, where models similar to the European Research Area were proposed during the course of the project.

## Recommendations for Action

### Box 2: Generic Recommendations made to the EC in light of the SCOPE 2015 Success Scenarios

1. Transferring the ERA concept to other regions through the establishment of regional research areas in places such as Latin America and Sub-Saharan Africa
2. Furthering coordination on cooperation policies and programmes among the General Directorates of the EC, and between the EC and the national agencies of the Member States
3. Ensuring a balanced portfolio of measures and programmes that support a range of cooperation activities
4. Mainstreaming 'knowledge policies' i.e. introducing RTDI policies into all areas of the EC's international cooperation activities
5. Promoting re-organisation of national research systems around interdisciplinary problem-focused centers of excellence through incentives and policy transfer
6. Supporting entrepreneurship and start-ups within the framework of a coherent national/regional innovation strategy that is relevant to socio-economic needs
7. Actively managing mobility of researchers and students to build local capacities and to minimize the occurrence of damaging brain drains
8. Enhancing information flows about RTDI cooperation opportunities to researchers in both third countries and EU Member States
9. Raising awareness of the crucial role of RTDI policy for development and building local capacities to develop and deliver sound and effective policies
10. Conducting further foresight-type exercises to examine the opportunities and threats associated with a myriad of issues concerning RTDI developments

Given this commonality, it was possible to make wide-ranging generic recommendations to the EC for the improvement of RTDI framing conditions in the four regions (see Box 2). These action points are meant to be additional to the reform agendas that need to be adopted by national governments in the four regions. In fact, many are complementary or even catalytic to such reform agendas.

Without paying sufficient attention to the framework conditions for RTDI activities in the four regions – the main focus of SCOPE 2015 – there is a real danger that little RTDI capacity will remain in some countries, reducing the scope for future cooperation with Europe. The ambitious objectives of this modest project were to highlight these dangers and to offer alternative visions of more desirable futures. Only time will tell whether warnings have been heeded and opportunities seized.

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## Sources and References

Further information can be found on the SCOPE 2015 website at <http://les.man.ac.uk/prest/scope>

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**About the EFMN:** Policy Professionals dealing with RTD, Innovation and Economic Development increasingly recognize a need to base decisions on broadly based participative processes of deliberation and consultation with stakeholders. One of the most important tools they apply is FORESIGHT. The EFMN or European Foresight Monitoring Network supports policy professionals by monitoring and analyzing Foresight activities in the European Union, its neighbours and the world. The EFMN helps those involved in policy development to stay up to date on current practice in Foresight. It helps them to tap into a network of know-how and experience on issues related to the day to day design, management and execution of Foresight and Foresight related processes.