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Science and technology for development: coherence of the common EU R&D policy with development policy objectives

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Discussion Paper 19/2010

Science and Technology for Development

Coherence of the common EU R&D policy with development policy objectives

Maja Bučar

Science and technology for development

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Preface

This paper was produced in the context of a more comprehensive research project on "European Policy for Global Development" under the direction of Dr Sven Grimm, funded by the German Ministry for Economic Cooperation and Development (BMZ). The project analyses the European Union's capabilities to engage in global policy issues more broadly with the objective of having positive effects on global development. In this regard, the project looks into the management of policy nexuses, i.e. it analyses new EU initiatives and instruments, the institutional setup and coherence for development. The project approaches issues of coherence and coordination within the EU's complex system of multilevel governance, encompassing the European Union (EU) as well as the Member State level.

The discussion paper looks at policy coherence for development in the area of research. The focus is less on finding the cases of incoherence, but on seeing whether the common EU research and development (R&D) policy is designed and implemented in a manner which provides for a positive impact on developing countries. The internationalisation of R&D at the EU level is receiving more attention and while the steps to formulating a joint collaboration strategy have been taken already, there is still significant room for setting the priorities and designing the instruments and organisational procedures which would place policy coherence with development objectives sufficiently high to provide for the synergies of the two areas. Due to the complexity of EU R&D, the analysis is carried out at the level of the common EU R&D policy and does not take account of the Member States' activity in the research area.

The paper draws mostly on EU policy documents, strategy papers and evaluations, managed within the European Commission. Furthermore, the evaluation studies carried out by different researchers or consultancies were also incorporated. In addition, a number of interviews were carried out at different EU institutions to support the literature and provide additional information. This, however, is an overall policy analysis. Further research would be needed at the individual instrument level to gain closer insight as to their conceptualisation and implementation in practice.

The paper was produced during my visiting fellowship at German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE). I would like to thank the colleagues in Bonn for their valuable comments and input during my stay. Special thanks go to Guido Ashoff, Sven Grimm, Davina Makhan and Mark Furness who took time to read the draft paper and help me with their comments to bring it to the final stage. Finally, I wish to thank to Gertrud Frankenreiter, who contributed in more than one way to the outcome.

Maja Bucar Bonn, November 2010

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Abbreviations

ACP	African, Caribbean and Pacific
ARD	Agricultural Research for Development
AU	African Union
AUC	African Union Commission
BMZ	German Ministry for Economic Cooperation and Development / Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung
BILATs	Bilateral Relations in R&D Area
BRIC	Brazil, Russia, India and China
CAAST-Net	A network for the coordination and advancement of Sub-Saharan Africa-EU S&T cooperation
CDI	Commitment to Development Index
CODEV	Working Party on Development Cooperation at the Council of EU
CREST	Scientific and Technical Research Committee
CSA	Coordination and Support Action
CSP	Country Strategy Paper
DCI	Financing Instruments for Development Cooperation
DEVE	Committee on Development, European Parliament
DIE	German Development Institute / Deutsches Institut für Entwicklungspolitik
DG	Directorate General
ECDPM	European Centre for Development Policy Management
EDCTP	European and Developing Countries Clinical Trials Partnership
EIARD	European Initiative for Agricultural Research for Development
EDF	European Development Fund
EIARD	European Initiative on Agricultural Research for Development
ENP	European Neighbourhood Policy
ENPI	European Neighbourhood Policy Instrument
EP	European Parliament
ERA	European Research Area
ERA-Nets	European Research Area Networks
ESFRI	European Strategy Forum on Research Infrastructure
EU	European Union
EULARINET	Coordinating Latin America Research and Innovation NETworks
FP	Framework Programme
GAERC	General Affairs and External Relations Council
GFAR	Global Forum on Agricultural Research
GDP	Gross Domestic Product
ICEI	Instituto Complutense de Estudios Internacionales
INCO-Nets	International Cooperation Networks
IPR	Intellectual Property Right
ITRE	Industry, Research and Energy Committee
JAES	Joint Africa EU Strategy
JEGs	Joint Expert Groups
MDG	Millennium Development Goals

MIRA	Mediterranean Innovation and Research Coordination Action
MS	Member States
NGO	Non-Governmental Organization
OECD	Organisation for Economic Co-operation and Development
PCD	Policy Coherence for Development
R&D	Research and Development
RSP	Regional Strategy Paper
SEA-EU-NET	Facilitating the bi-regional EU-ASEAN Science and Technology Dialogue
S&T	Science and Technology
SFIC	Strategic Forum for International S&T Cooperation
SICAs	Specific International Cooperation Actions
STI	Science, Technology, Innovation
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNIDO	United Nations Industrial Development Organisation
WBC-INCO NET	Co-ordination of Research Policies with the Western Balkan Countries
WBC	Western Balkan Countries
WIPO	World Intellectual Property Organization
WP	Work Programme
WTO	World Trade Organization

Executive Summary

The issue of policy coherence has been given significant attention with policy-makers at the OECD (Organisation for Economic Co-operation and Development) and the EU level as well as among academics. There remain some less analysed aspects of coherence, especially in the policy areas where the coherence or the incoherence is less obvious. The present Discussion Paper focuses on the relationship between common EU research policy and its development policy. It thus covers two policies that usually operate in separate institutional settings and with separate target systems. Our assumption is that R&D internationalisation policy, if supportive of development policy (positive coherence), can contribute to the achievement of development objectives. A successful combination of the two policies could enable developing countries to secure for themselves "the key drivers of economic growth" – new technologies and innovative products and services and thus in the long run become less dependent on development aid. A lack of positive coherence between these two policies would mean that synergetic effects were not tapped into. It may even have negative consequences in terms of outflow of researchers (brain drain) from developing countries.

The paper starts with the definitions, concepts and drivers in both areas: policy coherence and the internationalisation of R&D. The three-phase approach, elaborated by the OECD is used as the methodology to assess EU policy coherence between its research and development (R&D) policy on the one hand and the development policy on the other. Phase one looks at the political commitment and the policy statements in the relevant documents within both policy areas. In the second phase, the policy co-ordination mechanisms and instruments, promoting internationalisation of R&D with developing countries, are presented. A third phase focuses on the existing monitoring, analysis and reporting schemes, again specifically through the research policy angle and ends with an own assessment.

With increasing globalisation, we also witness growing internationalisation of scientific activity. At the EU level, parallel to the ambition to create a European Research Area, the opening to the world constitutes one of the key priorities in common R&D policy. One of the key objectives is making the international R&D cooperation more central to the main external policy objectives of the EU.

A science agenda is usually determined both from bottom-up, taking on board research interests of the scientific community, as well as top-down, where a designated body (a ministry, an agency) proposes priority themes. Focussing the research on issues relevant to developing countries is more likely to be a political decision by the financier of research – a top down approach. Here is an opportunity to design development-coherent R&D internationalisation policy.

One of the key objectives of European development policy is to contribute to the achievement of the Millennium Development Goals (MDGs). For research to contribute to the MDGs, three main paths are identified:

1. Promoting research on MDG related issues;
2. Strengthening developing countries' research capacities, including a research policy framework, infrastructure, researchers and their institutions as well as setting up appropriate financial mechanisms to promote uptake of research results and expand social and technological innovation;

3. Attracting and retaining researchers in developing countries.

At the EU policy level, the Seventh Framework Programme (FP7), the Green Paper on European Research Area and the Strategic European Framework for International Science and Technological Cooperation all address the issue of research collaboration with developing countries. All three main paths of cooperation, identified above, are integrated in the strategy: more MDG-related issues are included in the general calls within FP7; researchers from developing countries have access to FP7 instruments and support to science and technology (S&T) capacity build-up is provided.

The current mechanisms (impact assessment, inter-service consultations) for ensuring policy coherence for development (PCD) have been put in place to prevent policy incoherence from occurring, but do not systematically look for potential synergetic effects of different policies. The complex structure of the EU is reflected in the organizational set-up for the implementation of policy coherence for development and R&D policy. As now designed, the mechanisms are not meant to identify the possible impact of EU R&D policy on the achievement of development policy objectives. On the other hand, the design and the selection of the instruments for international R&D cooperation can have an imbedded contextual connotation as regards the type of research cooperation one wishes to promote. Thus, from the policy coherence perspective, the selection of the instruments for R&D cooperation with developing countries is very important. Within the FP7, there are several instruments available for cooperation with developing countries: from open calls to more targeted ones, specific cooperation actions (SICAs) , INCO Nets (International Cooperation Networks) and ERA Nets (European Research Area Networks) mobility schemes, etc. S&T capacity building, for its part, is addressed through other instruments, such as the European Development Fund.

The cooperation with Africa was chosen as an illustration of the policy coherence between the two policies. Development cooperation with Africa is one of the EU's priorities. The Joint-Africa EU Strategy (JAES) includes cooperation in the area of science, information society and space as one of the thematic partnerships. We found ambitious agendas with several proposed projects, a slow, but realistic pace of their implementation and, in our opinion, a gradual lessening of the attention given to the S&T topic in the strategic discussions.

With regard to PCD, reports found significant progress, especially at the EU level – yet questions remained about the suitability of the instruments. Phase three in the OECD policy coherence cycle consists of effective systems for monitoring, analysis and reporting. Monitoring and reporting on PCD have been the task of the Commission, with its first report published in 2007, followed by the second in 2009. Coherence in the research and innovation area was assessed as very good, with several instruments put in place to support R&D in developing countries. Especially the 2009 report raised various questions on the suitability of the FP as the main instrument due to its project selection criteria, but made no recommendations about what would be better. The 2009 PCD Report did, however, suggest a change by focusing on cross-cutting themes to monitor PCD in the future. The argument for a change was that the EU could promote PCD more effectively through a more focused approach taking on board the changes in the internal and external environment. Still, the new approach of thematic challenges may further dissolve the responsibilities of non-development directorates to consider development objectives in the design of their policies.

In principle, the main policy documents on internationalisation of R&D do suggest cooperation with developing countries as one of the priority areas, especially in the themes identified as global challenges. The potential of coherent design of the internationalisation of R&D activity to contribute to the development objectives is less pronounced. To see if potential for the positive synergies of the two policies is tapped into, we look specifically for intended coherence, which would be reflected in the policy measures and specific instruments for internationalisation of R&D with development objectives in the foreground.

Probably the single most consistent factor hindering positive coherence between the two policies is the knowledge gap. The potential effects of the research policy on development are usually indirect and take longer to materialise. Also, R&D policy is not causing an obvious negative effect (incoherence) – which explains the lesser interest in monitoring it. Insufficient knowledge of the potential impact of the positive coherence of the two policies is seen in the low priority S&T collaboration is given in different development cooperation agreements. But, with insufficient knowledge, it is also very difficult to design a proper policy response. If we take the case of Africa, for example, little hard data about the S&T capacities is available. Without this, one cannot design a coherent R&D policy which will take account of the capacity building in R&D field in parallel with addressing the main development objectives. A good approach to closing the knowledge gap on R&D policy is the practice recently introduced by the European Commission's Directorate-General (DG) Research. The Commission provides briefing on EU research policy and the instruments for cooperation with developing countries to all EC personnel being sent to posts in developing countries. This way, they hope, the S&T issues will be more likely to be on the agenda of cooperation (aid) priorities in discussions with developing countries.

Our analysis shows that there are no major in-coherences between EU internationalisation of R&D policy and its development policy. But it also indicates that the possible positive synergies of the two policies have not been harnessed in the current system of policy design and coordination. The conceptual link between the two is set too broadly to be effectively translated into daily politics and implementation mechanisms. A more systematic policy design with clear objectives of both policies, a research-based one and a development-based one, could however produce better long-term results in both areas. In its strategy for internationalisation of R&D cooperation, the EU needs to move beyond merely making general statements on supporting science for the achievement of the MDGs. It needs to assess its priorities in a more explicit manner as regards the type of cooperation to be developed with each developing region and/or country and design explicit targets for each. This target-setting should be done jointly with the development experts, who have good knowledge of the objectives, targets and resources available in the framework of EU development policy. If research is to foster the implementation of development objectives, this needs to be an objective of its own in R&D internationalisation strategy. The next step then is to specify what can be done, where the EU's interest is and to what extent resources can be specifically devoted to S&T support in developing countries.

1 Introduction

The European Union has expressed its dedication to development cooperation through its various policy documents as well as by being the largest donor of development aid. The achievement of the Millennium Development Goals (MDGs) has been set as the key priority, while the three "C" (complementarity, coordination and coherence) are to be the three pillars in the implementation. The issue of policy coherence has been paid significant attention by policy-makers at the OECD and the EU level as well as academics. While much of the work has focused on illustrating the cases of incoherence of policies (agriculture, trade, fisheries for example in Baffes / 2003; Grieg-Gran / 2003; Brown 2005), there remain some less analysed aspects of coherence, especially in the policy areas, where coherence or incoherence is less obvious. The paper focuses on the relationship between the EU research policy area and its development policy.

The importance of science and technology (S&T) as key drivers of growth is stressed in economic theory, especially endogenous growth theory (Romer 1990, 1994; Grossman / Helpman 1994) as well as in many economic/development strategy of countries or groups of countries (like EU or OECD). The EU 2020 strategy for smart, sustainable and inclusive growth (EC 2010a) talks of "smart growth" based on knowledge and innovation, which will guarantee future economic and social prosperity in the member states. Investment in research and development (R&D)[1] is seen as the best tool for increasing European competitiveness, economic growth and the sustainability of its social system. The OECD (2009a) sees the "*ability to innovate as the key to restoring long-term growth*"[2] and advises the governments to support R&D to provide for new scientific advances and new technologies. Those countries and regions with well developed science capabilities and good national research systems are able to maintain their economic and social development and participate successfully in the global division of labour. The role of the national research and development (R&D) systems is, on one hand, producing new knowledge, new technologies, products and processes and, on the other hand, tapping into the global pool of knowledge to complement indigenous endeavours with a task of building a strong national S&T base. The build-up of S&T capabilities is an important ingredient of long-term development process. This would suggest that promotion of R&D is one of the key elements in developing countries´ strategies. Consequently, it should receive due attention in international development cooperation.

R&D efforts, while important at the national level, are increasingly international in the way they are organised and financed. Several different external developments triggered the policy debate on the importance of internationalisation of R&D in recent years: the globalisation of R&D, especially at the level of large multinational corporations, high costs of frontier research, emergence of BRIC (Brazil, Russia, India and China) countries (i.e. emerging economies) and their rapid growth of R&D capacities, search for talent around the globe, etc. As a response to these trends, the EU has come forward in its international S&T cooperation with a "Strategic European Framework for International Science and Technology Co-operation" (EC 2008a). The document outlines the principles and objectives of EU

1 For the purpose of this paper, we will use the Frascati Manual definition of the R&D: Research and experimental development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications.

2 See: http://www.oecd.org/dataoecd/59/45/42983414.pdf

international S&T cooperation and identifies as one principle the coherence of policies and complementarity of programmes. Explicitly we read:

> *"Europe's international S&T strategy should underpin the EU´s main policy objectives, such as (among others) achieving the Millennium Development Goals. Greater coherence between research activities and other policies and funding instruments will strengthen the impact and influence of S&T on these policies"* (ibid, .4).

