



NOTA DI LAVORO

137.2010

**Climate Change Adaptation,
Development, and
International Financial
Support: Lessons from EU
Pre-Accession and Solidarity
Funds**

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SUSTAINABLE DEVELOPMENT Series

Editor: Carlo Carraro

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Summary

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Keywords: Economic Development, Climate Change Adaptation, Foreign Aid, European Union, Pre-accession and Solidarity Funds

JEL Classification: E61, F35, O19, O2, Q54, Q56

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The opinions expressed in this paper do not necessarily reflect the position of
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Climate change adaptation, development, and international financial support: lessons from EU pre-accession and solidarity funds

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Abstract

Funding adaptation requires adequate governance and there are different ways to organise and channel the funds to where it is most efficient and most necessary. This paper investigates this issue and studies the practical implementation of a development under conditionality, namely adaptation-development, and its requirement in terms of financing architecture. To contribute to this research, it looks at similar problems that have been met in the past, namely the European funding programs for Eastern Europe countries that were candidate to adhesion, and European internal structural and cohesion funds. These funding examples provide a pertinent analogy for the adaptation problem, and most issues in adaptation finance have also been met in these funds (difficulty to define and measure additionality and incremental cost, concept fuzziness, need for leverage and mainstreaming, ownership and sovereignty issues). Publicly available documents from the European Commission and the European Court of Auditors are reviewed, providing interesting insights into possible implementation of adaptation finance. These insights can be summarized into seven main lessons: (1) “black-spot” programs are less flexible but more efficient than “concept-based” programs; (2) a multi-scale and multi-step approach can minimize sovereignty and ownership issue, and facilitate capacity building; (3) private funding leverage is a myth, and funding based on the “additional cost” is highly inefficient; (4) non substitutability among objectives and regions is necessary; (5) sub-national eligibility criteria are a viable solution; (6) institutional capacity matter: low-capacity countries should focus on capacity building and “black-spot” strategies; higher-capacity countries can follow a concept-based approach; and (7) the EU should use its own experience to promote its views of adaptation funds.

1. Introduction: funding climate change adaptation in developing countries

Funding adaptation requires adequate governance and there are different ways to organise and channel the funds to where it is most efficient and most necessary. In current debates, two questions are of particular importance. First, there is debate on the status of international adaptation funding.

For some, adaptation funding is a component of international aid, motivated by solidarity. For others, it corresponds to the repayment of a climate debt linked to historical responsibility of industrialised countries in GHG concentration building up in the atmosphere. Designing adaptation finance cannot be done while ignoring this debate “compensation vs. aid”, mainly because sovereignty issues differ whether it stands as one or the other.

A second major debate is about the balance between efficiency criterion (where is the money most efficient?) and ethical criterion (where is the money most needed?). This issue is made particularly difficult by the fact that most projects are not implemented *only* for adaptation purposes, as they also have other benefits in terms of health, safety or potential economic growth. As a consequence, it is difficult to define an unambiguous criterion for adaptation efficiency. Adaptation funding governance cannot also be discussed in isolation from other policy components (e.g., investment policy, trade policy, development aid, etc.).

When considering a project with both adaptation and development benefits, one question is to determine which fraction of total cost could be eligible for international adaptation support, and which fraction should be financed by domestic funding, combined possibly with classical development aid. Among various possibilities, adaptation funding could finance only incremental cost of adaptation, i.e. additional cost of a development project induced by anthropogenic changes in climate conditions. If a dike system is 10% more expensive because of sea level rise, this amount could be financed by an adaptation fund, while the rest should be financed by domestic sources or development aid. This choice would have large consequence on how and where the money would be spent. A developed country, or even an emerging economy where most of the needed infrastructures are present, only needs to upgrade existing infrastructure and thus to spend the incremental cost. These projects would be pure adaptation projects and be funded at 100%. A least-developed country where investments would be needed even in absence of climate change would receive a much smaller share of its project costs, making their implementation more difficult. A poor country that cannot finance any dike system would have little use for a funding source that would pay for the cost of upgrading one, unless this additional funding is sufficiently large to trigger other funding sources. The adaptation funding would therefore be efficient (in economic terms), but would not be very useful, as it would not help the most vulnerable populations and countries.

Assessing the incremental cost is easy only in few cases. In most situations, it is extremely difficult to distinguish development and adaptation investments (e.g., education, development of health infrastructures). Doing so requires in-depth studies that are long, expensive, and can appear as a waste of scarce resources. Alternatives such as pre-determined ratio (e.g., 10% of all water management projects are funded) are not necessarily adequate, considering the high variability in local situations and contexts.

These questions have already been investigated in the literature. First, recent papers have been addressing the question of mainstreaming adaptation into development. This relates directly to the use of existing channels to implement adaptation. Gupta et al. (2009) provides a good review of the “mainstreaming” literature and challenges up to date. This stream of literature is interested in climate proof development, sometimes described as a “development first”¹ approach. Two types of paper can be found in this line of literature. A first one addresses the theory and global feasibility of mainstreaming (Agrawala, 2005; Agrawala et al., 2008; Barnett, 2001 ; Kok et al., 2007; 2008 Schipper, 2007; Schipper et Pelling, 2006) or, as in the case of McGray et al(2007), reviews

¹Expression from Kok et al. (2008)

strategies that combine both aspects of adaptation and development. A second type of paper studies the empirical occurrences of mainstreaming in development assistance (Klein, 2001 ; Klein et Persson, 2008; Klein et al., 2007) or the occurrence of particular aspect of development in adaptation strategy (Drimie et Gillespie, 2010 ; Hardee et Mutunga, 2010). Case studies also flourish on this topic, as for instance Dasgupta et al. (2010). In one way or another, these articles try to see to which extent development and adaptation strategies are compatible.

Another stream of the literature has been concerned with the finance architecture able to help sealing a global agreement (Dave et al., 2005; Hallegatte, 2008; Steward et al., 2009; SEI, 2009; Dellink et al., 2009). Finding a solution satisfactory for developing and developed countries in a global funding architecture is necessary to achieve a global agreement. These papers investigate issues and solution in the funding architecture. The wider subject of “greening” aid as also received attention in the literature (IIED briefing, 11/2009).

Our paper lies between these two streams of literature. It deals with the practical implementation of a development under conditionality, namely adaptation-development, and its requirement in terms of financing architecture. To contribute to this research, it looks at similar problems that have been met in the past. During the 90’s decade, indeed, the European Union financed projects and programs for Eastern Europe countries that were candidate to adhesion, through several funding schemes (including the PHARE and ISPA programs). The EU also supported its poorest member states (MS) through structural and cohesion funds.

As shown in Section 2, these examples provide a pertinent analogy for the adaptation problem, and most issues in adaptation finance have also been met in these funds (difficulty to define and measure additionality and incremental cost, concept fuzziness, need for leverage and mainstreaming, ownership and sovereignty issues). Section 3 and 4 review publicly available documents from the European Commission and the European Court of Auditors (ECA)² on these two types of fund, providing interesting insights into possible implementation of adaptation finance.