This formulates our research question: to what extent do we find coherence between EU joint strategy of internationalisation of R&D activities as a part of building the European Research Area (ERA) on one hand and the policies on development cooperation on the other? Our key assumption is that R&D internationalisation policy, if coherent with development policy, can contribute to the achievement of development objectives. A successful combination of the two policies could thus enable developing countries to secure for themselves "the key drivers of economic growth" – new technologies and innovative products and services and thus in the long run become less dependent on development aid. A lack of coherence between these two policies would mean that the potential for mutual positive impact is lost. It may even have negative consequences in terms of the outflow of researchers (brain drain) from developing countries. A more subtle consequence of the incoherence could be found in the area of national research priority selection. If research is to contribute to the national development, it needs to focus on the key issues, relevant to a particular economy and society, taking into account the available resources and constraints. Participation in international R&D cooperation that does not take into account development needs may result in researchers in less developed countries pursuing individual scientific excellence in internationally more acclaimed scientific fields/ topics, but contributing little to solving the development problems of their own societies/ economies.

The paper will attempt to provide "*a more accurate analysis of the interactions among different policies that influence development in partner countries*" (Ashoff 2005) based on which coherence of the two policies may be improved. It starts with the definitions, concepts and drivers in both areas: policy coherence and the internationalisation of R&D. At the level of the EU, both areas are the subject of different policy papers and strategic documents, and in both areas the decision-making process at the EU level is shared between the EU institutions and the member states. The focus of the analysis is on the *common* EU policy in both fields at the level of strategy setting, the implementation and the assessment of policy coherence, i.e. the level of policy formulation by European institutions.

EU R&D international cooperation is being promoted through a number of specialised instruments, most of these being part of FP7. With many of them of a more recent nature, it is valuable to see how they address the idea of policy coherence for development, especially since some of the policy priorities are still being formulated and could be influenced to take greater account of development. For the assessment of the coherence of the two policies, the official coherence reports of the EU as well as available evaluations by the research community will be examined. A more detailed illustration of the EU's international S&T cooperation is provided by looking at the Africa-EU partnership for science, information society and space, since that is the area of several interesting developments as well as constraints.

Africa is the key region for EU development policy. The Joint-Africa EU Strategy (JAES) includes cooperation in the area of science, information society and space as one of the

thematic partnerships. Cooperation in the area of S&T should, more than in any other region, be linked to the increase of capacities, since the data on African research demonstrates a significant shortcoming in this area. The average proportion of Gross Domestic Product (GDP) allocated to research and development in Africa, which stands at about 0.2 percent, is the lowest compared to other regions in the world. The average number of African-born scientists and engineers per million people in Africa is less than 200 as compared to 3,000 per million people in developed countries[3]. The scant size of the scientific community in Africa is arguably one of the primary reasons why science-driven development has failed to take root on the continent. Additionally, over the last decade or so, donors have specifically neglected higher education and research, focussing rather on social services. Africa's Science Techonology Innovation (STI) system is not only underfinanced, but also fragmented and heavily dependent on external financing (Barugahara / Tostensen 2009a). Chronic under-funding has several negative consequences: the research infrastructure is underdeveloped, the brain drain is high, and comprehensive national S&T policies rare. We share the opinion of Professor Hassan (2009): *"The bottom line is that STI alone cannot save Africa, but Africa cannot be saved without STI. It is a lesson in recent history that the region - and its international partners – can no longer afford to ignore."* The programmes and instruments available for the promotion of the R&D cooperation between Africa and EU are examined through a prism of policy coherence for development to see if any synergetic impact can be detected or, some elements of in-coherence are found.

2 Concepts, definitions, drivers

2.1 Policy coherence for development

Since the nineties, when we could see the beginning of the discussion on the policy coherence within the EU and the OECD, we have found the definitions of policy coherence mostly evolving around the concept of ***in***coherence, i.e. the negative consequences of policy impact. Yet policy coherence can also have a more positive impact, which Ashoff calls the second, more ambitious definition:

> "*policy coherence as* support for development policy from other policies *or as the interaction of all policies that are relevant in the given context with a view to the achievement of overriding development objectives*"(Ashoff 2005, 12).

This is also expressed in the OECD statement that policy coherence involves the *systematic promotion of mutually reinforcing policy actions* across government departments and agencies creating synergies towards achieving the defined objective (OECD 2001, 11).

So while it is important for policies not to contradict one another, policy coherence should also be able to exploit the potentials for *positive synergy* among them. In the context of development, all relevant policies should contribute and reinforce each other in the implementation of the development objectives. One of these policies, which can positively contribute to the development and bring synergy effects, is research and development policy.

3 The figures are estimates by UN Economic Commission for Africa. In addition to low figures, the statistical data on African R&D is scarce and often outdated.

Several classifications of coherence are found in the literature, among them the work of Hoebink (2004), Piciotto (2004) and Ashoff (2005).

Box 1: Classifying coherence – Hoebink

1. ***Between three types of coherence***:

a. Restricted [1] coherence: within the policy itself;
b. Restricted [2]: in external action; and
c. A broad type of coherence which includes also national and European policies;

2. ***Between different sectors of policy,*** that is between

a. External [1] (EU foreign policies);
b. External [2] (EU level policies) and inter-European (EU MS individual policies);

3. ***Between horizontal and vertical coherence***

a. Horizontal: coherence and incoherence of the different EC DGs) and
b. Vertical between the MS and developing countries, the EC and international institutions;

4. ***Between intended and unintended coherence***.

Intended coherence would be 'a form in which an authority consciously accepts that the objectives of policy in a particular field cannot be achieved because the policy involves conflicting interests.' (page 193);

5**. *A classification based on the various causes or reasons*** of coherence that can be identified

Source: Hoebink (2004, 195)

The coherence between R&D and development policy would fit under so-called *horizontal* coherence, and can also be assessed from the perspective of *intended* and *unintended* coherence. To see if potential for the positive synergies of the two policies is tapped into, we need to look specifically for intended coherence, which would be reflected in the policy measures and specific instruments for the internationalisation of R&D with development objectives in the foreground. On the other hand, due to the assumed relatively low attention given to the policy coherence between these two fields, it is quite possible to come across unintended (in)coherence (for example the impact of researchers´ mobility on brain drain) (see box 1).

Our analysis is restricted to the common EU policy level as implemented by the Commission, therefore looking at the intra-"government" coherence - treating the EU as a political entity similar to a country. The next step of course would be to assess the policy coherence of the Commission and the Member States. This, however, seems to be a rather fruitless endeavour, given the relatively low level of coordination of Member States' research policies and thus consequently still limited attempts to coordinate their international S&T cooperation. From the point of view of the appropriateness of the S&T programmes, the aspect of donor-recipient coherence would, however, be a valuable avenue to explore.

While Ashoff (2005) does not classify coherence itself, his work provides arguments for a) justifying the goal of enhancing policy coherence and b) causes of policy incoherence, both of which are quite relevant to our analysis of R&D and development policy. Let us apply his framework:

Box 2: Classifying coherence – Picciotto

1. ***Internal coherence***

   This refers to the development policy itself, which should be drawn up to achieve consistency between its goals and objectives, modalities and protocols.

2. ***Intra-government coherence***

   More consistency is needed across all of the policies and actions of an OECD country in terms of their contributions to development. The strategic options in the policies most relevant for developing countries should be reviewed to prevent, or make up for, any decisions that go against development objectives.

3. ***Inter-governmental coherence***

   Policies and actions should be consistent across different OECD countries in terms of their contributions to development, to prevent one from unnecessarily interfering with, or failing to reinforce, the others in the same environments or countries.

4. ***Multilateral coherence***

   Consistency should be promoted across the policies and actions of bilateral donors and multilateral organisations.

5. ***Donor-recipient coherence***

   Countries receiving donor contributions should be encouraged to set up policies that allow them to take full advantage of the international climate to enhance their economic and social progress.

Picciotto (2004, 8)

a) **Justifying the goal of enhancing PCD** (ibid., 14–18):

1. The "negative" justification as the avoidance of the incoherence: since the two policies do not interact much directly, we assume there is limited possibility for incoherence.

2. The strategic justification as the policy response to globalisation challenges: the drive towards international cooperation in S&T field is in many ways the direct result of globalisation challenges and so are the development strategies/ options of developing countries. This opens room for policy coherence and synergy effects, if the two policies are designed accordingly.

3. The substantive-programmatic justification as the guiding concept of sustainable development and the Millennium Declaration: scientific and technological advancement is among the key building blocks for sustainable development of global economy, giving additional justification for the required coherence of R&D and development policy.

b) **Causes of incoherence**: ibid., 34–40

1. Causes in the societal and political norms of a country

2. Causes in the area of political decision-making

a. Divergences of political interests at national level
b. More complex political decision-making processes as a consequence of globalization and decentralization
c. Divergent political interests at an EU level
d. Weakness of development policy in the political play of forces
e. Failure of partner countries to take countermeasures

3. Causes in the area of policy formulation and coordination

f. Shortcomings in policy formulation
g. Shortcomings in the structure and process of policy coordination
h. Information shortages

4. Causes at the conceptual level

i. Increasing complexity of the development agenda
j. Knowledge gaps
k. Complexity of the development process

With EU R&D and development policy, the possible causes of incoherence may be expected in 2.b, c and d and in all points under 3 and 4. We will examine each of these points based on the available policy documents, the instruments' description and ongoing activities within the implementation of the two policies.

In terms of promotion of the PCD concept and especially its impact on the assessment of PCD, the work of the OECD needs to be mentioned[4]. In 1996, the OECD referred to PCD as key to increasing the effectiveness of development cooperation (see OECD 1996). The work at OECD level has intensified since 2000 and currently focuses in particular on the development of methods for monitoring and assessing policy coherence. During 2003–2007 therefore DAC peer-reviews on member states[5] were expanded by a special section on policy coherence.[6] In 2008, the Ministerial Declaration on Policy Coherence for Development was signed, reaffirming the commitment to PCD and encouraging the OECD among other things to continue to develop best practices and guidance on PCD promotion and improved methods of assessment of the results achieved (OECD 2008a, Para 6).

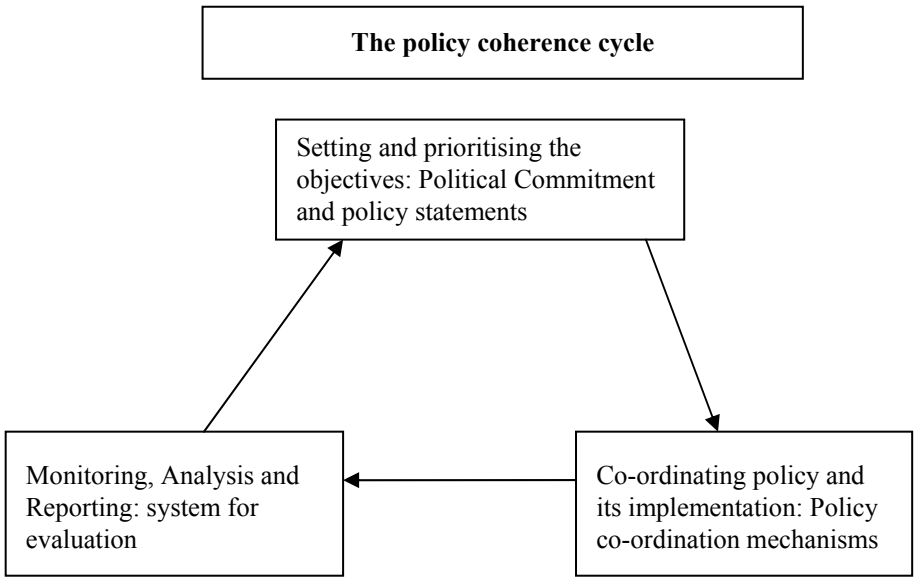
This resulted in a comprehensive publication on the "building blocks" for the promotion of PCD (OECD 2009b), where a framework of the policy coherence cycle and the three phases for setting, implementing and analysing the PCD were elaborated based on the recommendations of the peer reviews.

4 See in particular OECD (2007a; 2007b; 2008b)

5 23 countries were covered as well as the European Community.

6 The results were synthesised in the OECD report "Building Blocks for Policy Coherence for Development", published in 2009 (OECD 2009b).

Figure 1: The policy coherence cycle



Source: OECD (2009b, 20)

Phase One in the cycle involves setting policy objectives and determining which objective takes priority if there are incompatibilities between policies. The building block is political commitment expressed at the highest levels and backed by policies which translate commitment into action.

Phase Two is policy co-ordination. This involves working out how policies, or the way they are implemented, can be modified to maximise synergies and minimise incoherence. These co-ordination mechanisms should making it possible to resolve conflicts or inconsistencies between policies and navigate the complex politics of policy processes.

Phase Three is effective systems for monitoring, analysis and reporting. This involves monitoring, i.e. collecting evidence about the impact of policies; analysis to make sense of the data collected; and reporting back to parliament and the public. This phase provides the evidence basis for accountability as well as for well‑informed policy-making and politics (OECD 2009b, 10).

Similar to the OECD's three-phase approach is the identification of specific mechanisms suggested for promotion coherence for development by the scoping study of European Centre for Development Policy Management and Instituto Complutense de Estudios Internacionales (ECDPM / ICEI 2006):

— **Strong political commitment** to coherence on the part of government(s), with leadership and clearly defined policy objectives, priorities and criteria for assessing progress.

— **Institutional coordination, through an adequate institutional architecture, transparency and flexibility**, including rapid adaptation to a changing environment, early warning of any incoherence, mechanisms for dialogue and resolving disputes and an

administrative culture that promotes inter-sector cooperation and systematic dialogue among different political communities.

— Adequate **analytical capacity** and effective systems for generating, transmitting and processing relevant information.

The three-phase approach is a useful methodology to apply when assessing EU policy coherence between its research and development (R&D) policy on the one hand and the development policy on the other. We will first examine the political commitment and the policy statements in the relevant documents within both policy areas. In the second phase we will look at the policy co-ordination mechanisms and instruments, promoting internationalisation of R&D with developing countries. A third phase will present the existing monitoring, analysis and reporting schemes, again specifically through the research policy angle.

The issue of assessment and comparison of aid quality, also related to the policy coherence assessment, has received significant attention, especially with the Paris Declaration on aid effectiveness (OECD 2005)[7]. Already in 2003, the Center for Global Development, Washington D.C., introduced the Commitment to Development Index (CDI) Birdsall / Rodman 2003) with the purpose to "*rate rich countries based on how much their government policies facilitate development in poorer countries*." In 2005 (Maskus 2005) the technology component was added[8]. The CDI's focus is on the impact of the donor countries' internal R&D policies as well as on the ratio between weighted R&D expenditures and GDP. The aspect of international cooperation is not specifically considered in the CDI. Our focus, however, is explicitly on the international cooperation in R&D and its coherence with development policy. The OECD "*three phase"* approach, looking at the policies, is thus found more fitting.[9]

2.2 Drivers of international R&D cooperation

Growing internationalisation of scientific activity is an integral part of globalisation. Indicators such as the rate of growth of international journals, indexed in the Thomson-ISI Science Citation Index or the number of co-publications by authors from two or more countries are on the increase. Several factors affect the level of internationalisation: the type of research (more basic the research field, more international is the research), the size of the country of origin for the researcher(s) (smaller countries tend to be more involved in international research) as well as socio-economic and cultural ties (EC 2009a).

What drives the internationalisation of S&T and how are the priorities for cooperation formulated? If cooperation should be designed in coherence with the development objectives,

7 See: http://www.oecd.org/dataoecd/11/41/34428351.pdf

8 The component is build from two areas: technology creation through government support of R&D and restraints in technology diffusion through protection of intellectual property rights. Each of sub indicators is further elaborated with weights assigned to the actual nominal values (Maskus 2005).

9 Another, similar attempt to provide a new measure of aid quality was recently done by a team in the WB (Knack / Rogers / Eubank 2010), constructing an overall aid quality index and four coherently defined sub-indexes on aid selectivity, alignment, harmonisation and specialization. Yet the composition of the sub-indexes does not include any measure on policy coherence or on R&D.

it is important to know why certain patterns and strategies of cooperation are developed and how.

The complexity of the issue is well captured in the recent EU report on the drivers of international collaboration in research (EC 2009a). It introduces the concepts of narrow and broad science, technology and innovation (STI) cooperation paradigm, where the narrow one relates to the drivers intrinsic to science dynamics (contribution to quality of science, solving specific problems, better access to scarce human resources, more international visibility of research, etc.). The broader STI paradigm also takes on board other, non-science policy objectives, such as an increase of national competitiveness, supporting less developed countries by developing their STI capabilities, tackling global societal challenges, creating good and stable diplomatic relationships, etc. and is therefore more relevant from the development policy angle.

Global societal challenges require global solutions, so the research in these areas has to involve developing countries, regardless of their scientific capability. More specifically, the drivers behind the cooperation in R&D with developing countries are focused on two main topics, both with the objective to help development process:

— Building the national capacities in S&T in developing countries;

— Focusing own research capacities on the issues, relevant to developing countries and integrating their local research capacities (testing, developing applied solutions).

The building up of the national capacities for research in developing countries should be an important ingredient of long-term support to development. The divide between S&T capabilities in the South and the North is widening, in spite of remarkable progress by some, mostly middle-income countries, especially India and China. This lagging behind has serious implications on countries' abilities to tap into global knowledge as well as for their indigenous development of appropriate technology solutions. Doing research is not a luxury for developing countries: it is necessary for their economies' international competitiveness, provides them with knowledge and evidence basis for policy decisions and contributes to resolving the most pressing issues of their own development. So S&T international cooperation policy, which sets the building of national S&T capacities in developing countries as one of its objectives, is coherent with development policy and contributes to the achievement of development objectives.

The science agenda is usually determined both from bottom-up, taking on board research interests of scientific community, as well as top-down, where a designated body (a ministry, an agency) proposes priority themes. To focus the research on the issues relevant to developing countries is more likely to be a political decision by the financier of research – a top down approach. This provides the opportunity to design development- coherent R&D internationalisation policy.

Design of a coherent policy for international R&D cooperation starts by setting priorities, where among other things the potential synergies and coordination with other policies are addressed. Priority-setting involves the identification of different topics but also the establishment of criteria allowing choices to be made between competing priorities. The point of departure is looking at the motivation of various stakeholders for R&D cooperation. These differ between individual researchers' motives, institutional motivation and the country level motivation.

At the individual level, access to funding and the added-value from working with the peers stand out as important priority-setting instruments. At the same time, the specifics of doing research with researchers from developing countries need to be taken into account as well. A recent Dutch study (Engel / Keijzer 2006) shows that the motivation for cooperation in research with developing countries' researchers is not necessarily high among European scientists. Various doubts were expressed by researchers, ranging from the relevance of the topics of interest to one group or another, to scientific quality and the added-value of the joint research. For the individual researcher, the incentives and performance criteria established in his/her national research system are detrimental to shaping research agenda, and if doing research with partners from the South does not get the type of recognition desired, they may not find this particularly challenging endeavour for their career[10]. These elements may often be disregarded in the broad policy settings, but they can be detrimental at the operational level.

The institutions (universities, research institutes) see cooperation as a tool for facilitating access to complementary S&T expertise, new resources and/or markets. At the national level, the motivation becomes more complex. Governments wish to promote cooperation in strategically important S&T areas, secure access to large scale R&D infrastructures and work towards pooling of resources in key S&T areas. Priority-setting at the national level also considers the so-called "S&T diplomacy", where strengthening of S&T cooperation with developing countries, especially those in Africa, enters as a priority (Guy 2009).

At the EU level, parallel to the ambition to create a European Research Area, the opening to the world constitutes one of the key priorities in common R&D policy (EU 2007a). One of the key objectives is making the international S&T cooperation more central to the main external policy objectives of the EU. In addition, when setting priorities for international collaboration, it is believed that the EU as a whole would benefit from the development of "one voice" in order to optimise the potential benefits from international collaboration by reducing duplication and creating synergies. This requires coordination among Member States already at the level of priority-setting, which can be assisted somehow through various bottom-up schemes such as Era-Nets, technology platforms, etc. The Green Paper on ERA suggests that

> *"Closer coordination is necessary between the EU and Member states, for mutual benefit, as well as between S&T cooperation policy and other areas of external relations. Such coordination should be sought both in multilateral fora and initiatives as well as in bilateral cooperation with partner countries."* (EC 2007a, 21)

How pertinent international cooperation in S&T is for the EU is reflected in the policy documents addressing it, from various reports of the Scientific and Technical Research Committee (CREST) to the Communication by the Commission of Strategic European Framework for International S&T cooperation (EC 2008a). The next chapter will present some of the specific references in these documents to the cooperation with developing countries.

10 The Dutch study states: "*Working with research partners in the South has been regarded as capacity building for far too long (what we can do [in the South] is capacity building but that's not scientific research). It has probably led many Dutch mainstream researchers to believe that there is no mutually inspiring scientific challenge in development cooperation."* and goes on "*The net result was that eventually, with few exceptions, the researchers who continued on the programmes were (labelled as – added by MB), development researchers rather than mainstream researchers*" (Engels / Keijzer 2006).

2.3 Potential for synergies of internationalisation of R&D policy and development policy

In the broad paradigm for the international S&T cooperation, the international engagement is not the ultimate goal but the means to other policy ends. This means that the conceptual link to the overarching goal must be made visible and every attempt to make the contribution of international activity to this end made measurable (EC 2009a, 38). The objectives or the drivers for the internationalisation of R&D activity differ with respect to the partner country/ies or regions. For the international cooperation with developing countries in the S&T area, the important goal is to enhance local S&T capabilities, which contribute to the country's socio-economic development. What is needed is a comprehensive policy framework outlining how research policy can contribute to development and how this commitment should be implemented (EC 2008b, 28).

The 2008 Communication by the Commission provides such a framework and looks at the existing instruments in the R&D area which could be helpful in generating synergies of the two policies. While the EU's research policy is based on the principle of research excellence, it also has as the objective to promote all the research activities deemed necessary for the implementation of all other Community policies, including development policy. In principle, there should be scope for synergies with development policy as well, especially since one of the key objectives of European development policy is the contribution to the achievement of the MDGs. At the same time, contributing to the implementation of MDGs is an objective for the international cooperation in R&D with developing countries.

For research to contribute to the MDGs, three possible ways were identified in the Communication (ibid., 30):

1. Promoting research on MDG related issues;

2. Strengthening developing countries research capacities, including a research policy framework, infrastructure and researchers and their institutions and appropriate financial mechanisms to promote uptake and expand social and technological innovation;

3. Attracting and retaining researchers in developing countries.

While the wording may differ slightly, the three challenges correspond to the drivers for international cooperation with developing countries, as discussed earlier. The next step is to design appropriate mechanisms for the implementation of this cross-cutting policy. The EU has several instruments through which the R&D cooperation with third countries is supported: the question remains: is the design of these instruments sufficiently geared to the achievement of development objectives and how efficient they are in promoting the kind of research collaboration which contributes to development?

From a coherence perspective, the role of development cooperation is to "unlock" the development potential of research policy. Assistance in the developing countries' S&T capacity building may not be the top priority for the internationalisation of EU research, but it should be an important objective in EU development policy. As noted by the ERA Expert Group (EC 2008b):

> *"There appears to be scope for exploring synergies with other EU external policies (e.g. aid and trade) to achieve better capacity building in S&T in poorer nations to allow these nations to better mobilize S&T to their own ends and to respond more effectively to global challenges."*

The synergies of R&D and development policies are therefore seen especially in the field of capacity building. Adequate capacities, which are prerequisite to development of the capabilities in R&D are a prerequisite for these countries to base their own development on science and technology. At the same time, by raising R&D capabilities in developing countries, they can better contribute to the resolution of global challenges, including global pandemics, security and migration issues. The cooperation in developing S&T capabilities in developing countries is not the act of good will on behalf of the EU (or other developed countries) but rather should be seen as an investment in a more comprehensive scientific solution-seeking for the EU's benefit as well.

For developing countries, the relevance of the R&D cooperation with the EU depends on the EU's capacity to 'southernize' its scientific agenda and to engage in long-term capacity building. The priorities and instruments in the internationalisation of EU R&D policy need to be developed in accordance with the development policy objectives and need to take into account the different level of existing R&D capabilities of the developing countries themselves. While more developed countries like India and China may be interested in joint research projects, the least developed countries have the building up of their S&T capabilities rather higher on their policy agenda. What the EU has to avoid is the segregation of the S&T cooperation strategies from its development policy, which was observed in the 2009 report on drivers of international collaboration *"…we found little evidence of strong policy coordination between the core STI policy domain and development policy."* (EC 2009a, 16)

3 Political commitments and policy statements

3.1 Policy coherence for development

Coherence questions are particularly relevant within the EU context, since it has a variety of levels for policy and decision-making. Within such complex multi-level governance system, where decisions are shared between the EU institutions and the EU member states, and where so many different policy areas are coordinated and jointly formulated[11], policy coherence becomes imperative for good governance. The legal framework for PCD was provided first by the Maastricht Treaty, expanded by European Consensus on Development and is reiterated in the Lisbon Treaty (see details in Box 3).

11 Leading some to suggest that PCD is «mission impossible» (Carbonne 2008).

Box 3: Legal framework for the policy coherence for development

The reference to coherence in the Maastricht Treaty on European Union, Article 130V:[12]

"The community shall take account of the objectives referred to in Article 130U[13] *in the policies that it implements which are likely to affect developing countries."*

While the introduction of the concept into the Treaty clearly marked the acceptance of PCD as a concept, as well as the decision of the European Union to promote it (ECDPM et al. 2007a), PCD gets more explicitly integrated in the European Consensus on Development (2005) (EU 2006a):

"(…) the EU's commitment to promoting policy coherence for development, is based upon ensuring that the EU takes account of the objectives of development cooperation in all policies that it implements, which are likely to affect developing countries, and that these policies support development objectives" (Para 9).

'It is important that non-development policies assist developing countries' efforts in achieving the MDGs. The EU shall take account of the objectives of development cooperation in all policies that it implements which are likely to affect developing countries. To make this commitment a reality, the EU will strengthen policy coherence for development procedures, instruments and mechanisms at all levels, and secure adequate resources and share best practice to further these aims.' (Para 35)

The Lisbon Treaty included the PCD into the broader framework of external action by stipulating in the Article 21 (3) stipulates:

"The Union shall respect the principles and pursue the objectives set out in paragraphs 1 and 2 in the development and implementation of the different areas of the Union's external action covered by this Title and by Part Five of the Treaty on the Functioning of the European Union, and of the external aspects of its other policies.

The Union shall ensure consistency between the different areas of its external action and between these and its other policies. The Council and the Commission, assisted by the High Representative of the Union for Foreign Affairs and Security Policy, shall ensure that consistency and shall cooperate to that effect" (EU 2008a).

Article 208(1) of the Title III, Chapter 1 of the Treaty on the Functioning of the EU (EU 2008b) is the new version of the 178 coherence article worded almost identically:

"Union policy in the field of development cooperation shall be conducted within the framework of the principles and objectives of the Union's external action. The Union's development cooperation policy and that of the Member States complement and reinforce each other.

Union development cooperation policy shall have as its primary objective the reduction and, in the long term, the eradication of poverty. The Union shall take account of the objectives of development cooperation in the policies that it implements which are likely to affect developing countries."

For our analysis the Article 212 in Chapter 2 of the Treaty on the Functioning of the European Union is also relevant:

"Without prejudice to the other provisions of the Treaties, and in particular Articles 208 to 211, the Union shall carry out economic, financial and technical cooperation measures, including assistance, in particular financial assistance, with third countries other than developing countries. Such measures shall be consistent with the development policy of the Union and shall be carried out within the framework of the principles and objectives of its external action. The Union's operations and those of the Member States shall complement and reinforce each other."

12 See: http://www.eurotreaties.com/maastrichtec.pdf; page 38.

13 The Article 130U specifies the Community policy in the sphere of development cooperation (ibid.)

With the 2004 decision of the Council (Council of the EU 2004) on the common structure of the national MDG reports and the EU synthesis report, a separate section on policy coherence for development had been added to the consequent reports on MDGs. This was followed already in 2005 by the Communication of the Commission, where it was proposed that the Commission compile mid-term EU policy coherence for development reports, where progress on the coherence commitments is reviewed (EC 2005, 19).

The Communication presented twelve priority areas identified by the Commission[14] as particularly relevant to attaining synergies with development policy objectives. The selection was based on the contribution by these areas to the MDGs: they are either at the core of an MDG (trade, environment) and/or have the potential to contribute to them. (ibid., 4). The consequent reports and staff working papers, providing substantive analysis of the progress made in each of the twelve priority areas, especially the sections on research and innovation, provide us with core material for assessing the strategic approach to PCD over the last few years.

The policy commitment in the area of "Research and innovation" states that:

> *"The EU will promote the integration of development objectives, where appropriate, into its RTD and Innovation policies, and will continue to assist developing countries in enhancing their domestic capacities in this area."* (ibid., 5)

The key objectives of R&D collaboration with developing countries, as identified by the Communication, are the promotion of science and technology, improvement of the R&D infrastructure, boosting of the human resource S&T capacities while avoiding brain drain and earmark resources for higher education. The overarching instrument to achieve these objectives is the Framework Programme for Research and Technological Development. Also, research on priority problems of developing countries is to be supported.

3.2 Internationalisation of EU R&D policy

For the analysis of the EU R&D policy statements, we will focus on three key strategic EU documents: the Seventh Framework Programme – FP7 (EU 2006b), the Green Paper on ERA (EC 2007a) and the Strategic European Framework for International Science and Technological Cooperation (EC 2008a) (referred to as Strategic Framework on S&T). The FP7 sets out the current common EU R&D policy and the implementation process, including the instruments and financial structure. The Green Paper on ERA is considered as the key strategic paper for the future development of the R&D field in the EU as a whole, bringing closer different national R&D agendas of the member states and thus strengthening the joint research. The policy paper most aligned with the topic of our research is the Strategic Framework on S&T, where the objectives and the priorities for international cooperation in S&T field are set. Detailed description of policy instruments, especially those incorporated in the FP7 and supporting R&D cooperation with developing countries will be provided later.

14 These were: Trade, Environment, Climate Change, Security, Agriculture, Fisheries, Social Dimension of globalisation, employment and decent work, Migration, Research, Information Society, Transport and Energy.