These insights can be summarized into seven main lessons: (1) “black-spot” programs are less flexible but more efficient than “concept-based” programs; (2) a multi-scale and multi-step approach can minimize sovereignty and ownership issue, and facilitate capacity building; (3) private funding leverage is a myth, and funding based on the “additional cost” is highly inefficient; (4) non substitutability among objectives and regions is necessary; (5) sub-national eligibility criteria are a viable solution; (6) institutional capacity matter: low-capacity countries should focus on capacity building and “black-spot” strategies; higher-capacity countries can follow a concept-based approach; and (7) the EU should use its own experience to promote its views of adaptation funds. These lessons are detailed in Section 5, which can be read directly by time-constrained readers.

2. The parallel between EU pre enlargement finance and adaptation finance

PHARE and ISPA are two of the three programs³ of the European Union that supported Eastern Europe candidate countries in their accession to the European Union(1). To do so, these programs

²These documents will be referenced through numbers.

³ SAPARD is another program in the set of pre enlargement programs. It was aimed at financing pre-enlargement reform in the agricultural sector. This program is not studied in the paper.

provided funding to help countries absorb the EU “*acquis communautaire*,” in general in the case of PHARE, and with special emphasis on getting up to the norms of the EU environmental and transport regulations in the case of ISPA. The EU “*acquis communautaire*,”⁴ is the requirement to make national law consistent with EU laws and regulation, but also concerns EU core ‘principles’ and ‘values’. The *acquis* absorption is thus difficult to define operationally because it reflects precise EU law as well as core guidelines and values.

There are many similarities between the absorption of *acquis* and the issue of mainstreaming adaptation into development in its financing and operational aspects. This parallel is presented in Figure 1.

First, the *acquis* absorption, like the need for adaptation, can be seen as an additional cost to development. Introducing EU requirements is indeed similar to a development action, since these requirements are supposed to yield welfare benefits. However, the EU strong emphasis on environment, for instance, may appear at odd with national objectives hierarchy and development priorities. In spite of its positive welfare impact, *acquis* absorption can then be analysed as an external (though chosen with the ultimate objective of integrating the EU) constraint that increases the cost of economic development, with respect to alternative development trajectories that could have been followed. In the same way, the need to adapt to climate change can be seen as an externally-imposed additional cost on economic development. Despite obvious differences between these two types of constraints (chosen vs. imposed; justified by welfare and environment benefits vs. negative externality from economic activity, *acquis* necessary to join the EU and gets benefits vs. adaptation necessary to cope with climate change and avoid losses), the parallel with adaptation is striking.

Second, *acquis* absorption and adaptation are both fuzzy concepts that can be used to finance a wide range of projects under the same perspective and broad objectives.

Third, these EU funding resources were not sufficient to answer all the needs in the concerned domains, making it essential for them to have a catalytic role and to trigger other sources of funding. This parallels the intended design of adaptation funds that should help finance needed infrastructures which cannot be implemented now for financial reasons. To do so, this funding should not crowd out existing funding sources, including domestic funding, private investment, and traditional development aid.

Fourth, *acquis* absorption and adaptation require some sort of mainstreaming, as they have to be integrated into the development strategy of recipients, to avoid conflicts between development and climate change adaptation perspective.

Fifth, the issue of ownership and sovereignty, if they are of different magnitude, are a common feature of EU support as well as of adaptation funding. This issue relates to the need to make sure externally financed adaptation actions are “Measurable Reportable Verifiable” (thereby MRV) and to the right to externally influence the development of a country. If the sovereignty issue is shared by both EU pre-enlargement and adaptation finance, its extent is different, since countries that are candidate to EU are ready to share at least partly their sovereignty. International aspects are presented and discussed in the next section.

⁴ In French in EU documents and related academic literature

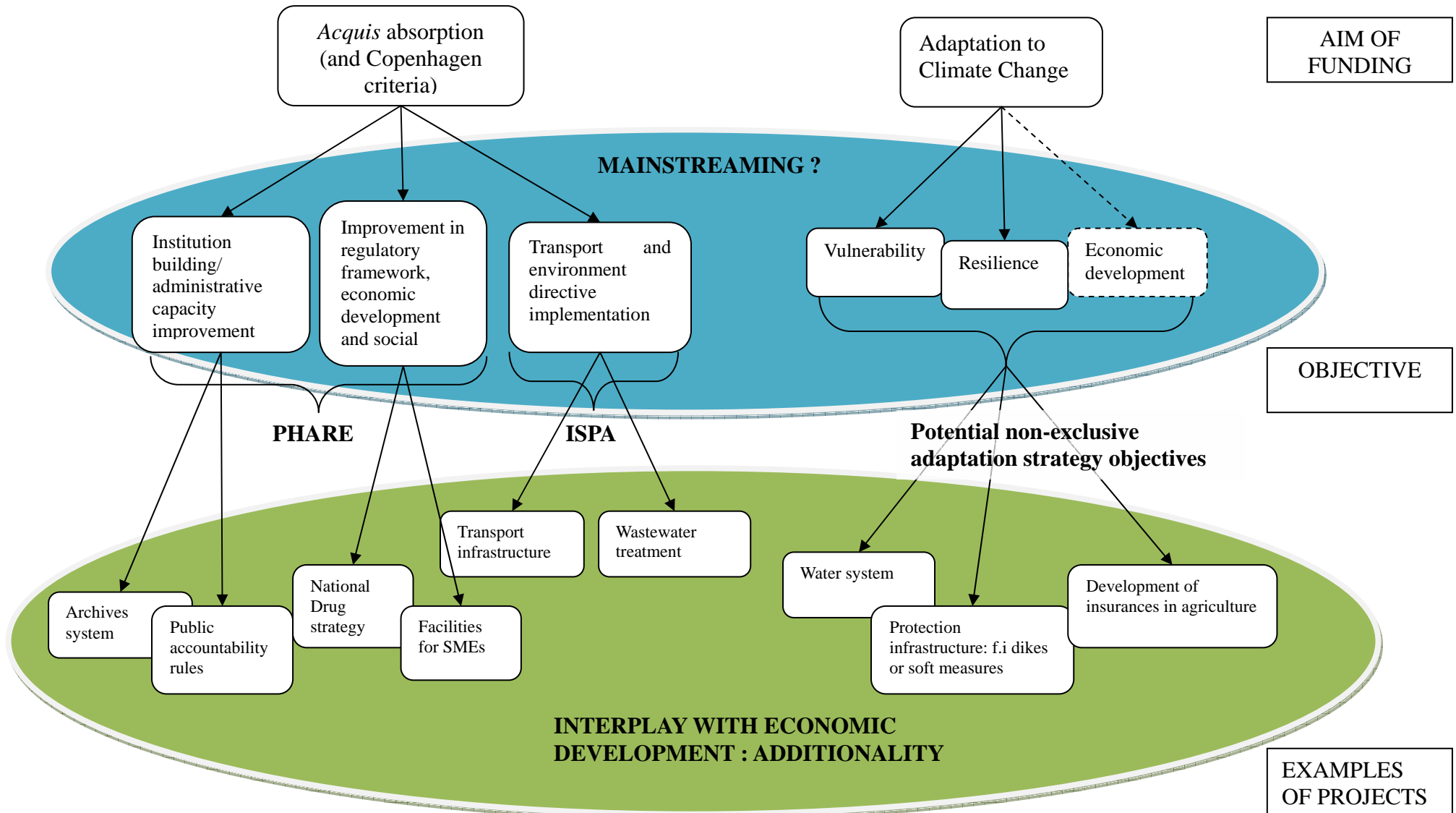


Figure 1 : The parallel between EU pre-enlargement finance and adaptation finance