Box 4: FP7 on the international cooperation with the focus of European research on development issues

(14) Under the 'Cooperation' programme, support should be provided for ***trans-national cooperation at an appropriate scale across the Union and beyond****, in a number of thematic areas corresponding to major fields of the progress of knowledge and technology, where research should be supported and strengthened to address European social, economic, environmental, public health and industrial challenges, serve the public good and* ***support developing countries****. Where possible, this programme will allow flexibility for mission-orientated schemes which cut across the thematic priorities.* "

More elaborated commitments are included in the section on international cooperation, which calls for further strengthening of international research cooperation[15], and, more importantly, which specifically mentions R&D contribution to the implementation of the MDGs:

(28) There is already a significant body of scientific knowledge capable of drastically improving the lives of those who live in developing countries; where possible, the ***Framework Programme*** *will — in the framework of the activities described above —* ***contribute to meeting the Millennium Development Goals by 2010*** (bold print by the author)

The objectives of international cooperation, as seen in the FP7, are to increase the quality of European research by attracting research talent from outside Europe and to foster mutually beneficial research collaboration with researchers from outside Europe. The FP7 has several instruments which will support such collaboration through international outgoing fellowships (with an in-built mandatory return phase to prevent brain drain from the EU); international incoming fellowships and different partnerships to support the exchange of researchers. With reference to developing countries, the FP7 is to include measures to counter the risk of 'brain drain' from developing countries and emerging economies.

Regional/ country priorities are set (p. 36) for the cooperation with third countries: candidate countries, countries neighbouring the EU, Mediterranean partner countries, Western Balkan countries (WBC), Eastern European and Central Asian countries (EECA); as well as developing countries. With each grouping, the cooperation should focus on the particular needs of the country or region concerned.

The ERA Green paper also discusses the internationalisation of R&D. On the one hand, it recognizes the need to develop a common approach to international cooperation of all member States, while on the other hand there is a need to differentiate with regard to the situation of individual partner countries. Thus, it proposes that:

> *"with developing countries, cooperation should include a significant focus on strengthening their S&T capacity and on supporting their sustainable development in close liaison with development policy, while at the same time working with them as partners in global initiatives."* (EC 2007a)

The most explicit policy document on EU internationalisation strategy was provided by the Commission in 2008. Its Communication (EC 2008a) elaborates the specifics of the strategic framework for international cooperation in S&T, from key strategic goals to the principles underlying the cooperation and actions to make ERA more open to the world. The main objective, according to the Strategic Framework on S&T, is to contribute to global sustainable

15 Article 27, p. 4 of Decision (EU 2006b).

development and to foster Europe S&T excellence. In spite of the latter receiving most of the attention in the document, specific reference is made to the Millennium Development Goals as well as to policy coherence. Greater coherence between research activities and other policies and funding instruments is expected to strengthen the impact and influence of S&T on these policies (ibid., 4.) The Strategic Framework calls for close partnership between Member States and with the EC in formulating and implementing research agendas, pooling efforts and resources, and engaging in joint activities - all towards developing Europe as a "single voice" in international R&D cooperation. The internationalisation of ERA calls for greater joint efforts by all MS, a move away from bilateral S&T agreements at the national level to a joint programme (Rieke 2009).

The Strategic Framework structures the modes and objectives of cooperation according to geographic and thematic targeting (industrialised and major emerging economies, developing countries, Africa). For developing countries, research cooperation should be aligned with development cooperation policies and the MDGs. S&T capacity building is recognised as one of the key ingredients of the cooperation with developing countries and here a clear reference is made to development policy with the statement that coherence and complementarity of S&T instruments with other instruments and programmes for external action and assistance must be strengthened at both Community and Member states' level (EC 2008a, 9).

The Strategic Framework closes with a call to the Council to identify the appropriate institutional settings for ensuring the effective implementation of the strategic European framework for international S&T cooperation. With this in mind, the CREST Expert Group on Internationalisation of R&D (CREST 2009) suggested in its report setting up a dedicated forum for international cooperation along the lines of the ESFRI[16]. A provisional title could be the European Strategy Forum for International Cooperation (ESFIC). Like the ESFRI, it would constitute a 'permanent' focal point for policy development in this sphere, with members comprised of representatives from the member states plus *ad hoc* representations from potential partner countries and other relevant stakeholders (e.g. international organisations such as the World Bank, OECD, United Nations Educational, Scientific and Cultural Organization [UNESCO], United Nations Industrial Development Organization [UNIDO], etc.). This proposal was taken on board by the CREST and Strategic Forum for International S&T Cooperation (SFIC) was established in 2009.

The R&D cooperation with developing countries in line with the objectives of development policy is therefore taken on board in the examined policy documents. Less explicit are the documents in proposing the adequate instruments (except the reference to the Framework Programmes) as well as in setting up specific targets and indicators for monitoring of the coherence issues. This seems to be the responsibility of the development policy.

16 ESFRI, the European Strategy Forum on Research Infrastructures, was established by European Council in 2002, is a strategic instrument to develop the scientific integration of Europe and to strengthen its international outreach. The mission of ESFRI is to support a coherent and strategy-led approach to policy-making on research infrastructures in Europe, and to facilitate multilateral initiatives leading to the better use and development of research infrastructures, at EU and international level; see: http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=esfri

4 Organisational set-up and implementation process

The complex structure of the EU is reflected in the organizational set-up for the implementation of the PCD and the common R&D policy. All principal EU institutions have different bodies responsible for each of the two policies: at the level of European Council, development policy is under the General Affairs and External Relations Council (GAERC), while research issues are examined at the Competitiveness Council. At the Commission level, there is DG Development and DG Research. The European Parliament has the Committee on Development and the Industry, Research and Energy Committee. PCD has its "domicile" in development policy, so the implementation process is commonly viewed as the responsibility of the bodies designated for development: Working Party on Development Cooperation at the Council of EU (CODEV), DG Development and Parliament's Committee on Development.

The two policies are subject to shared competency in decision-making. The share of common R&D activity in comparison to the activity at the member states' level is relatively small (FP accounts for 6% of total R&D spending in EU), but according to ERA should increase. Closer coordination of various activities and development of joint activities in the research field are becoming more and more important, which is reflected also in special organizational structure being developed in the area of internationalization of R&D. This opens opportunities for the policy implementation to be developed in such a way as to take on board PCD issues early on and integrate them fully to achieve synergetic impact.

4.1 The Council of the European Union

The Council plays an important role in the implementation of PCD. To briefly examine the more recent history of the Council activity, we can start with the 2005 Conclusions of the Council and the Representatives of the Governments of the Member States Meeting within the Council of the EU (2005) on the MDGs, where the Council accepted the commitment to assess existing internal procedures, mechanisms and instruments to strengthen the effective integration of development concerns in its decision making procedures on non-development policies. Following this, the Council adopted the PCD Work Programme 2006–2007, with several priorities for action, including the plan to review and improve the Council's decision-making processes to ensure effective integration of development concerns in EU decisions and integrate references to PCD commitments into the examination and discussion of Commission proposals in each policy area, where relevant. The Council committed itself to holding discussions and reviewing progress on PCD implementation on a regular basis (Council of the EU 2006a).

The first PCD rolling work programme was prepared by the German Presidency in the first half of 2007. Although some Member States find it a useful tool, the preparation of this programme is a laborious exercise, and is significantly based on the support received from the Commission.[17] The rolling work programmes on PCD had previously been structured

17 Observation made in the Report on PCD 2009 (EC 2009a). Still, the potential impact of the Presidency on the promotion of the PCD should not be underestimated, especially with the Trio format. As pointed out by Vieira and Kajnc (2010), the Trio format enables better coordination between individual subsequent presidencies to ensure continuity in the agenda and priorities. With the variety of policies included in the PCD, which also cut across different modes of governance within the EU, allowing for different levels of

according to the twelve priority areas and thus required each Presidency (and thus the Council) also to discuss the issue of research in connection with development policy objectives. And yet, beyond the regularly scheduled reviews of the Commission's reports and the Working Programme on PCD, in which CREST[18] was not actively involved, no specific input on R&D with regard to development was found.

In this regard, more is expected from the new forum, specifically devoted to this area, the Strategic Forum for International S&T Cooperation (SFIC) which was established in 2009 to

> *"to facilitate the further development, implementation and monitoring of the international dimension of ERA by sharing of information and consultation between the partners with a view to identifying common priorities which could lead to coordinated or joint initiatives, and coordinating activities and positions vis-à-vis third countries and within international fora"* (EU 2009).

According to an interview at the Council, the strongest protagonists of SFIC had been France during its presidency and Germany, where the first head of SFIC comes from. SFIC has its Secretariat within the Council, but is supported by the Commission in terms of work input: the two task forces established so far have been financially and contextually assisted by the DG Research. Establishing different ad-hoc task forces has been seen as the most operational way forward, on top of scheduled four meetings of the Forum annually. From the outset, the concept of "variable geometry" has been emphasised - reflecting different level of interest in coordinating internationalization of R&D at the EU level. According to the first annual report of activities of SFIC to the Council (CREST-SFIC 2010), the first ad-hoc task force dealt with issue of information sharing: gathering data on who does what with which of the third country so as to enable future joint activity[19] and proposed a "SFIC information officer" to perform the data analysis.

The second task force was established to prepare the criteria for the thematic and regional priorities SFIC should deal with. It should come up with the definition of the selection criteria of international cooperation, analysis of the type of instruments available and consideration of appropriate instruments for the implementation of the activities concerned. During 2009 and at the beginning of 2010, the SFIC decided to implement so-called "pilot initiatives" both in geographic as well as in thematic terms. India was chosen as a geographical priority and energy as the thematic one. The EU-India Pilot initiative is on water-related challenges. SFIC will also get involved in the preparatory meetings on platforms for dialogue in 2010 - one such being the EU-Latin America Summit and the second one the EU-Africa Summit. The latter should have a relatively strong S&T component, since it will have to assess the progress made so far in the 8th thematic priority of the Africa-EU Strategic Partnership.

In the documents of the SFIC available so far there is no evidence that the issue of R&D internationalization from the development coherence dimension would be present, but it

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involvement of the European Parliament and the Commission, a deeply knowledgeable Presidency, able to present the variety of arguments and bring to the other institutions' attention elements of the PCD which are not related to their (limited) scope of action is crucial (ibid.).

18 CREST (Scientific and Technical Research Committee), established in 1974 for the coordination of national R&D policies, was renamed in May 2010 to The European Research Area Committee (ERAC) with the main mission to provide timely strategic input to the Council, the Commission and the Member States on any research and innovation issue relevant to the development of ERA. (Council of the EU, May 2010).

19 More detailed recommendations of the task force are in the annual report (CREST-SFIC 2010, 12).

remains to be seen how the priorities will be addressed by the task force. The overall priority of the SFIC is to develop a coordinated and as much as possible joint EU approach to the internationalization of R&D. In this way the activity of SFIC in relation to developing countries is important since it signals to the Member States what is the joint EU position towards third countries in terms of geographic as well as thematic priorities. Based on the interviews, work dynamics of the SFIC depend significantly of the political commitment of the MS on the one hand and the drive on behalf of the Chair on the other.

4.2 The European Commission

The Commission, as the guardian of treaties, is mandated to take due account of policy coherence, both with regard to its internal policy-making processes as well as with its position in the EU Council (Egenhofer et al. 2006). DG Development has an important role to play in providing sufficient resources to monitor policy developments in non-development DGs to make sure PCD is adequately taken on board. It has several instruments at its disposal, from including the PCD topic in the country strategy papers (CSPs) and regional strategy papers (RSPs), according to the accepted framework (see Box 3), to inter-service consultations, impact assessment process to different formats of working groups. Several procedures are so imbedded in the daily work at the Commission that the routine approach can undermine the true policy impact. In an informal discussion with the responsible employee at the Commission it was stated that when drafting any document, it was known ahead of time which "buzz words" needed to be incorporated into the text so as to avoid conflict with any other departments and drive one's own agenda safely "home". Due to limited (qualified) human resources it is difficult to provide adequate analysis of all relevant policies, especially in the areas less prone to incoherence (such as R&D).

The revised Impact Assessment (IA) guidelines (applicable since January 2009) put the Commission in a better position to ensure Policy Coherence for Development, in so far as they call for a more in-depth analysis of possible the ways in which EU policy initiatives might affect developing countries. The guidelines state that 'initiatives that may affect developing countries should be analysed for their coherence with the objectives of EU development policy. This includes an analysis of consequences (or spillovers) in the longer run in areas such as economic, environmental, and social or security policy (EC 2009c).

Box 5: Brief overview of various tools used to promote PCD

CSPs / RSPs

A first programming framework (EC 2000) common to all regions where the Commission operates was developed and applied in 2000–2001. In 2006, the Commission published a new common programming framework (Format for a common framework for drafting country strategy papers (CSPs) and principles towards joint multi-annual programming) which explicitly includes a section on the impact of other policies on development goals. The text bellow is taken from this Framework (GAERC 2006) and describes the structure of the analysis of policy coherence for development, which needs to have two segments:

Analysis from an EU perspective

The EU shall take account of the objectives of development cooperation in all policies that it implements which are likely to affect developing countries, analyse them and promote possible synergies between EU policies and development policy in the response strategy.

This section should, where relevant, summarise the main concerns of the country and the EU donors as regards policy coherence for development, notably in the following areas: trade, environment, climate change, security, agriculture, fisheries, social dimension of globalisation, employment and decent work, migration, research and innovation, information society, transport and energy with a view to ensuring policy coherence for development.

Analysis from a wider donors' perspective

The response strategy should also analyse how non-EU donors' non-aid policies, notably in the aforementioned areas, are likely to affect the partner country.

Since the prescribed format addresses all 12 priority areas, research and innovation is regularly included in PCD assessment in CPS/RPS.

In relation to the CSPs, the Commission establishes **country teams** that undertake all programming and reviews with regard to a specific country or region. This is a technical forum that brings together all DGs and EC officials concerned with cooperation in a country. Their task is to coordinate the Commission's interests and ensure policy coherence. They do the coherence analysis for their country of concern and are thus the primary instrument for ensuring that the European Union adheres to a consistent and coherent policy towards third countries.

An **impact assessment process**[20] was set up by the Commission in 2002 within the framework of the "better regulation" package. The process provides the European institutions with an integrated methodology by which to assess policy impact. As now designed, the impact assessment process functions as a tool for improving the coherence of measures under preparation. *"It associates all relevant Commission services to the analysis, and consults potentially affected stakeholders as regards different scenarios for the policy goals to be achieved"* (COM/2005/0134 final). Through the impact assessment process, the Commission identifies the likely positive and negative economic, environmental and social effects of proposed policy actions, and outlines potential synergies and trade-offs in achieving competing objectives, thus enabling informed political judgments to be made about the proposal.

The **inter-service consultation process** is the institutional consequence of the principle of collegiality of the European Commission. All decisions are taken by the European Commission as a collegial body, which means that all DGs have to be involved in the decision-making process. EC proposals (draft Communications, etc.) are thus circulated to the other DGs through the inter-service consultation, which allow other DGs to make comments, observations and eventually negative opinions if they disagree with the proposals. This consultation is made at the technical level. If disagreements remain, they are thus solved at the political level among Commissioners. This mechanism is used by each DG to promote its own goals and policy and thus by DG Development to promote policy coherence for development although there is no specific mandate for it. Being an internal coordination mechanism only, its outcomes (comments made by DGs) are not made available to the public. It is a tool which potentially is extremely powerful as it gives DG DEV the possibility to comment on any policy proposal in any area that might possibly have an impact on development policy (ECDPM et al. 2007b, 7).

The **Inter-Service Quality Support Group** (iQSG) was set up in January 2001 as an element of the European Commission's reform of its external assistance programme. Its mandate is to propose improvements in programming methodology and thereby increase quality throughout the programming cycle. It is also responsible for screening draft strategy documents and indicative programmes and suggesting improvements to ensure a consistently high quality.

20 See: http://ec.europa.eu/governance/impact/index_en.htm

Still, according to the records on impact assessment exercises, DG development submitted only one of its policy documents to IA in 2009 (none in 2008 or up to the end of May in 2010), which did not require input from DG research. DG Research submitted 4 documents in 2008 and 1 in 2009, but none involved DG Dev in the consultation process. A new format of cross-cutting challenges as defined in the Commission's work programme on PCD for 2010–2013 apparently opens more room for the involvement in consultation processes and for making the coherence of policies an issue.[21] The opinion on the part of those evaluating the efficiency of the mechanisms for policy coherence is that they seem to work better in theory than in practice (Kaeding / van Schaik 2008).

The mechanisms above relate to the organizational set up for the promotion of policy coherence. But these are put in place mostly to prevent policy incoherence to occur, and not systematically looking for potential synergetic effects of different policies, and thus also not for identifying possible impact of EU R&D policy on the achievement of development policy objectives. In a separate chapter we will present the instruments of internationalization of R&D, specifically aimed at developing countries.

4.3 The European Parliament

The Committee on Development of the European Parliament (DEVE) is responsible for promoting, implementing and monitoring the EU's development and cooperation policy, matters relating to the ACP-EU Partnership Agreement and relations with other relevant bodies. Though it has no specific institutional mandate to promote policy coherence for development, it does refer to coherence issues in various debates and reports (ECDPM et al. (2007c).

A quite favourable assessment of the role played by DEVE was presented in the evaluation study (ECDPM et al. 2007a), observing that the activities in the area of PCD have been increasing. One of the positive elements contributing to the role played by the Parliament is also the fact that development policy is adopted under the co-decision procedure, thus giving the Parliament a more important position. The data shows that in each term of the Parliament more reports were considered by the DEVE. The committee became increasingly proactive in promoting PCD by using *own initiative* reports to foster debate on PCD matters, including the latest one adopted in May 2010.

The level of attention given to PCD depends significantly on the personal interest of the Chair and the MEPs who are the members of the Committee. In addition, the capacity of the secretariat in providing background notes, assisting members in drafting reports and managing legislative work is also important. The secretariat and the members of the Committee rely very much on the input from media and Non-Governmental Organizations (NGOs) in setting PCD agenda. The human resources constraint is the one most difficult to overcome in being more pro-active in the PCD area. Also, in the EP the systematic scrutiny system is not in place, so it happens that some positions are taken in plenary session without the possibility for DEVE to react on time, especially since the Committee does not have explicit mandate for monitoring policy coherence. If the document does not explicitly address development, it

21 Opinion expressed during an interview at DG Dev in June 2010.

doesn't even come to the Committee, and yet often it is precisely these other policy areas which can have negative influence on development objectives.

The research issues are discussed in the Industry, Research and Energy Committee (ITRE). Development topics are not on the agenda of this committee: neither the Commission's 2009 report on PCD nor the Parliament's own-initiative report were discussed by its members. While the latter does not deal specifically with the research issues, but stays at a more general level, the Commission's report, which was submitted to the Parliament,[22] had a rather extensive research chapter, which could be of interest to the ITRE.

While policy coherence is currently receiving more attention in the Parliament and the Development Committee claims that the awareness-raising has been significant, the linkage between the research policy and development policy has not yet been established. As in other institutions, the compartmentalisation of topics/ policies prevails.

5 Instruments for promotion of R&D cooperation with developing countries

There are several modes for international R&D cooperation: from exchange of individual researchers (mobility schemes) and physical cooperation to virtual cooperation, to dedicated calls for specific topics of internationally relevant research to various levels of joint programming. The modalities can be adjusted to the needs and the objectives of the cooperating partners as well as the existing capacities. This means that the design and the selection of the instruments for international R&D cooperation have an imbedded contextual connotation as regards the type of research cooperation one wishes to promote. Different instruments attract different partners and allow for different partnerships. Thus also from the policy coherence point, the selection of the instruments for R&D cooperation with developing countries is important.

5.1 Framework programmes

The main instrument for EU support to research is the framework programmes (FP). Early on, the programmes have been opened to cooperation with third countries under various schemes: participation at some segments, at own costs, at partial co-financing or with full cost eligibility. In earlier FPs, so called INCODev programmes were specifically addressing the R&D cooperation with developing countries. The FP6 took a different approach and opened up all of its activities to the participation from developing countries. As the FPs' main criteria in the evaluation process[23] is scientific excellence, developing countries experienced this as less favourable approach from the alternative of having a special window provided for them only. This led to re-configuration of instruments and a decision to open up all programmes to international cooperation as well as to design specific activities for the promotion of R&D cooperation with developing countries.

22 And was partly the reason for the EP to prepare its own PCD report.

23 This refers to evaluation criteria for selection among the submitted eligible projects. Eligibility criteria, which specify the conditions to be met by the applicant, are spelled out in the project calls already.

Within the 6th Framework Programme (FP6) for 2002–2006, there were three principal roads[24] to international cooperation and teams from 188 non-EU countries participated in research and research coordination proposals. Of these, 121 were developing countries and emerging economies, so-called International Cooperation (INCO) target countries. Eventually, some 3,316 teams from 99 INCO target countries[25] have been selected for funding after competitive and independent evaluation of proposals, receiving 303 million EUR (ibid., 118). The African countries, together with their peers from EU, filed 3,888 applications. of which 873 were successful. With the exception of North African countries (Morocco, Tunisia, Egypt, Algeria) only South Africa stood out as more active participant in FP6. The five countries actually accounted for 60% of successful applications. The Commission also supported various other initiatives for coordination and cooperation in the research field, especially in the area of agricultural research for development.

The FP7 is implemented through specific programmes, corresponding to the main themes of European research policy (Council of the EU 2006b):

— Cooperation: on collaborative research
— Ideas
— People
— Capacities.

Specific instruments for collaboration with developing countries can be found in the cooperation programmes (opening the research projects to the researchers from developing countries, focusing the research themes on development issues), in the People programme (various mobility schemes) and under capacities (networking). Besides the opening up of the general calls within the Cooperation programme, a new concept of SICAs – specific cooperation actions[26]– designed specifically for the developing countries and requesting their participation in the project team, was introduced.

The assessment of the FP7 calls executed so far (until end of 2009) shows that, third countries participation in FP7 has increased in comparison to previous FPs. In volume it now accounts for 6% of total projects under the implementation until 2010, in comparison to 5.3% in FP6 and 2.9% in FP5[27]. The participating countries (as the international cooperation in general) are divided into three groupings: developing countries, BRICS and Industrialised countries. The latter two groupings have increased their participation on the account of developing countries. During the first two years of the FP7, projects involving 368 participants from 37 African

24 The generic opening of all thematic and horizontal priorities within the first Specific Programme of FP6 entitled 'Integrating and Strengthening the European Research Area'; Specific measures in support of international cooperation and International researcher mobility through the Marie Curie Fellowships as part of the second Specific Programme 'Structuring the European Research Area'.

25 Among them 35 countries from Africa, 15 from Asia and 22 from Latin America and Caribbean (EC 2009d).

26 SICAs are included in the Cooperation Programme, the largest section of the FP with 32.413 billion for 2007-2013. The Cooperation Programme offers therefore three possible lines in support of development: opening up the possibility to developing countries to participate in general calls, including development-relevant topics in the overall PF themes and providing the finance for SICAs.

27 Internal data of the DG Research, May 2010 (to be published in Key Figures on R&D, 2010).

countries have already been main-listed. The financial EC contribution to these teams is about €53 million.

Looking at the various instruments available for international cooperation, we see that instruments differ in appropriateness by groupings of countries. The possibility to participate in general opening of the FP7 was used particularly by the industrialised countries and East European and Central Asian countries. The targeted openings were more favoured by developing countries, with the exception of Africa. In Africa, the SICAs proved to be the most acceptable and used instrument. Nearly 60% of all proposals coming from Africa were under SICAs. More SICAs are coming out of the 2009/10 specific call for Africa (FP7-AFRICA-2010).[28]

CAAST-Net analysed the reasons for limited success and found that the eligibility criteria for both the European Development Fund (EDF) and the FPs restrict access by African institutions to resources for research purposes. Largely due to the weak institutional capacities, lack and/or unreliability of communication infrastructure and several other structural impediments, the involvement of African institutions in EU-funded research programmes has, in their opinion, been dismal, although on the increase (Barugahara / Tostensen 2009a).

5.2 International Cooperation Networks (INCO-Nets) and European Research Area Networks (ERANets)

For the promotion of research in developing countries, capacity building is crucial. While this is not the direct task of the FP7, it does provide funding for the INCO-Nets under the Capacities programme[29], which enable the facilitation of networking and dialogue and should function as multi-stakeholder interfaces between developing countries and EU[30]. An important task for the INCO-Nets is to promote the participation of the researchers from the developing regions in the research projects under 7FP as well as suggest/map priority research topics of regional importance to the EU. In 2008, several INCO-Nets with developing countries focus and participation were established[31]. On average, each of the INCO-Nets received 3 million EUR for the duration of 48 months[32].

In 2009, a new call for INCO-Nets was published (bi-regional coordination of S&T cooperation including priority-setting and definition of S&T cooperation policies), focusing

28 The call had a deadline in January 2010, with evaluation to be completed by end June and the contracts starting in 2011.

29 See: http://www.ncp-incontact.eu/nkswiki/index.php?title=Projects_supporting_International_Cooperation

30 The allocation for international cooperation within the FP7 Programme Capacities for the period 2007-2013 is 180 million EUR.

31 Among them: MIRA (Mediterranean Innovation and research Coordination Action), CAAST-Net (Network for the Coordination and Advancement of Sub-Saharan Africa-EU Science & technology Cooperation), SEA-EU-NET (Facilitating the bi-regional EU-ASEAN Science and Technology Dialogue) and EULARINET (Coordinating Latin America Research and Innovation NETworks).

32 Detailed data on all the INCO-Nets, including the participants, main projects and financial data is provided in the EU report on INCO-Nets (EC 2008c).

particularly on four INCO-Nets (CAAST-Net, MIRA, SEA-EU Net and WBC-INCO-Net[33]. What is particularly interesting for this call is that it opens the possibility for more extensive regional coverage of S&T and identification and the prioritisation of common research areas of mutual interest and benefit. For each of the eligible INCO-Nets special policy priorities are suggested in the call, based on the evaluation of the two years of activity.

Besides INCO-Nets, FP also knows ERA-Nets (the coordination of national policies and activities of Member States and Associated States concerning international S&T cooperation) and BILATs (bilateral relations in R&D area[34]). In 2010, 5 ERAnets in the area of international cooperation are being active[35] and 17 BILATs, of which 12 are with BRIC or developing countries.

An example of a ERANet, involving a developing country, is the Initiative for the Development and the Integration of Indian and European research- INDIGO[36] with the tasks of the identification of research priorities of mutual interest and benefit between the participating EU Member States and India and the management of a joint call, which will help structure high quality collaborative research European Commission (EC 2009 f., 8). The project coordinates the activity of 11 partners (with two coming from India) and has 6 observers (with 4 from India).

5.3 Mobility schemes

International cooperation in the FP7 is reinforced by the international dimension of the People Programme[37], which supports researcher mobility and career development. The programme is primarily directed at supporting European researchers who undertake research abroad, but also includes two segments focusing on attracting research talent from outside Europe and fostering research collaborations. These schemes do not prioritise in any way applicants from developing countries and scientific excellence is emphasised as the most important selection criteria.

Two specific programmes are available:

a) *International incoming fellowships for experienced researchers*: Researchers from third countries are offered support to undertake research projects in Europe with a view to enhancing the possibility of future collaborative research links with Europe. The scheme

33 WBC-INCO NET focuses on West Balkan Countries. Two other INCO-Nets in Latin America and the Eastern European one already got the extension of their activity financed through another, earlier call; online: ftp://ftp.cordis.europa.eu/pub/fp7/docs/wp/capacities/inco/u_wp_201001_en.pdf

34 The BILATs are the activities that cover the bilateral coordination of S&T policies with those countries that signed (or are in the process of signing) an S&T agreement with the Community. On average, the activity is supported by the Commission for a period of 36 months with a sum of up to 500,000 EUR (call 2007) (EU 2009e).

35 Black Sea, India, Russia, South Korea and South East Europe. The ERA-Nets receive financial support between 1.5 to 3 million EUR for a duration of 36 to 46 months, depending on the project proposal. See also: http://ec.europa.eu/research/iscp/index.cfm?lg=en&pg=eranet

36 See: http://www.newindigo.eu/about.html

37 The allocation to FP7 People Programme is 4.7 billion EUR for the duration of the FP7; online: http://cordis.europa.eu/fp7/people/home_en.html

provides financial support to individual research projects presented by the incoming experienced researchers in liaison with a legal entity (host organisation) in a Member State or an associated country. The novelty, which could be quite important for the researchers from developing countries, is that the fellowship may also cover a return phase of up to one year. This is meant to provide for the application of the experience that is gained while doing research in EU. The return phase option is opened to the applicants from international cooperation partner country.[38]

b) *The Marie Curie International Research Staff Exchange Scheme* is an action aimed at strengthening research partnerships through staff exchanges and networking activities between European research organisations and organisations from third countries with which the Community has an S&T agreement[39] (or are in the process of negotiating one). Compared to existing Marie Curie actions, which provide mobility possibilities to individual researchers, this action provides support to research organisations to establish or reinforce long-term research co-operation through a coordinated joint programme of exchange of researcher staff for short periods.[40]

Available figures for 2008 show that most of the developing countries' researchers who were supported by these programmes came from the countries with a relatively well developed S&T capacities (China, India, North African countries). The contribution of the schemes to local capacity building, to which in principle these two schemes should contribute to, has therefore been lower than expected, suggesting highly limited positive coherence. On the other hand, the numbers of researchers involved from especially the least developed countries are so low, that the incoherence effect due to brain drain is not found[41].

5.4 European Development Fund and R&D

The third pillar of international cooperation with developing countries in R&D is building/ strengthening the R&D capacities. This is considered to be primarily the task of the development finance through EDF. The strategy paper and intra-annual indicative programme of the 10th EDF (ACP-EU 2009) include the area of Research and specifically address capacity-strengthening, which needs to be built across a broad spectrum of policies and measures. These range from policy development, to basic S&T capacity building, adaptation of existing technologies to local conditions, making research results accessible to ACP users (including through public web archives) and providing infrastructures and risk capital at appropriate scales to unleash the significant innovation potential that exists in ACP countries (ACP-EU 2009, 30). Reinforcing research capacity is expected to enable better complementarity with and uptake of opportunities opened by European Research Framework

38 See: ftp://ftp.cordis.europa.eu/pub/fp7/docs/icpc-list.pdf

39 EU had 32 S&T agreements in spring 2010: 17 EC and 15 EURATOM. Of the 17 S&T agreements 12 are with emerging/ developing countries (but only one in Sub-Saharan Africa: South Africa).

40 See: http://cordis.europa.eu/fp7/people/international-dimension_en.html

41 140 fellowships were awarded to the in-coming researchers from third countries, with 12 going to researchers from Latin America, 5 to Africans, 25 to researchers from China and 15 to India. Only 8 fellowships for European researchers going to third country were for the research in developing country, majority of outgoing scholarships were for research work in USA (EC 2009a, 135).

Programmes, thus recognising the potential of synergy effects of the two policies dealing with development and R&D.

Overall, the objective of the science and research part of the indicative programme is to address the scientific divide and strengthen the ACP States' capacity in the areas of science and technology and innovation. In terms of more specific objectives, two scientific areas are suggested: biotechnology and space applications. Much pronounced is also the need to provide adequate dissemination and application of scientific knowledge. Indicative allocation of funds under this line was EUR 40 million[42].