3. “Additional” finance in international context: review of experience of European Union pre-enlargement finance (ISPA and PHARE programs)

3.1 The PHARE and ISPA programs

PHARE was the main aid program for all candidates to accession to the European Union, in their attempt to meet in due time enlargement requirements. The 1997-2006 period of the PHARE program represents the core of the program (in terms of aid volume). At that time, the ten East European countries, which would become members of European Union in 2004, were the recipients of the PHARE program. Between 1999 and 2006, PHARE provided €5.7bn to the ten candidate countries (except Romania and Bulgaria)(5). We focus on the efficiency of these programs in achieving the different goals that they had been assigned ex-ante.

PHARE sought to provide assistance in institution building and investment to facilitate the absorption of the *acquis communautaire*. PHARE funding was distributed as follows: 30% in capacity building and 70% in investment (4). Practically, the former represents the funding for *acquis* absorption through institution building, while the latter focuses on *acquis* absorption through cohesion and development. This relates directly to an economic development perspective with an *additionality* criterion, namely being consistent with EU law.

The ISPA program (Instrument for Structural Policies for Pre-Accession) “provides assistance to contribute to the preparation for accession to the European Union (...) in the area of economic and social cohesion, concerning environment and transport policies” (6). For the period 2000-2003 for instance, ISPA programs allocated more than \$1 billion per year to the recipient countries, so \$4 billion dollar for each 3-year round of projects.

The program targets development projects that have an additional cost component, and in particular an additional cost linked to the respect of environmental regulations that may not appear as a priority for the recipient country. The funded projects are usual investments projects in the field of transport and environment. The example of water treatment system is presented in detail in Appendix 1.

If ISPA and PHARE programs share the same general history and aim, considering both is important for several aspects. First the scope of the potential funded projects is different from the start (general vs. sector related). Second, this respectively relates partially to two aspects that are more particularly of interest for us: the issue of capacity building prior to any projects for PHARE and the additional environmental constraint to development for ISPA.

3.2 Program scope and project selection: concept based vs. black spot strategies

Definitions

European funds are *multilevel and multistep* programs. Three scales will be considered through this paper: the EU level, the State level (in which we also include the regional level) and the project level. These different scales are interplaying in the process of objective definition and projects selections (see Fig. 2), according to the multilevel governance theory (Marks, 1993; Hooghe, 1996; Marks and Hooghe, 2003; Piattoni, 2009). In the context of climate change, multilevel governance is the framework commonly used to investigate the role of the various spatial scales (from global to local) in climate policy-making (Betsill et Bulkeley, 2004; Bulkeley et Kern, 2006; Bulkeley et Moser, 2007; Corfee-Morlot et al., 2009).

The “objectives” relate to the aim of the funds. These objectives can be more or less precise, from the least precise (e.g. enhancing *acquis* absorption) to the most precise (e.g. technical objectives). These objectives can relate to one “principle” or some “principles of action”, or they can define more precisely the types of action to be undertaken. For instance, an objective defined through a principle can be “*acquis* absorption” for EU funds or “vulnerability reduction” for adaptation finance. Precisely defined objectives in *acquis* absorption refer, for instance, to “reduce the amount of waste water released in the environment”; or for adaptation, “adapt coastal defences to sea level rise.”

The “scope” of the program relates to what can be operationally undertaken in the program in terms of projects. Thus, the scope can be “narrow” (projects under a program are precisely defined) or “broad” (various projects substantially different can be undertaken). The definition of the objectives and the scope of action, of the programs, has an important influence on the selection strategy that can be followed.

When the program has a broad scope of action, i.e. is based on a principle without further operational definition, the selection strategy is “concept-based”. When the program has a narrow scope of action, i.e. defines precisely the projects that can be funded, we refer to a “black spots” strategy. A “black spot” strategy targets precise areas of intervention, while a “concept based” strategy does not restrict projects a priori provided that they are consistent with the objective.

In a multiscale approach, the definition of objective (what is the aim of the program?) is carried out at the highest spatial scale of decision (i.e. at the EU level in our case) while the scope of the programs (which projects can be funded) is defined at the national level. It is the interaction between the different scales and the process of objective and scope definition that defines the strategy. The next section investigates the definition of objectives and the selection of projects in the PHARE and ISPA programs.

It is of interest to see how the ISPA and PHARE programs translated the fund objectives into project selection guidelines (4)(7). These guidelines are of three kinds: (i) national strategy design and projects selection (ii) management architecture and (iii) guidelines for funding.

(i) National Strategy design and projects selection

For both black-spot and concept-based funds, the translation of the fund objectives into practical projects goes first through the definition of a national strategy, in each recipient country. To minimize the sovereignty issues, the elaboration of a national strategy is entirely down to the recipient countries, but they have to work accordingly to a tight EU framework. The European Commission⁵ has the right to accept or decline the national strategy. In a second phase, the selection of projects in PHARE and ISPA programs takes place in close collaboration between the EC and the recipient countries according to the framework provided by the national strategy.

What is more, the national strategy proposed by the recipient should fit in the national development plan of the country and in the National Program of Adoption of the *Acquis* that has been agreed in the accession negotiation process. The EC stresses the importance of the coherence between all these aspects and the focus on consistency is also crucial in adaptation funding.