The indicative paper lists main expected results, which remain at the rather general level of increased number of scientists, technicians and engineers in the ACP countries, creation of centres of excellence and improved infrastructure and facilities for R&D. As to the types of activity to be supported, the input from the S&T pillar of the Africa-EU Partnership on Science, Information Society and Space is expected. And yet, within the EDF, science and research overall have a relatively low status in terms of the finance allocated to the capacity building (the total amount in the Indicative programme is 2.7 billion EUR), both in comparison to allocations to other development objectives as well as in comparison to the allocations for international R&D cooperation.

5.5 Other instruments

One of the more specific instruments for the cooperation with developing countries in the field of research under article 169[43] is the European & Developing Countries' Clinical Trials Partnership (EDCTP). This was created in 2003 as a European response to the global health crisis caused by the three main poverty-related diseases of HIV/AIDS, malaria and tuberculosis. It unites the 14 participating European Union (EU) Member States plus Norway and Switzerland with sub-Saharan African countries. The partnership helps EU Member States to integrate and coordinate their own national research and development programmes and form partnerships with their African counterparts. All EDCTP-funded projects are undertaken in partnership with sub-Saharan countries. EDCTP aims to accelerate the development of new or improved drugs, vaccines and microbicides against HIV/AIDS, malaria and tuberculosis, with a focus on phase II and III clinical trials in sub-Saharan Africa. The European Commission funding is provided through FP, first the 6th FP and currently the 7th FP with the 2008 contribution of 29.5 million EUR[44].

42 This seems relatively small in comparison with for example, a single Marie Currie Call for International incoming fellowships, which was worth 28 million EUR; online: http://cordis.europa.eu/fp7/dc/index.cfm?fuseaction=UserSite.PeopleDetailsCallPage&call_id=242

43 Article 169 (or Article 185 of the Lisbon Treaty) enables the Community to participate in research programmes undertaken jointly by several Member States, including participation in the structures created for the execution of national programmes; online: http://cordis.europa.eu/coordination/art169.htm

44 EDCTP receives significant support also from its members and Third Party donors, which include WHO as well as several large pharmaceutical companies. In 2008, their support amounted to 50.9 million EUR. (EDCTP 2008).

Via the Food Security Thematic Programme[45], the Commission is also supporting the European Initiative for Agricultural Research for Development (EIARD)[46]. EIARD members are the twenty seven Member States of the European Union, plus Norway, Switzerland and the European Commission. EIARD is a permanent informal agricultural research for development (ARD) policy coordination platform with the objective to enhance the appropriateness and effectiveness of European investments in ARD at national, regional and international levels both in Europe and developing countries. The initiative is an example of an instrument combining the development objectives (agriculture development) with research, yet with only indirect participation of developing countries' research.

Within different regional and country S&T cooperation agreements, other schemes are also operational. Additional cooperation programmes are available for some developing countries, especially those covered by other cooperation schemes of EU (for example Mediterranean countries, European Neighbourhood Policy (ENP) countries, etc., i.e. mostly middle-income countries). This suggests that there are plenty of opportunities to engage more systematically in building stronger coherence of R&D internationalisation policy with the development policy objectives.

5.6 A case of Africa as an example of EU international R&D cooperation with developing countries

In late 2007, the Joint Africa-EU Strategy was launched, accompanied by the Action Plan in eight partnership areas. The 8th Partnership on Science, Information Society and Space has three major priorities (EAS 2007):

- Priority action 1: Inclusive information society
- Priority action 2: Support S&T capacity building in Africa and implement Africa's Science and Technology Consolidated Plan of Action, with the objective to bridge the scientific divide, to strengthen the African capacities in the area of science and technology and enhance the use of S&T as key enablers for poverty reduction, growth and socio-economic development.
- Priority action 3: Enhance cooperation on space applications and technology (environment, resource management, climate change, peace and security); Global Monitoring for Environment and Security (GMES) for Africa; GALILEO.

Under priority two numerous activities are proposed, from R&D policy development to finding innovative ways of financing R&D and the promotion of participation of African research community in EU programmes[47]. The main actors in the implementation of the priority are not just African Union (AU) and EU, but UNESCO and other UN agencies, private sector, international financing institutions, EDCTP, etc. A wide range of financial sources were identified: from the 10th EDF, the EU budget financing instruments on development cooperation (DCI) and the European Neighbourhood Policy Instrument (ENPI),

45 See: http://ec.europa.eu/europeaid/how/finance/dci/food_en.htm

46 See: http://www.eiard.org/index.html

47 The basis for the Priority action 2 was Africa's Science and Technology Consolidated Plan of Action (AU-NEPAD 2005).

bilateral contributions from EU member states, special African S&T Fund; the FP7 Cooperation and People Programmes.

Further elaboration of the cooperation under the 8th Partnership was carried out by the African Union Commission and the European Commission in so called "Book of Projects", also referred to as "Lighthouse Projects". In the area of S&T cooperation 12 S&T projects were identified in four sections.

Box 6: List of Lighthouse Projects (AUC-EU 2008)

a) African research grants
b) Popularization of S&T and promotion of public participation (Scientist awards, S&T days, Academies of S&T, Pan African Parliament workshop on S&T)
c) Capacity building in S&T at African level:
   - Policy framework
   - Small and Medium Enterprises (SMEs) S&T for development network
   - Use of indigenous and traditional knowledge
   - Pan African intellectual Propriety Organisation (PAIPO)
   - African Observatory of Science, Technology and Innovation (AOSTI)
d) Capacity building at thematic level
   - Water and food security in the Nile basin
   - Agriculture and natural resource management
   - Biotechnology for agriculture
   - Desertification and forestry
   - Climate change

For each proposed project, the Book includes an elaboration of the project's background, detailed objectives, risk assessment, financial plan, etc. It reads as nearly ready-made project proposals. Considering that this was part of the Action plan 2008–2010, the list of activities is very ambitious, but many of the projects are of the long-term character, so they remain valid even if not implemented within this time-frame.

The two main deliverables of JAES in the field of science, which have been implemented so far, are:

1) A special 7FP Call for Africa, published on 30 July 2009, with deadline in January 2010 for 63 million EUR[48]

2) Popularisation of S&T: African Scientist Award[49]:

48 The FP7 Africa call is distributed to the following topics:
39 million Theme 1 – Health (6 topics: 4 SICAs and 2 Coordination and Support actions – CSA) 6.5 million Theme 2 – Food, Agriculture and fisheries and Biotechnology (1 SICA and 3 CSA) 17.5 million Theme 6 – Environment (including climate change) (5 SICAs)

49 The first African Women and Young Scientist Awards were given on African Union Day, 9 Sept. 2009. This was followed by the continental African Scientist Award given at the AU Summit in January 2010.

Of other projects, the African Research Grants Scheme, with EUR 15 million from S&T allocation of 10th intra-ACP indicative programme, is under preparation, with the idea of an AU Commission to issue a call, similar to FP calls, for African researchers (EC-ACP, 2009). While initially it was planned for the two calls to be issued simultaneously, the AUC has experienced several logistical problems in the preparation of the call and it is therefore planned for 2010.

The implementation of the 8th Partnership suffers many of the same problems as the implementation of JAES in general. Several analyses have appeared in the recent months on JAES, stressing the many problems in its implementation architecture, the issue of financial resources (an African request for a special envelope vs. the EU's intention of redirection of the existing EU funds, earmarked for Africa, to JAES), incomplete understanding of institutional dynamics on both sides, the issue of capacity asymmetry, etc. (Bello 2010). Part of the reason for this sub-optimal implementation is the stark asymmetries in capacities between the two Unions. The AU, with its expanded mandate to promote pan-African integration agendas, was launched in 2002 and has to coordinate 53 countries. Inevitably, there is still some way to go before the new continental structures, processes and capacities are in place and working (Bossuyt / Sherriff 2010). It seems that this reality was insufficiently reflected in the JAES process and in the demands the stakeholders made to each other confirm this; the experience with the African Research Grant Scheme is one of the examples.

The Commission's assessment of JAES (EC 2009 g) in 2009 sees the work of the Joint Expert Groups (JEGs)[50] as problematic at the institutional level, due to insufficient preparation and coordination of their work, in particular on the African side. The assessment found a mismatch between agenda and intended working programme on the one hand and the participants' level of expertise and decision making authority on the other. This was also one of the reasons for the delay in 8th Partnership, where the progress in between six-monthly physical JEG meetings is very slow and several issues took much longer time to resolve than expected on either side.

The long list of identified unresolved issues in the overall JAES implementation contributes to the fact that coordination in non-problematic areas like in the 8th Partnership receives even less attention. One of the indications that S&T cooperation with Africa is not treated as a priority is also the recent meeting of the two Commissions, where the progress achieved in the JAES implementation was assessed. According to the press release[51], the 8th Partnership was not on the agenda of the discussions in Addis Ababa, neither is the topic considered as a priority for the discussion on Africa-EU Summit in November 2010.[52]

A good analysis of the current experience in the R&D cooperation between Africa and the EU was provided by CAAST-net (Barugahara / Tostensen 2009a). They identified the lack of dialogue between the scientific and development community, where they see a lot of rhetorical statements which remain lip service and never move towards operationalisation.

50 Each thematic partnership has JEG to support and direct the cooperation.

51 Meeting between the European Commission and the African Union Commission in Addis Ababa , June 8th (Europa 2010: IP/10/692).

52 The themes for discussion at the 3rd Africa-EU Summit will include Peace and Security; the Millennium Development Goals (MDGs); Climate Change and Energy; as well as Economic Growth and Africa's economic integration (IP/10/692).

They diplomatically assess that *"the policies underlying the FPs are not entirely coherent with those in the development sphere"* and call for more consideration for development implications in projects, or at least application section (a kind of policy brief on the potential use of the research results in practice), which would then enable the take-up of the research results in development programmes. This could be complemented by systematic networking of development cooperation programmes with local knowledge institutions to the strengthening of science and research as proposed by Stamm (2007). To achieve better results in S&T capacity building and subsequently enable African research to take part in FPs, there should be better convergence of FPs and the EDF. So far, EDF sources are seldom used for the S&T capacity building, both at national and regional level. This reflects the low priority assigned to S&T by the national governments of African countries as well as by the donor community.

Proposals and recommendations of CAAST-Net (Barugahara / Tostensen 2009b) focus on better cross utilisation of EDF and FP funds, with the first one focusing on institutional capacity building (including common platform for synergetic undertakings, building adequate network infrastructure). An interesting idea, which could be included in part in the FP7 People programme, is the tapping into the African diaspora[53] by developing the support schemes for short and medium term placements at African universities and research institutes or schemes such as sabbaticals or virtual return. This could do more for capacity building in the S&T than the current schemes of international fellowships.

6 Assessment and the evaluation through the PCD reports

We come now to phase three in our policy coherence cycle, which consists of effective systems for monitoring, analysis and reporting. It involves an evaluation of the ongoing processes and instruments, collecting evidence about the impact of policies to enable evidence-based policy conclusions. The monitoring and reporting on PCD has been the task of the Commission, with the first report published in 2007 (EC 2007b). The report is structured around the twelve priorities and thus provides the information on coherence with the research policy as well. It was followed by the second PCD report in 2009 (EC 2009d), using the same format.

In 2007, the European Commission presented its first report on progress in the PCD (EC 2007b). Among the overall main findings, the increased awareness of the external impact of EU policies beyond development within EU institutions was stressed as well as the establishment of relevant mechanisms such as inter-service consultations, the impact assessment system and the Inter-Service Group with specific task of promoting PCD. The progress at the EU level was assessed more favourably than the progress at the level of individual member states, where the commitment to PCD promotion reflected considerable variety in approaches and institutional set-up. The countries that have adopted a "whole of government approach"[54] to policy coherence for development had a better record on PCD

53 More than one-third of Africa's highly qualified human resources are at present in the diaspora, according to the estimate of CAAST-Net (Barugahara / Tostensen 2009b).

54 *"A whole-of-government approach" can be defined as "one where a government actively uses formal and/or informal networks across the different agencies within that government to coordinate the design and*

(Sweden, the Netherlands) as the entire government rather than a single ministry or agency alone was responsible for coherence of development cooperation.

More explicit information and assessment for the Research & Innovation area were provided in the Commission Staff Working Paper (EC 2007c). As expected, the most important instrument for stimulating the R&D in developing countries was the Framework programme. The assessment of the collaboration during the 6th FP, however, pointed to difficulties in accessing the FP, since the conditions (selection based on excellence), content (little attention paid to poverty issues) and procedures (too difficult) were hampering the participation of researchers from developing countries. This was to be avoided with some of the new elements of the 7th FP. More needs to be done in the area of capacity building of the research institutes in developing countries. Stronger synergies and coherence between the FP and the development instruments would better benefit developing countries. The report proposed the increase in funds for research specifically targeted on poverty issues and called for not only research "for" but "in and with" developing countries, especially in so called "global challenges", i.e. health, agriculture, energy, climate change, and the social dimension of globalisation.

The second report on Policy Coherence for Development and the accompanying staff paper were presented to the Council in Sept. 2009 (EC 2009d; 2009a). While significant progress in PCD is noted at the level of the Commission, a lack of continuity was noted at the Council level, while at the level of the Member States, "individual" progress was noted. Especially MS pointed to the lack of political will and "the limited priority given to world poverty reduction as a serious hindrance to progress on PCD" (EC 2009d, 4). The report proposed that the monitoring in future was more focused: not on all policies, but a more focused approach on some key development challenges.

A detailed assessment of PCD in the 12 priority areas is provided in the Staff Working Document (WD). The progress towards PCD commitments in Research and Innovation since the 2007 report had been, according to the Commission, considerable. The WD found two documents especially important: the EU-Africa 8th Partnership' in Science, Information Society and Space and the Commission's Communication on a Strategic European Framework for International Science and Technology Cooperation. Some countries (Germany, UK, Sweden, and the Netherlands) introduced several specific development objectives in their R&D programmes.

The FP7 with its instruments has been widely opened to participants from developing countries, with the Specific International Cooperation Actions (SICAs) and targeted calls for projects for consortia with researchers from third countries designed to lower this barrier. Parallel to the promotion of participation of the researchers from developing countries in FP7, the resources for research contributing to the achievement of the MDGs have increased. The areas of research where this has been most pronounced are: health, food and agriculture, environment and energy. The third pillar of R&D/ PCD interaction is the strengthening of the capacity of developing countries in the area of research. Here, the EU has not fully lived up to

implementation of the range of interventions that the government's agencies will be making in order to increase the effectiveness of those interventions in achieving the desired objectives" (OECD 2006).

the expectations in terms of the resources provided[55]. A special chapter on the 2009 WD is devoted to the issue of mobility of researchers.

The most important change proposed by the 2009 PCD is the change in monitoring of the PCD in the future. The argument given for a change was that the EU could promote PCD more effectively through a more focused approach taking on board the changes in the internal and external environment. This proposal was further elaborated in the Commission's Communication (EC 2009h).

The criteria for the selection on what to focus were:

— Minimising the negative impact of EU policy decisions and legislative initiatives on developing countries;

— Importance to developing countries and relevance for the MDGs.

— Offering sufficient concrete opportunities to make them more development friendly and contribute to a development prone policy or legislative framework.

— Linkage to a long-term EU agenda.

The thematic "global challenges" on which the promotion of PCD should focus in the future are:

— Combating climate change: ensuring the developmental component of EU polices;

— Ensuring global food security: taking account of the international dimension, including developing countries' needs in EU policies;

— Making migration work for development;

— Seeking opportunities to use intellectual property rights for development;

— Promoting security and building peace for development.

This proposal was endorsed by the EU Council (Council of the EU 2009): the PCD Work Programme 2010–2013 (EC 2010b) now focuses on the five global challenges and elaborates PCD in more detail in each of them. Each sub-topic (all together 26!) is given the specific targets as well as indicators by which the progress is to be measured. This should make it easier to monitor and evaluate. The approach seems to be quite demanding, since each of the 26 sub-topics has several targets and a set of indicators. Most of the targets and the indicators are relatively broad and at times it is difficult to tell how the selected indicators are going to be measured (see Box 7).

55 Referring here in particular to the pledge the EU made in recommendations put forward by the Blair Commission for Africa in 2005 (EC 2009a, 133).

Box 7: Selected targets and indicators for some sub-topics in the Work Programme (WP) on PCD 2010–2013 (related to R&D area)
2.5. Intellectual property rights (Work Programme p.11) - within trade and finance theme
Target: to make better use of IPRs for development, for example to promote investment and innovation and to facilitate intellectual property rights (IPR) protection in the EU of export products from developing countries
Indicator: progress in negotiating at World Trade Organization (WTO) and World Intellectual Property Organization (WIPO) the protection of generic resources and traditional knowledge, in liaison with negotiations under the Convention for Biological Diversity.
4.3. Research and development (Work Programme, page 22) – under the food security theme
Target: to strengthen research efforts targeted on malnutrition and agricultural production
Indicator: identify and share with the research community in Africa research needs on malnutrition.

The Commission, especially DG Development, claims that a new approach will make it easier to enforce coherence, especially from the cross-cutting perspective, which the 12 areas did not allow for. On the other hand, some other DGs, whose area of work does not fall directly within the five challenges, feel that PCD is no longer so explicitly on their agenda.

From the research policy perspective, only very few topics address cooperation in the R&D field with developing countries:

- Part of the "trade challenge" is the area of intellectual property rights
- Part of the "climate challenge" is the collaborative research with developing countries on climate change
- Part of the "food security" challenge includes the topics of R&D and innovation in agricultural area, especially in relation to fighting malnutrition.
- Part on "migration" emphasises the importance of "brain circulation" schemes to enable the researchers to come to work in EU for a couple of years, but include dedicated return mechanisms.

Since the new approach has only been endorsed few months ago, it is difficult to assess what the impact will be on PCD. Despite its complexity, the 12 priority areas under the previous reporting had a clear "ownership" and a DG responsible for monitoring and at least every second year produce some input in the overall PCD report. The new approach puts more responsibility on DG development - cross-cutting themes are a nice concept only if accompanied by appropriate structure. As we could observe from the policy documents, even the current relatively clear responsibility for policy coherence in research, the EU has often not moved beyond statements or policy intent. The development aspect of research policy and the internationalisation of R&D cooperation is in principle taken on board both in the FP7 as well as in the Strategic Framework for S&T, but when it comes to specific programmes and instruments, the question of priorities comes to the fore and development objectives are not among the top ones. The new approach of thematic challenges may further dissolve the responsibilities of non-development directorates to consider development objectives in design of their policies. The new approach was not welcomed by the NGO community either. In its assessment of PCD 2009 report, CONCORD (2009) states: "*The Commission appears to be*

moving away from the broader PCD agenda to set of political priorities with which they feel more comfortable".

The Commission Report on PCD triggered off the preparation of so called own-initiative report (EP 2010) by the Development Committee of the Parliament in May 2010. While not addressing specifically the research issues it includes some of the general findings, which can be applied to the area of our specific interest as well. It focuses on several unresolved issues and suggests action to be taken by the Parliament itself, by the Commission and the Member States. The report finds the lack of political support for PCD at all levels, problem with unclear mandates, insufficient resources to ensure monitoring of the PCD, absence of effective monitoring tools and indicators and lack of prioritization of PCD over conflicting interests. The report warns that the selection of 5 broad areas should not replace monitoring of the 12 "traditional" PCD policy areas, even more, the report suggests to the Commission to work towards identifying incoherences whenever they occur. The Commission is criticised for insufficient use of available PCD instruments, like the impact assessment, since *"out of 82 impact assessments conducted in 2009 by the Commission, only one was dedicated to development"*. While not referring directly to the PCD indicators included in the Commission's Working Programme 2010-2013, the report asks the Commission to use systematic, clear benchmarks and regularly updated indicators in order to measure PCD.

One interesting idea presented by the authors in the draft report did not make it into the final report. A proposal to establish a procedure for complaints against failures of the Union to respect PCD commitment was made both in the EU and developing countries. The idea was that cases could be brought to the European Ombudsman. However, this was not accepted by the majority of the EP. Instead, the final report suggested the appointment of a special "standing rapporteur" for policy coherence for development with the mandate of following up and informing the DEVE Committee of incoherences in EU policies. The Parliament also asked for a clear mandate to assess PCD, for clear and operational goals and for detailed procedures to carry out this exercise (EP 2010, 10). The Parliament suggested drafting a biennial EP report on PCD, with all of its committees contributing. This would raise the exposure of the PCD concept significantly within the EP.

The Report was adopted by consensus in the Parliament. It had a considerable impact on awareness-raising within the Parliament when the Report was being debated. In some cases it is being taken up by some of the national parliaments and debated on, resulting in more attention to their own national policies in the PCD area. The Committee plans to remain active in the field, but sees itself seriously limited in terms of human resources when it comes to more complex topics, like international negotiations or topics, where cases of policy (in)coherence are less covered by NGOs or media.[56] This would explain why topics like coherence of development and research policies do not come on its agenda.

7 Conclusions – Policy coherence between R&D and development policy?

The structure of the coherence assessment of R&D and development will be according to the definitions on coherence/ incoherence presented in the chapter 2.

56 Information obtained during the interview in the European Parliament.

The coherence between R&D and development policy fits under what Hoebink calls the *horizontal coherence*, and can be assessed from the perspective of intended and unintended coherence. To see if potential for the positive synergies of the two policies is tapped into, we need to look especially for *intended coherence*, which would be reflected in the policy measures and specific instruments for internationalisation of R&D with development objectives in the foreground. In principle, the main policy documents on internationalisation of R&D do suggest the cooperation with developing countries as one of the priority areas, especially in the themes identified as the global challenges. The potential of coherent design of the internationalisation of R&D activity to contribute to the development objectives is less pronounced. Reasonably so, the EU is primarily concerned in drafting its policy agenda in R&D for the implementation of its own objectives, like raising the competitiveness of its economy, advancing its science and technology, making the European Research Area a welcoming and attractive place for its researchers as well as for the highest qualified ones around the globe. This is the mainstream priority of the R&D policy (i.e. building of ERA) and is therefore reflected in the prioritisation within the internationalisation strategy as well. In addition to this, research is still primarily the domain of member states and only gradually and carefully the ideas like joint programming and coordinated collaboration with third countries are developed at the EU level. Here we touch upon the issue of *vertical coherence*, coherence in policies at the EU level with the policies at the national level. Both, the development policy and the research policy at the level of member states have a strong national focus and their own priorities. As we saw in the work of SFIC, just accepting the idea of building a joint data base on activities in internationalisation of R&D by member states took a year, in spite of pronounced variable geometry principle. The progress of moving to the joint EU internationalisation agenda in a manner coherent with development objectives is likely to be very slow and very much dependant on the commitment to driving the topic forward by key countries/ individuals.

At the level of instruments, several elements of what could be called *unintended incoherences* are present. One of the more obvious ones is the lack of clear responsibility or interest for funding the research infrastructure, which could enhance the S&T capacity of developing countries. The low priority assign to S&T in various development funding programmes (EDF, DCI, etc.) both by the recipient countries/ regions and by the donor side result in insufficiently developed S&T capacities. No matter how wide the door to participation in FP is opened, operating under its current principles will not make it easily accessible to developing countries. Again, one needs to be realistic: Framework Programmes have been designed to promote joint European research of excellent quality, thus it is imperative that scientific excellence remains the major criteria for allocation of resources. Its instruments are not development instruments and can address development objectives only indirectly. So if insufficient funds are provided from other sources (like the EDF) for developing S&T capacity, this is incoherent with the policy of opening up research funding opportunities based on criteria of excellence. All three key elements of supporting S&T in developing countries should be developed coherently: (i) the research infrastructure, (ii) funding of the research relevant to developing countries and (iii) funding of the research by developing countries researchers.

The fear of *unintended (in) coherence*, deriving from the instruments, supporting researchers´ mobility on brain drain has proved to be so far unnecessary due to very low numbers. This however also means that mobility schemes have contributed little to the capacity building. Several interesting proposals have been identified, especially promoting the engagement of

Diaspora in capacity building (CAAST-net proposal for Africa, for example), but they need someone to act upon them.

The assessment of Picciotto´s *intra-government* coherence goes along the same lines as the horizontal coherence one. In addition, we could argue that the complex organisation scheme of the main EU institutions makes it very difficult for the two policies to be seen or treated in a complementary fashion. In each institution we have different bodies responsible for the design and implementation of development policies on one hand and the research policies on the other. The overarching concept of policy coherence for development has its home base with the DG Development. In spite of the claims made by the DG Dev that a change from 12 priority areas to five thematic challenges is not going to affect the attention of those, not directly responsible for development, it is reasonable to expect lower interest for the PCD in non-development policies. Even at the time when research was one of the priority areas, the cross-cutting debate on the impact of research for achieving development objectives was rare and happened mostly within the framework of preparing the input for PCD biannual report. Without clearly designated responsibilities for coherence monitoring in these new broader themes the end result may be contrary to the one planned: instead of the more focused approach called for, a less transparent one with less political weight of PCD.

We do not have sufficient evidence to assess the *donor-recipient* coherence (Piciotto), except for the observation of a negative coherence: neither side pays significant attention to research policy as an element of development policy. This can be observed in the comments made in regard to priority setting in CSPs/ RSPs and EDF or in putting S&T issues on the agenda when discussing the cooperation/ partnership strategies. A more detailed analysis in this area could be a topic of future research. Ironically, S&T cooperation agreements seem to be politically comfortable documents to sign, since they often bring little specific (or problematic) commitment to the signatories.

More complex political decision-making processes due to the globalisation can result in policy incoherence (cf. Ashoff 2005) – and apparently do so in the case of the two policies under consideration. On one hand, the EU development policy is being shaped by the global aid framework and has to respond to challenges this brings. On the other hand, the R&D systems are undergoing a trend of moving from national to increasingly international, since many of the research topics can only be approached through pooling of the global resources. This has a contradictory impact on policy coherence. A long-term policy would suggest more room for inter-linkage of the two areas in a sense that global issues require global response also in the field of science and developed world thus needs to bring developing countries on board. And yet, politics is usually shaped by rather short-term priorities, where R&D's contribution to one's own competitiveness[57] is more important than broader, long-term themes.

Divergent political interests at the EU level are not so pronounced with the two policies under consideration to lead to the policy incoherence. At the level of policy statements, we find commitment of R&D policy to contribute to the implementation of the MDGs, even direct call for contribution of the FP to the achievement of development objectives and coherence with other relevant policies. Since the financial resources so far dedicated to the specific

57 A key argument for the increase of R&D investment to the target 3% of GDP in EU is the contribution of research to the increased competitiveness (EC 2010a).

instruments in support of S&T cooperation with developing countries are relatively limited, there is no feeling that they threaten the financing of the main R&D programmes. As for the policy weakness as the reason for incoherence, neither of the two draw most of the political or public attention at the EU level. The objectives of the EU research policy are not overshadowing the development policy objectives; there is no power play between the two, possibly resulting in incoherence.

As we continue to explore reasons for the policy incoherence according to Ashoff's framework, we suggest that it is the causes in the area of policy formulation and coordination as well as the causes at the conceptual level that lead to insufficient coherence of the two policies. At the level of the development policy formulation, there seems to be limited attention given to the issues of research[58] or to the importance science and technology may have on the development process. On the other hand, the research policy, especially in its internationalisation strategy, does address cooperation with developing countries. And yet, at the level of policy instruments, the priority in this cooperation is given to opening the door to the participation in regular programmes and to the inclusion of topics relevant to developing countries. The synergy of the two policies could be enhanced by more direct support to the capacity building programmes in S&T. Sufficient R&D capacity in developing countries is a precondition for enabling fruitful cooperation.

The process of policy coordination corresponds with what was discussed under the intra-government coherence. A key challenge for the EU – just like for nation states, but arguable more pronounced at the European level – is structural: The entire policy formulation process, especially at the level of action plans and specific activities at the regional/ country level seems to be so complex that a transparent overview of what is being done by different departments even within a single directorate is hardly possible. Each unit has its own targets to follow and priorities to pursue, so despite recognition of the importance of coordination and coherence, these are difficult to achieve in practice. The amount of documentation from expert groups' analyses to various commissioned research or/and policy papers is large and at times contradictory in priorities assigned. In R&D internationalisation at the EU level, the sensitive issue is also how much the member states want to coordinate and how much they prefer to control at the individual country level. While the member countries in principle are agreeing that the policy coordination and "speaking with one voice" is good for EU, when it comes to deciding on a joint action, member states are more cautious. In such cases, at the level of individual policy, the option is to apply a variable geometry. But to achieve the synergy coherence effect of the two separate policies, a wider support at the EU level is needed.

Problems in policy formulation are a paradox: they lie in information shortage on one hand and information overflow on the other. Since each of the policies is formulated within its own structure, and not necessarily always at high enough level that the policy coherence mechanisms need to be applied, there are certainly cases of information shortage. This is apparent even more at the instrument/ action level. It is true that not everybody needs to (or can) know everything relevant to a particular activity, yet information shortage can contribute to policy incoherence in terms of priority setting. On the other hand, there is an overflow of

58 The European Development Consensus dedicated one sentence to research: "*It (the Community) will also increase its support to development- related research.*"

information coming, as mentioned above, from numerous papers, expert groups, networks, sub-committees at topical and geographical level, making it hard to properly combine it all in a transparent and coherent manner.

At the conceptual level, the increasing complexity of development agenda (Ashoff 2005, 39) should in fact make more room for the research policy, since finding appropriate response to and taking the global challenges on board would necessitate a scientific approach to the policy conceptualisation. Thus, more research on and for development, would seem a sensible way to approach new agenda setting. The relatively low presence of the research themes within the newly identified five PCD challenges seem to suggest a move in the opposite direction - instead of engaging more research for meeting development objectives, less or more indirect research input is proposed.

Probably the single most consistent factor contributing to the lack of positive coherence between the two policies is the knowledge gap. The potential effects of the research policy on development are usually indirect and need a longer time-span to materialise. Also, the R&D policy is rarely causing immediate incoherence. Insufficient knowledge of the impact the positive coherence of the two policies is seen in the low priority S&T collaboration gets in different development cooperation agreements. But with insufficient knowledge it is also very difficult to design a proper policy response. If we take the case of Africa, for example, little hard data on the S&T capacities is available. Without the data, one cannot design a coherent R&D policy which will take account of the capacity building in R&D field in parallel with addressing the main development objectives. A good approach to closing this knowledge gap on R&D policy is the practice recently introduced by the DG research. It provides briefing on the EU research policy and the instruments for the cooperation with developing countries to all EC staff being sent to posts in developing countries. This way they hope the S&T issues are more likely to be on the agenda of cooperation (aid) priorities in discussions with developing countries.