⁵Thereby EC

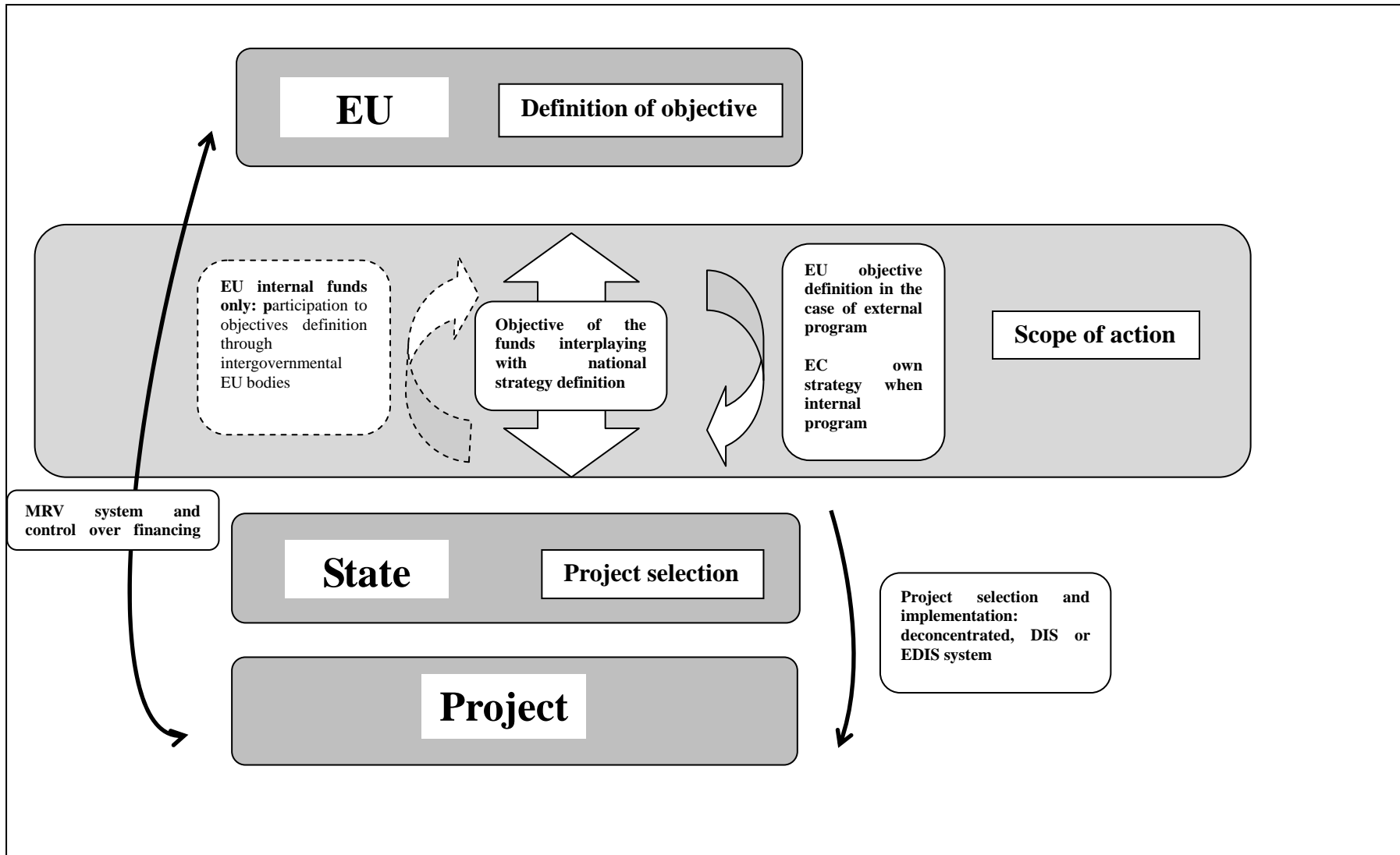


Figure 2: EU funds: scopes and objective definition

To summarize as presented in Figure 3, this process is multi-phase and multi-scale. There are three phases: objective definition (by the intergovernmental body of the EU: Council of European Union); operationalization through national strategies (by countries and then validated by the EC); and project selection (by the State according to the EC general guidelines). Of course, the operationalization is much more constrained in the case of a black-spot strategy than with a concept-based fund.

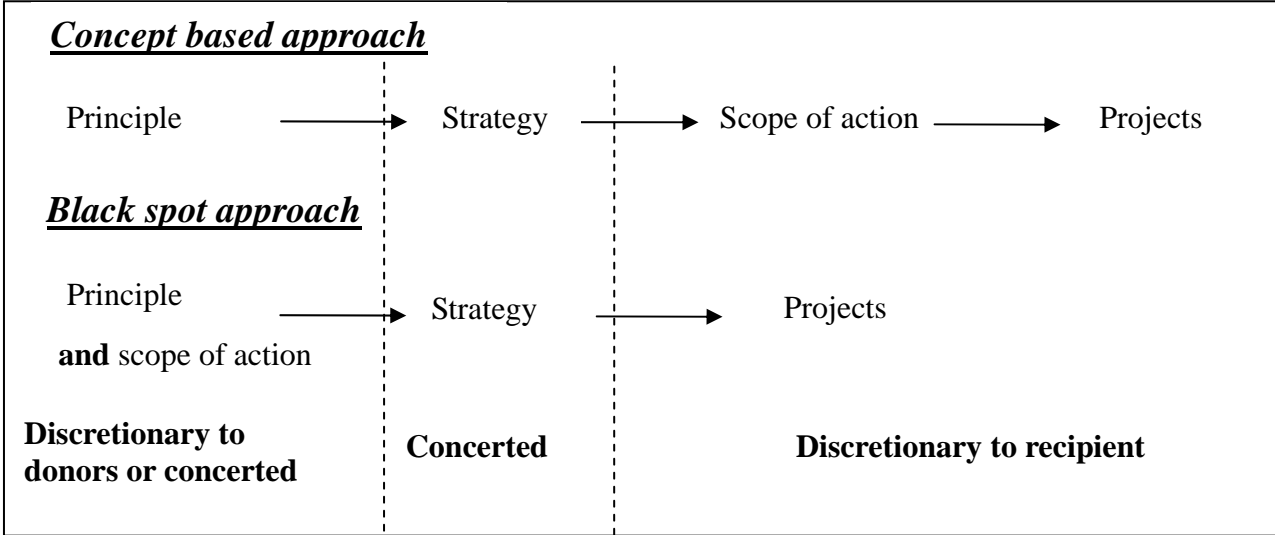


Figure 3: Concept based vs Black spot approaches

(ii) Implementation architecture

The acceptance of the national strategy and monitoring of plans and projects are done by the EC. Project selection (scoping and screening) and the implementation took place either in a de-concentrated or in two possible decentralised ways. The choice between these systems is made based on an assessment of the administrative capacity of the recipient.

In the de-concentrated way an EU agency based in the recipient country deals with the implementation. The EU has thus a direct control of the funds and is in direct contact with the implementation. The de-concentrated approach is not the standard way of implementing program. It is, in theory, of temporary use.

In the decentralised approach, the recipient country manages the funds with close guidance of European Union. This situation is referred to as “Decentralized Implementation System”. This method aims at fostering the acquisition, after a certain period of time, of EU practices by the recipient country. The country should theoretically become able to manage its EU allocated funds alone. The management system shifts then to the “Extended Decentralised Implementation System”. The country is then managing allocation and implementation of funds. The EU framework provides the guidelines and conserves only auditing and monitoring capacities.

These three systems are not distinct from each other, but are conceived as a continuous learning process. The program’s management architecture is working itself towards the objective of capacity building. While working on the ability to manage funds, EU transfers knowledge and good practices to local administration, trying to foster good governance.

Recipients accept that they have to learn EU fund management practices as a precondition to handle the funds in the future.

(iii) Financing guidelines

The EU, with ISPA and PHARE, aimed at funding the *acquis* absorption, which – as seen in Section 2 – can be interpreted as an additional cost of development. As a consequence, initial guidelines tried to ensure that funding concentrates on the incremental cost. Ex post reviews, however, show how difficult it is to do so.

In PHARE and ISPA, the maximum rate of funding was 75 % of eligible expenditure (7). Eligible expenditures are the total cost of the project, at the exclusion of land purchases, taxes and any expenditure that occurred before the commitment to the EU. The rate of 75% is a maximum that was supposed to be reduced as much as possible taking into account the availability of co-financing, the capacity of the project to generate revenues, and the application of the “polluter pays principle.” The main objective is to propose a funding source that creates as little distortions and crowding out as possible. Funding could not be larger than the “remaining project cost”, which is the total cost minus the revenue from the project and the funding from other institutions, i.e. the additional or incremental cost. The leverage effect of funding has been paid special attention. The projects had to be sustainable in the long run (financially and operationally).

The main aim of ISPA and PHARE funding was to provide leverage capacity without crowding out other investors (4)(7). EU funds were supposed to be used, in this case, as collateral or guarantee to private investors. Since funding for adaptation is very likely to remain lower than the needs, especially if current adaptation deficit is included (see Parry et al., 2009), the leverage effect of adaptation funding will also be crucial for success.

For ISPA program in 2004, 11 projects were financed for an average cost of €769.4 million per project and an average funding ratio of 59.5% of the total eligible project costs. On the period 2000-2003, representing a full round of ISPA projects, the average funding ratio was around 65% of the eligible project costs (6)(9). These numbers are very high –close to their maximum, suggesting either a quite high cost of the *additionality* criterion or an absence of leverage. In practice, however, this high funding ratio is more likely to have arisen from the difficulty to trigger sufficient leverage effect.

3.3 Program evolutions

We focus here on the way PHARE and ISPA actually worked and evolved in practice in terms of project selection, to see whether their rules were seen as adequate, or if improvements were introduced along the course of the program. The following focuses on the capacity building part of the PHARE program (30% of funding)(2)(3)(4) and on the environmental part of the ISPA program (around 60% of total funding)(6)(9).

The two programs (4)(7) have followed two different approaches.

In the case of the ISPA environmental part, the EU focused on a “black spots” strategy. It targeted the most costly and difficult parts of environmental *acquis*, and concentrated its funds on them. It was first drinking-water supply, treatment of waste water, management of solid and hazardous waste and air pollution. In a second stage, air pollution was even dropped from this list. This approach can be compared with what has also been proposed by some in the adaptation domain, namely to focus adaptation support on a few particularly important

problems like water and sanitation and disaster risk reduction (Adger et Brooks, 2003; Schipper et Pelling, 2006; Hallegatte, 2008, 2009)

In the case of institution building in the PHARE program, the selection could not follow the same approach because the program was concept-based and had a broad scope of action, i.e. a large diversity in considered projects. The selection process had therefore to rely on an extensive case-by-case review⁶.

This approach has proved really difficult to implement in practice. Institution building is not easily standardised, impairing large scale implementation. It is necessary to take into account the particular context of each country regarding its capacity to absorb large financial flows.

Indeed, the case-by-case strategy revealed unsustainable in the long run, resulting in the implementation of new guidelines in 1997. Before 1997, the PHARE program was mainly “demand-driven, giving governments of beneficiary countries significant leverage on how EU funds were spent but the small scale of the projects and their poor overall coordination significantly reduced the impact.” (Nikolova, 2007). The new guidelines implemented in 1997 mainly aimed at reaching a critical project size (with a minimum of EUR 2 million), financing mature projects and ensuring that the capacity to manage the project was actually in place.

Regardless, institution building (essentially through twinning⁷) appears to have been difficult to administer. For adaptation funding, the same problems will be met: the extent to which a project should be funded is unclear and has to be processed under a big asymmetry of information. This asymmetry of information rises if the sovereignty issue impairs any evaluation, monitoring or tracking of funds and if the subsidiarity principle is not in place, as much vertically than horizontally⁸. Clearly, this aspect raises problems in terms of sovereignty and independence, which are much more difficult to manage at the global level than with countries that are candidate to the EU, and therefore willing to share sovereignty.

In PHARE and ISPA, decentralised implementation does not mean autonomous in the use of the fund, but rather an intermediate situation between a top-down perspective in fund allocation and a bottom-up perspective in priority screening. Again, this approach parallels on-going international discussions on adaptation support, which should be “country-driven” and adjusted to local circumstances, but with allocation rules discussed in the global UNFCCC framework.

PHARE and ISPA were to be complementary as PHARE was supposed to provide the governance capacity to handle ISPA program. In the environment sector, for instance, an explicit connection between the PHARE and ISPA projects was in place (22).

⁶ Practical information available at http://ec.europa.eu/enlargement/how-does-it-work/financial-assistance/index_en.htm consulted 15th June 2010

⁷ Twinning is based on a practice of sharing experiences of administration services between recipient countries and member states to ensure a sharing of good practices.

⁸ Vertically deals with the ability to channel finance and information directly from and to the level where it will be implemented; horizontally deals with the ability to determine which sectors or which departments will be allocated a certain amount of funding.

3.4 Ex-post evaluation of the programs

The ex-post evaluation of the programs gives an opportunity to assess how such funds did perform with regards to their initial objectives. This evaluation led by EU institutional control mechanism, inside the EC, was performed in 2006 when PHARE and ISPA were merged in the new IPA (5).

A critical judgement on the operability of ISPA and PHARE programs is provided in the review by the Court of Auditors of the PHARE program in Romania and Bulgaria in 2006(12)(13). Details on the implementation process of wastewater treatment systems are given in Appendix 1. The report states that the overall performance had been mixed: substantial support was provided but the impacts appear rather limited. The insufficiency of impact and leverage capacity is further established as a main issue. In general, ISPA has been found more successful than PHARE, and comparing both programs give insights in factors for success.

Capacity issue and absorption rate

Unsurprisingly, capacity issues and absorption capacity were mentioned: *“The Commission overestimated the management capacity of the public authorities in Bulgaria and Romania and often agreed with their overambitious targets and deadlines. This overambitious target setting is reflected in the project fiches, which contain a mixture of ambitious “wider” and “immediate” objectives, outputs, purposes, results, activities and a set often invalid ‘indicators of achievement’ frequently characterised by a lack of systematic clarification.”* The argument could relate to any development project. A clear understanding of the project objectives and rationale is a clear requirement for success. Moreover, it seems that the fuzzier is the concept, the more important is the project management capacity. Designing indicators, and more generally monitoring achievement, is indeed difficult when objectives and rationales are not well defined. In the PHARE and ISPA program, the objective of ‘institution building’ to absorb the *acquis* is not a well defined objective for which immediate actions are easy to define. This fuzziness led to operationalization problems. This parallels ongoing problems in adaptation on the operationality of broad adaptation objectives such as ‘resilience’ or ‘vulnerability’ (Fussel and Klein, 2006).

Absorption rate has progressively become a new criterion or even a threshold for selecting projects in EU funds (14). It is measured by the European Union with two ratios of funds “consumption.” The first ratio is payments on commitments, and the second one is the ratio of decision (contracts) on commitments. It gives a perspective on whether the country is able to absorb more funds or not. For instance, in 2008, absorption rate for structural fund was of 71 % of their financial allocations for new MS and of 85% for EU15 (15) (16). Soon after 1997, past performance in absorption is a due criterion for receiving funds.