In assessing success in PCD, the observation by the European Think-Tanks Group (2010) about measuring progress in PCD was well taken. There is neither a clear baseline available which clarifies how coherent the EU´s policies are at a given point in time nor any agreement on how much more coherent these policies should have become at certain point. The proposed indicators of progress in the Commission Work Plan try to address this gap. Several of them are not particularly convincing, neither from the point of view of coherence nor from that of the narrow topic they refer to. More research needs to be done in this area to provide the tools for monitoring the PCD across a wide spectrum of policies.

Carrying out research work for development requires a coordinated policy-making process cutting across several areas and competences. From the evidence available, we can conclude that the positive synergy, which could be the outcome of increased coherence of the EU research policy with the development policy, has not yet been developed. There are several indications that there is awareness of this issue, but this is hampered by a number of obstacles at conceptual, political and organisational level.

In principle, spending development funding in an area such as research can increase the effectiveness of aid in the long run. A successful implementation of joint policies and initiatives at Community level requires strong coordination and exchange of information among development and research programmes. Given the importance of science and

technology, developing countries themselves should be encouraged to invest more in these sectors and put them higher on their development agenda as well.

In its strategy for internationalisation of R&D cooperation, the EU needs to move beyond general statements on supporting science for the achievement of the MDGs. It needs to assess its priorities in a more explicit manner as regards the type of cooperation to be developed in each region (if we stay with the three groups, currently specified[59]) and design explicit targets for each. It may even go a step further by elaborating specific programmes for different developing countries, according to the level of their scientific capacities. This target-setting should be done jointly with the development experts, who have good knowledge of the objectives, targets and resources available in the framework of the EU development policy. If research is to foster the implementation of development objectives, this needs to be an objective of its own in the R&D internationalisation strategy. Next steps then are to specify what can be done, where the EU interest is and how many resources specifically can be devoted to S&T support in developing countries. The specifics of S&T in developing countries, especially Africa, require a different type of cooperation with different support mechanisms, targets and indicators. To subject this cooperation to the same criteria used in other forms of science cooperation may be the accepted strategy from the overall internationalisation of R&D policy, but will not bring research policy closer in terms of coherence with development policy.

59 Developed countries, emerging economies and developing countries.

Bibliography

ACP- EU (African, Caribbean and Pacific-European Union) (2009): Inter-ACP cooperation – 10th EDF strategy paper and multi-annual indicative programme 2008–2013; online: http://ec.europa.eu/development/icenter/repository/strategy_paper_intra_acp_edf10_en.pdf

Ashoff, G. (2005): Enhancing policy coherence for development: justification, recognition and approaches to Achievement, Bonn: DIE (Studies 11)

AU-NEPAD (African Union-New Partnership for Africa's Development) (2005): Africa's science and technology consolidated plan of action

AUC-EC (African Union Commission-European Commission) (2008): Book of projects: Africa-EU Strategic Partnership Agreement: 8th priority action on "Science, Information Society and Space", Addis Ababa; online: http://www.africa-eu-partnership.org/sites/default/files/Book_3_2_draft1.pdf

Baffes, J. (2003): Cotton and developing countries: a case study in policy incoherence, Washington, DC: World Bank, International Trade Department (Trade Note 10)

Barugahara I. N. / A. Tostensen (2009a): Science and technology for development: the institutional landscape in Africa and Europe, CAAST-Net, Dec. 2009

– (2009b): Towards better synergy between S&T and development: proposals and recommendations, CAAST-Net, Dec. 2009

Bello, O. (2010): The EU Africa partnership: at a strategic crossroads, Madrid: FRIDE (Policy Brief 47)

Birdsall, N. / D. Rodman (2003): The commitment to development index: a scorecard of rich-country policies, Washington, DC: Center for Global Development

Bossuyt, J. / A. Sherriff (2010): What next for the Joint Africa-EU Strategy perspectives on revitalising an innovative framework: a scoping paper, Maastricht: ECDPM (Discussion Paper 94)

Brown, O. (2005): Policy incoherence: EU fisheries policy in Senegal: Human Development Report 2005, New York: UNDP (Occasional Paper 2005/29)

Carbone, M. (2008): Mission impossible: the European Union and policy coherence for development, in: *Journal of European Integration* 30 (3), 323–342

CONCORD (2009): Spotlight on policy coherence: report 2009, Brussels

Council of the EU (2004): 2622nd Council Meeting General Affairs and External Relations Brussels, 22–23 Nov. 2004; online: http://europa.eu/rapid/pressReleasesAction.do?reference=PRES/04/325&format=HTML&aged=1&language=EN&guiLanguage=en

– (2006a): Policy coherence for development: PCD rolling work programme 2006–2007: conclusions of the Council and the representatives of the governments of the member states meeting with the Council, 14075/06, Brussels, 17 Oct. 2006

– (2006b): Council approves EU research programmes for 2007–2013, Press Release 16887/06, 18 Dec. 2006

– (2009) Council conclusions on policy coherence for development; press release 16079/09, 18 Nov. 2009; online: http://www.consilium.europa.eu/uedocs/cmsUpload/st16079.en09.pdf

CREST (Scientific and Technical Research Committee) (2009): Internationalisation of R&D: exploring synergies through coordinating policy measures between the EU member states, associated countries and the European Commission, April 2009, Brussels (EUR 24028)

CREST-SFIC (Scientific and Technical Research Committee-Strategic Forum for International S&T Cooperation) (2010): First report of activities of the strategic forum for international S&T cooperation, 18 May 2010, Brussels (CREST- SFIC 1354/10)

EAS (2007): First Action Plan (2008–2010) for the implementation of the Africa–EU strategic partnership (8), Africa-EU partnership on science, information society and space; online: http://ec.europa.eu/development/icenter/repository/EAS2007_action_plan_science_en.pdf

EC-ACP (European Commission-African, Caribbean and Pacific) (2009): Intra-ACP strategy paper and multiannual indicative programme 2008–2013 (10th EDF), Brussels; online: http://ec.europa.eu/development/icenter/repository/strategy_paper_intra_acp_edf10_en.pdf

ECDPM (European Centre for Development Policy Management) / ICEI (Instituto Complutense de Estudios Internacionales) (2006): EU mechanisms that promote policy coherence for development: a scoping study by ECDPM, Maastricht, Madrid; online: www.three-cs/net/content

ECDPM et al.(European Centre for Development Policy Management (2007a): Evaluation study on the EU institutions and member states' mechanisms for promoting policy coherence for development, May 2007, Maastricht: ECDPM/Particip GmbH/ICEI

– (2007b): Evaluation study on the EU institutions and member states' mechanisms for promoting Policy coherence for cevelopment: appendix X case study report: the role of the European Commission inter-service consultation mechanism in the promotion of the PCD within the European Commission, May 2007, Maastricht: ECDPM/Particip GmbH/ICEI

– (2007c): Evaluation study on the EU institutions and member states' mechanisms for promoting Policy coherence for development: appendix IX case study report: the role of the development committee of the European Parliament in the promotion of PCD in the European Union, May 2007, Maastricht: ECDPM/Particip GmbH/ICEI

EDCTP (*European and Developing Countries Clinical Trials Partnership*) (2008): Annual report; online: http://www.edctp.org/fileadmin/documents/ANNUAL_REPORT_2008_ENGLISH_FINAL_pdf.PDF

Egenhofer, C. et al. (2006): Policy coherence for development in the EU Council, Brussels: CEPS

Engel, P. / N. Keijzer (2006): Research partnerships: who decides? Review of a design process, The Hague: Netherlands Development Research Council (RAWOO); online: http://www.ecdpm.org/Web_ECDPM/Web/Content/Download.nsf/0/1E41509E463F33ABC12572C000351CA6/$FILE/Research%20partnerships%20-%20who%20decides%20review%20of%20a%20design%20process.pdf

EC (European Commission) (2000): Commission staff working paper: community co-operation: framework for country strategy papers, SEC(2000) 1049, Brussels; online: http://ec.europa.eu/development/icenter/repository/framework_CPS_2000_en.pdf

– (2005): Policy coherence for development accelerating progress towards attaining the MDGs, COM(2005) 134, Brussels

– (2007a): The European research area: new perspectives, COM(2007)161 final, Brussels

– (2007b): EU Report on policy coherence for development, COM(2007) 545 final, Brussels

– (2007c): Commission staff working paper accompanying the EU report on PCD, SEC (2007) 1202, Brussels

– (2008a): A strategic European framework for the international science and technology cooperation, COM (2008) 588, Brussels

– (2008b): Opening to the world: international cooperation in science & technology: report of the ERA expert group, Brussels

– (2008c): INCO-Net projects: supporting international S&T cooperation with major regions of the world (EUR 23191), Brussels; online: http://ec.europa.eu/research/iscp/pdf/978-92-79-08080-7_en.pdf

– (2009a): Commission staff working paper accompanying the EU 2009 report on policy coherence for development, SEC(2009) 1137, Brussels

– (2009b): Drivers of international collaboration in research: final report 2009, EUR 24195, Brussels

– (2009c): Impact assessment guidelines, SEC(2009) 92, Brussels; online: http://ec.europa.eu/governance/impact/commission_guidelines/docs/iag_2009_en.pdf

– (2009d): EU 2009 report on policy coherence for development, COM(2009) 461, Brussels

– (2009e): Reinforcing strategic partnerships: international cooperation BILAT project, call 2007, DG for research, EUR 24035, Brussels; online: http://ec.europa.eu/research/iscp/pdf/bilat.pdf

– (2009f): Speaking with one voice: international cooperation ERA-Net projects, Call 2007 (EUR 24034), Brussels

– (2009g): Implementation of the Joint Africa-EU Strategy and its first action plan (2008–2010): input into the mid-term progress report (SEC(2009) 1064), Brussels

– (2009h): PCD – Establishing the policy framework for a whole-of-the Union approach, COM(2009) 458, Brussels

– (2010a): Europe 2020: a strategy for smart, sustainable and inclusive growth, COM(2010) 2020, Brussels; online: http://ec.europa.eu/eu2020/pdf/COMPLET%20EN%20BARROSO%20%20%20007%20-%20Europe%202020%20-%20EN%20version.pdf

– (2010b): Commission staff working paper: policy coherence for development work programme 2010–2013, SEC (2010) 421, Brussels

EP (European Parliament) (2010): Report on the EU policy coherence for Development and the "official development assistance plus" concept, Committee on Development, 2009–2014

European Think Tanks Group (2010): New challenges, new beginnings next steps in European development cooperation, Feb. 2010, London: ODI

EU (European Union) (2006a): The European Consensus on Development: joint statement by the Council and the representatives of the governments of the member states meeting within the Council, the European Parliament and the Commission on European Union Development Policy: 'The European Consensus', in: *Official Journal of the European Union* (C 46/01), 24 Feb. 2006

– (2006b): Decision n° 1982/2006/EC of the European Parliament and of the council of 18 December 2006 concerning the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007–2013), in: *Official Journal of the European Union* (L 412/I), 30 Dec. 2006

– (2008a): Consolidated version of the Treaty of European Union, in: *Official Journal of the European Union* (C 115/13), 9 May 2008; online: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:115:0013:0045:EN:PDF

– (2008b): Treaty on the functioning of the European Union, in: *Official Journal of the European Union* (C 115/47), 9 May 2008; online:http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:115:0047: 0199:EN:PDF

– (2009): Conclusions of the Council concerning a European partnership for international scientific and technological cooperation, in: *Official Journal of the European Union* (C 18/11), 24 Jan. 2009

– (2010): Press release: Meeting between the European Commission and the African Union Commission in Addis Ababa; IP/10/692, 4 June 2010, Brussels; online: http: //europa.eu/rapid/pressReleasesAction.do?reference=IP/10/692&format=HTML&aged=0&language=DE&guiLanguage=en

GAERC (General Affairs and External Relations Council) (2006): Annex to the conclusions 8388/06 format for a common framework for drafting country strategy papers (CSPs) and principles towards joint multi-annual programming, Brussels

Grieg-Gran, M. (2003): Policy coherence and the Millennium Development Goals, in: D. Satterthwaite, Hitting the target of missing the point, London: IIED

Grossman, G. M. / E. Helpman (1994): Endogenous innovation in theory of growth, in: *Journal of Economic Perspectives* 8 (1), 23–44

Guy, K. (2009): Reflection on the workshop: research priority setting for international cooperation; Workshop proceedings, Brussels, 19–20 Sept. 2007, Brussels: European Commission

Hassan, M. H. A. (2009): Promoting science, technology and innovation for sustainable development in Africa, Economic Commission for Africa, Committee on Development Information, Science and Technology (CODIST-1), May 2009

Hoebink, P. (2004): Evaluating Maastricht's triple C: the "C" of coherence, in: P. Hoebink (ed.), The treaty of Maastricht and Europe's development cooperation, Amsterdam: Aksant AP

Kaeding, M. / L. van Schaik (2008): The coherence dilemma in EU development policy: tackling fragmented structures in the Commission and Council, paper presented for ECPR joint session, Rennes

Knack, S. / F. H. Rogers / N. Eubank (2010): Aid quality and donor rankings, Washington, DC: World Bank (Policy Research Paper 5290)

Maskus, K. E. (2005): Components of a proposed technology transfer index: background note: prepared for Center for Global Development (CGS), the "Commitment to development Index", 2005 edition

OECD (Organisation for Economic Cooperation and Development) (1996): Shaping the twenty-first century: the contribution of development co-operation, Paris

– (2001): The DAC guidelines on poverty reduction, Paris

– (2005): Paris Declaration on aid effectiveness, Paris

– (2006): Whole of the government approaches to fragile states: DAC reference document, Paris

– (2007a): Progress in policy coherence for development and a coherent framework for the OECD's work on development, C(2007)92/REV1, Paris

– (2007b): Programme on policy coherence for development: synthesis report, DCD/DAC(2007)2/REV1, Paris

– (2008a): Ministerial Declaration on policy coherence for development, June 2008, Paris; online: http://www.oecd.org/dataoecd/19/20/42887998.pdf

– (2008b): Policy coherence for development: lessons learned, Policy Brief, Dec. 2008, Paris; online: http://www.oecd.org/dataoecd/32/8/41866464.pdf

– (2009a): Policy responses to the economic crisis: investing in innovation for long-time growth, Paris; online: http://www.oecd.org/dataoecd/59/45/42983414.pdf

– (2009b): Building blocks for policy coherence for development, Paris

Picciotto, R. (2004): Institutional approaches to policy coherence for development, OECD policy workshop "Policy Coherence and Development Evaluation: Concepts, Issues and Possible Approaches", 18–19 May, Paris: OECD

Rieke, V. (2009): How can the European partnership for international science and technology cooperation be driven forward? Key note speech at the ERA Conference "Working together to strengthen research in Europe", held in Brussels 21–23 Oct. 2009

Romer, P. M. (1990): Endogenous technological change, in: *Journal of Political Economy* 98 (5), Part 2, 71–102

– (1994): The origins of endogenous growth, in: *Journal of Economic Perspectives* 8 (1), 3–22

Stamm, A. (2007): Science and technology: new forms of cooperation with Sub-Saharan Africa, in: S. Klingebiel (ed.), Africa agenda for 2007: suggestions for the German G8 and EU Council presidencies, Bonn: DIE (Discussion Paper 4/2007)

Vieira, A. W. G. / S. Kajnc (2010): The importance of having a Trio: an analysis of the first Trio cooperation in the area of development cooperation: Paper prepared for Politicologenetmaal 2010, Leuven, 27–28 May 2010

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