Like in the *acquis* absorption, adaptation implementation is also often lacking required infrastructures and institutions. At the same time than doing precise projects, therefore, capacity building will have to be undertaken. If possible, capacity building should even precede the larger projects. This approach has clearly been followed in the EU for the 2004 enlargement with mixed success. For adaptation, this process will be even more crucial, as countries from Eastern Europe already had strong administrative capacity, compared with many least developed countries concerned with adaptation support.

Misuse of funds and indicators

What is pointed out as the main misuse of funds is the diversion of funds towards other use than what they were considered for (5) (12). It can be fraudulent, for instance corruption, but not necessarily. For instance, in the case of the implementation of a touristic zone in Romania in PHARE, the funds had been used to fill a financial gap to build a better road between two proximate towns, without any purpose of tourism.⁹ Without seeing an intentional misuse of the funds, one could argue that the beneficiaries were not concerned by the tourism-oriented plan decided at a higher political level and used the resources for what appeared a more pressing need.

The divergence of interests can undermine severely the efficiency and the leverage effect of a program. The capacity to transfer the whole rationale and understanding of the program to recipient countries (and at a local scale within the recipient country) is a critical point for the program success.

The EU has managed to set up process-based and output-based indicators. This is completed with an efficient multiscale approach using different indicators of achievement for the various scales of the program and measuring efficiency at each scale. Visits on the field have shown efficiency and potential for fostering policy improvements.

For adaptation, well-defined indicators of success are not available, and the same problem is likely to be met. If disaster risks are not a priority in recipient countries, for instance, it will be extremely difficult to ensure that funds specifically provided to reduce risks are actually used to do so. To limit this issue, the development of indicators will be key, and these indicators will have to be ready at the time the funding is decided. The development of such indicators is relatively easy when a “black-spot” strategy is followed. For instance, for risk reductions, the number of people at risk of being flooded is an easy indicator for land-use policies or urban plans. For water management and sanitation, the fraction of the population with access to drinking water and sanitation is another simple example. More difficult cases will be met when projects target capacity building or economic diversification.

Precision of principles and scope

More generally, it is important to define and select projects that are essential in achieving the wider goal, whenever it is possible. The aim is not only to avoid fuzziness in definition, but also to avoid purposefully catch-all program which aim at tackling everything. Even a well defined principle of action does not yield good results, if too broad. The explanation of why PHARE has been less successful than ISPA, according to ex post evaluation report (5), is probably a combination of both problems – not defined precisely enough, and too broad scope of action.¹⁰

Indeed, projects in PHARE dealt with a large range of issues, impairing learning-by-doing (by both the funding institution and the recipient country) and making it more difficult to monitor results and benchmark similar projects. When projects are similar, like in the case of ISPA and more generally for black-spot program, spillovers diminish costs, thanks to scale effect - such as technologies evaluation - or setting up the funds operating process. Hence, if the feedback

⁹ as reported by The Court of Auditors

¹⁰ See Figure 1 and section 4.1

on experience is in place, and if projects are similar, administrative task of handling fund can be reduced after a first period of operation.

Catalytic effect and leverage and consequence for additionality criteria

The aim of the replacement of PHARE and ISPA by the new IPA was to reduce EU participation in project finance. This supports the hypothesis that EU had financed more than expected in prior ISPA and PHARE projects and probably more than the “additional costs”. It shows a willingness to avoid crowding out national investment, and a shift toward project assessment by local authorities. The announced ceiling for EU funding (as a share of total eligible costs) was reached in most cases, as described before in the case of ISPA. Usually, co-financing was provided by the recipient state only, and few projects involved private leverage. This situation may be due to the limited private profits that could be expected from the projects targeting the EU objectives. This parallels the limited private profits that can be foreseen in many adaptation projects that target extremely poor populations.

Co-finance has been found in some particular cases with other International Finance Institutions. This suggests that when it leveraged funds EU programs were mainly working as a blending institution, rather than fostering private investments. Close consideration of ex post reports (21)(22) reveal that EU guidelines may have deliberately favoured IFI. The justification is that IFI and the EU had similar purposes, time scale and return on equity exigencies.

PHARE provides an additional interesting case for international finance of adaptation. An important aspect of the program was to set up financing facilities for distinct purposes (e.g. energy, SME, municipal facilities). These structures were transversal and supposed to be focal point of EU intervention in distinct areas. This allowed for positive aspects of specialisation and experience feedbacks. These funds were used as blending institutions with participation of other IFI and bilateral donors. Ex post report (21) gives a good record to these funds in particular to meet infrastructure needs. However, again it fails engaging private sector. This EU experience suggests that adaptation finance could be catalytic with development aid, but sheds doubts on the possible leverage of private finance.

Sustainability

Finally, in the ex-post evaluation, the sustainability (technical and financial) of the projects has been assessed as critical. EU programs have been mainly described as “agent for change”, “helping to raise low status issues” but did not show wider impacts, sustainable work or even fostered particular willingness to engage in similarly financed projects after accession. In general, projects sustainability has been found problematic.

In adaptation, the capacity to sustain the improvement through time should be one of the main criteria to select a project. Indeed, a project built today would probably be of main use for adaptation purpose around mid 21st century.

4. Constrained flexibility and threshold of eligibility: the intake of EU solidarity funds to the adaptation debate

The following elements come from a study on some contentious points of the cohesion and structural funds process (14)(15)(16)(17)(18)(19). These elements draw on the precedent discussion, complementing the ISPA and PHARE study, as pre-accession instruments are replaced by EU solidarity funds after accession.

4.1 The administrative structure remains similar

At the first sight, the administrative structure of post accession cohesion and structural funds remains consistent with what was formerly presented for ISPA and PHARE. The EU level sets objectives and allocations criteria, as well as a hierarchy between the different targeted economic sectors and a hierarchy between regions of the EU. Then, the design of a national strategy and the management of the funds is decentralised by each country. Projects selection and management is made by country administrations but have to be submitted for agreement to the EU. This process balances subsidiarity principle, agreement on EU rules and monitoring, and the necessary respect of countries' sovereignty.

The fact that the structure of funds allocation does not change between pre-accession and structural funds suggests that the design of ISPA and PHARE was not constrained because recipient countries were outside the EU. Hence, we cannot see here a negative impact of sovereignty and status of "external relations" as constraints on the efficiency of the funds. However, EU candidates accept more control from EU because of the ongoing integration process. The distinction between members-to-be and current members is probably not strong enough in terms of incentives to assess the difference between budgetary transfers and external aid¹¹.

Adaptation finance between sovereign countries does not benefit from such perspective. Entrenched interests in negotiation between sovereign states are not comparable to what is in place in an integrated region. What is especially worrying is the fact that MRV acceptance in the European system seems to be closely related to the prospect of integration, which is absent of the adaptation context.

4.2 An innovative approach: selection process and multiscale perspective

(i) Selection process through eligibility thresholds

EU solidarity funds are allocated following a double selection process: among objectives and areas. The methodology is based on targeting black spots in space and in content. For a given time period, objectives are selected and indicators and targets are developed to allocate resources ex ante and measure their ex post achievements. Then, eligible regions are targeted using eligibility thresholds. This way of acting concentrates the action on where the marginal impact of the funding is maximised.

In EU funds, there are three objectives. Objective 1 deals with "catch-up for regions lagging behind in development"; objective 2 with "the socio-economic convergence of industrial, urban or rural zones or zones which are dependent on fisheries" and objective 3 with "improved training and job opportunities"(20). Eligible areas within each EU country have access to the funds.

The allocation of funds among objectives is made a priori: there is a non substitutability of funds from one objective to another. This introduces a rigidity that insures that all objectives –

¹¹A good vision of this aspect is by analyzing the complex aspect of Turkey adhesion to EU and its performance in *Acquis Absorption*. See Bac (2005), Tocci (2005) and Warning (2007).

even the most difficult to aim for – are targeted. Then, the EU sets different eligibility thresholds for each per objective, at the regional scale.

The common differentiation criterion for eligibility is being above or under 75% of the mean GDP in Europe. Importantly, the spatial scale considered for this eligibility threshold is the one considered the most relevant for the actions in place, and do not have to be the national scale. In the case of the European Union, “regions” have been identified as the most appropriate level for economic intervention on the basis of the subsidiarity principle. Thus, in the EU, different regions within a country are allowed to have access to different funds.

These thresholds of eligibility, relate to the question of the differentiation between emerging economies and least developed countries in the access to adaptation fund. Since the Bali Action Plan, the question of where to allocate scarce adaptation funding is crucial in the negotiation process. Indeed there is a risk that emerging economies with more institutional capacity and more co-funding available would get the most of the resources from an adaptation financial system based on efficiency and additionality criteria. This is what has been repeatedly observed with the Clean Development Mechanism (Dechezlepretre et al. 2008; Victor, 2001). The Copenhagen agreement targets explicitly the least developed countries and the most vulnerable but unless a criterion for eligibility is in place, this choice is hardly operational. A regional approach, such as the one in place within the European Union, could be a way to ensure a fair and equitable design of adaptation architecture. The threshold of eligibility, in this case vulnerability for instance¹², would be considered within countries, allowing regions of any developing country to have access to funds.¹³ Emergent economies would thus have access to the fund, but only for projects targeting their poorest regions.

(ii) Multilevel perspectives and indicators

EU cohesion and structural funds have a multiscale approach, so that each scale pursues its own objective, which is a breakdown of the overall objective. The three main scales of EU programs are the EU level, the national strategy level and the project level¹⁴. (See Fig 1)

The EU program is evaluated with different indicators corresponding to the level at which it is evaluated. At the end of each period, each EU funds is evaluated towards its overall objective (EU level), and the achievements of the national strategy (MS) and of each single project are evaluated according to their own objectives. However, in the end, only the program-level EU-scale achievement really matters, regardless of the performances at other scales. In the perspective of the EU, the achievements of the objectives at intermediary scales are considered as co-benefits for the program¹⁵.

¹² Considering the difficulty in defining vulnerability (Füssel, 2009), easier to define indicators (e.g., GDP per capita, share of population in poverty, share of population without access to drinking water) may be preferred.

¹³ This is not necessarily incompatible with existing relationships between sovereign states. For instance, in the case of EU external aid towards China, the whole country can access it in theory, but in practice, only the western part receives EU development funds.

¹⁴ Another intermediary level would be the plan program or coordination of projects in a region at the subnational scale, so according to the national strategy and with guidelines of the EU.

¹⁵ For candidate states, *acquis* absorption is a co-benefit of development and accession to EU but not an objective per se. For EU, development is a co-benefit of *acquis* absorption projects.

The indicators used are of three types in the case of the EU: process-based (e.g., for finance related rules), output-based towards observable indicators (e.g., for the overall objective of *acquis* absorption for instance) or output-based on operational implementation (e.g., random selection of projects by the EEA for test on the quality of implemented systems in the case of wastewater treatment system implementation).

In the adaptation finance context, the same duality (broad objectives of adaptation vs. local development priorities) will be met, and consistency will be crucial. To do so, two elements are necessary.

First, a balance is needed between (i) the overall objectives of the funding; and (ii) the necessary flexibility in each single country implementation (to accommodate for local priorities). The main aim of adaptation policies may be vulnerability reduction, but specific guidelines for some areas, regions and sectors have to be defined to increase the operability of the concept.

Second, consistency with other local policy objectives has to be taken in account. A strategy may be a second best option among adaptation options and among development options, but can be the most appropriate for ensuring both aspects. Co benefits as well as co costs should be given substantial considerations in strategy selection. Of course, this importance should influence the choice of success indicators.

5. Lessons for the design of adaptation-funding international architecture

From the precedent sections, we can select interesting aspects that contribute to the debate on the design of adaptation architecture. We do not propose a new architecture as such, but evidently the multiscale governance proposed by the EU and described in Figure 1 and 2 is an interesting starting point.

Lesson 1: Black-spot programs are less flexible but more efficient than concept-based programs

First, results have been better when funds objectives were precisely defined (e.g., the ISPA focus on environment ‘black spots’ like wastewater treatment). A precise definition of both the general principles of action and the objectives leads to a better strategy definition. When objectives were vague (e.g., institution building in the PHARE program), expected results were less frequently reached and projects have been operationally less efficient. Indeed, in this case, it is more difficult to decide which projects have to be funded and how to measure their results. There is, therefore, a trade-off between flexibility (broad objectives) and efficiency (precise objectives).

Considering the difficulty in defining adaptation projects and measuring their efficiency, this lesson is worrying for adaptation finance. In addition to needed capacity building, these results suggest to focus on narrower and easier-to-define objectives than ‘adapting to climate change’. Examples of such objectives are ‘reducing population exposed to floods’ or ‘increasing population with access to drinking water.’

This approach is likely to improve program efficiency, more than compensating the loss in flexibility.

Lesson 2: A multi-scale and multi-step approach can minimize sovereignty and ownership issue, and facilitate capacity building.

Ownership and sovereignty issues have been met and had a negative impact on result delivery, in spite of the fact that EU candidacy, and the need to absorb the *acquis*, is a political choice. The EU approach to this issue is interesting. Practically, the EU has set up guidelines for funding, and the recipient countries produced their own strategies, from financial and operational perspectives. Then, these strategies are discussed in view of the guidelines, and negotiated between the country and the EU. Finally, implementation was managed either by a local EU entity or by the recipient country with EU oversight, depending on local capacity. Interestingly, the objective is always to evolve toward more control by the recipient country, if sufficient capacity is present. Capacity-building is therefore integrated in all projects instead of being considered as a stand-alone activity.

Program results seem to have been highly dependent on the quality and precision of the common work between recipients and the EU. Such a common work was possible at the EU level, but is more difficult to organize at the international level of adaptation finance. Also, ensuring the ownership of implemented projects as well as support for underlying concepts has been a difficult task in EU-funded projects. In particular, it has been observed that part of the funds was diverted toward other uses than the one planned. This problem is likely to be met with adaptation funding, requiring close collaboration and negotiations between adaptation fund providers and fund recipients, to balance adaptation results and recipient country priorities.

Lesson 3: Private funding leverage is a myth, and funding based on the “additional cost” is highly inefficient

Co-financing and leverage of private finance were difficult in EU funded projects in spite of the high level of development and institutional capacity of candidate countries. Often, co-financing, leverage capacity and absence of other investors crowding-out are in guidelines of projects management, but are not in place in the projects themselves. This absence of leverage can be interpreted as a failure of the additionality principle. If the EU had refused to finance more than the additional cost, investments would probably not have been made, and the fund would not have met its goal. So, these funds had to trade rigour against efficiency, and they disregarded the additionality criterion to be able to make a difference on the ground.

In the case of adaptation, a difficulty will be to deal with proposal of climate-proof development projects with a small additional cost due to climate change (e.g. coastal defence slightly higher to accommodate future sea level rise). This type of project would reflect the priority of a lot of developing countries, using adaptation as a new access to development aid.

Should adaptation funds accept to finance only the incremental cost due to adaptation to climate change? The risk in doing so is to provide only a small share of total cost, insufficient to leverage other funding source, and to make it impossible to implement most needed development-adaptation projects. An alternative could be, as observed with EU projects, to fund more than the additional cost. In practice, the level of funding could be determined as the

level necessary to trigger other funding source. This option would allow to deal not only with adaptation, but also with the current adaptation deficit, i.e. the lack of infrastructure to cope with the current climate.

Lesson 4: Non substitutability among objectives and regions is necessary

Distribution of funds among regions and sectors in the structural and cohesion funds has followed a flexible but constraint approach. Practically, there is non-substitutability of funds for the various objectives, to make sure all objectives – even the most difficult ones – are targeted. For adaptation funding, this need will be critical, to make sure the most vulnerable populations benefit from it, even if adaptation is costlier for them. This rule has, however, not always been respected for EU funding, to make the best use of available resources. This balance between non-substitutability and flexibility will have to be considered for adaptation funding.

Lesson 5: Subnational eligibility criteria are a viable solution

The distribution of EU funds among regions was determined from economic criteria (e.g., GDP below 75% of the average European GDP) that were calculated at the sub-national scale, meaning that a region within a country can be eligible even though the country as a whole would not be eligible using the same criterion. This choice was made to assess needs at the most relevant scale of analysis. For adaptation funding, there is currently a debate on country differentiation and on whether country-scale or sub-national-scale eligibility criteria are to be used. The conclusion of this debate will have important consequences on who receives support, especially in the poorest region of emerging economies. Eligibility criteria taking in account threshold of institutional capacity would be a good mean to take in account the vulnerability level, going around the debate about a differentiation between the “most vulnerable” and the others, i.e. between emerging and least developed countries.

Lesson 6: Institutional capacity matter: low-capacity countries should focus on capacity building and “black-spot” strategies; higher-capacity countries can follow a concept-based approach.

Lack of capacity or over-estimation of the recipient’s capacity appears as the first reason why a project does not work. Institutional capacities and projects for capacity building have to be taken into account beforehand, independently of a single project as it relates to a cross-functional problem. Institutional capacities of recipients are important in deciding whether to adopt a “black spots” or a “concept-based” strategy. A concept-based strategy means that the strategy is diffused throughout public policies of the country as well as financing precise projects, which requires more capacity than a black-spot strategy. In the adaptation debate, it means that low capacity countries should focus on capacity building and well-defined “black-spot” strategies, while higher capacity countries could follow a mainstreaming approach, more flexible and based on broader concept-based objectives.

Even though institutional capacity can be critical, implementations of projects have to be decentralised with capacity transfers. Reducing vulnerability of a population is an idea that

has to be appropriated by the population, and understood as important. Keys for increasing project appropriation are known: building trust, making the process accountable while engaging main stakeholders. It is another reason to use the network already used for development projects.

Lesson 7: EU should use its own experience to promote its views of adaptation funds

In the UNFCCC negotiation process, the EU should promote the experience from pre-accession and solidarity funds, which provided support on the basis of *additionality* criterion, like it has been proposed for adaptation (and mitigation) support. European Union has delivered well, while facing internally many of the forthcoming problems of adaptation. Hence, this experience should enter the EU discourse on global solution to climate change.

7. Conclusion

The experience from EU funds leads to pessimistic and optimistic insights with regard to the building of a new architecture to finance adaptation in developing countries. These insights are pessimistic because EU funds have achieved only mixed results despite the high administrative and financial capacity of the region. These lessons have an optimistic part, however, because despite all these limitations, EU funds have exhibited a steady improvement in efficiency over time, have improved recipient-country situations, and have helped to fund largest enlargement in EU history.

8. Acknowledgements

This work originates in a discussion with Dominique Bureau, who first mentioned the similarity between European funds and adaptation international support. The authors also want to thank Richard Klein and Matthieu Wemaere for their useful comments and suggestions on an earlier version of this paper. This work benefited from financial support from the WEATHER project, a 7th Framework research project, funded by the European Union.

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Appendix 1: ISPA program on wastewater treatment (10), practical example of pre enlargement finance.¹⁶

The aim of ISPA program is to facilitate the absorption of the *acquis communautaire* in transport and environment regulation. The existence of a separate program is justified by the high cost of intervention in both of them, because the EU regulation implies capital intensive investments. One of the most capital intensive aspect of the environmental regulation concerns wastewater treatment. This aspect relates to EU directive [91/271/CEE](#), and enters EU regulation as “waste water and sewage sludge from urban agglomerations can affect the quality of Europe’s lakes, rivers, coastal waters, soils and groundwater.” However, it is hardly deniable that wastewater treatment system is really tangled with development aspects too.

Wastewater treatment is a component of economic development, which yields clear benefits for the country recipients, but is financed by the EU with regard to the environmental consequence of the absence of treatment of wastewater. Thus, it is really an *additionality* criterion that determines funding. Because EU has adopted stringent environmental directives and wants to ensure that development in MS is consistent with EU law and practice to date, the EU finances the incremental cost of the development.

Compliance with EU environmental provisions on wastewater depends on the level of wastewater treatment required by the environmental situation. Investment can vary from €10 million to €200 million and the cost per capita declines with the size of the plant (large economy of scale). Between 2000 and 2003, the EU financed approximately 47,9 % of eligible amount for environment projects (so not only wastewater treatment)(9)(11). It is a high ratio for an incremental-cost funding. It shows somehow that when the recipients do not have the same priorities than donors have, to modify priority and investment fluxes, the ratio of funding has to be higher.

The impact on development is substantial as it changes the development pace and dynamics (projects’ pecking order) compared to what would have occurred otherwise. Even though funding is provided, a displacement of other projects still occurs as it crowds out the management and administrative capacity, which cannot then be used for other purposes.

The final report on the 2004 enlargement (5) reports environmental programs as the most successfully implemented of all. The achievements were high in terms of delivering investments, but most importantly the compliance with the overall objective (EU environmental law standard) was achieved. So, a drastic and highly funded policy can yield positive results, especially when achievement is low at the start and the objectives clearly stated. But in this case, a condition for success was the acceptance by the donor to fund more than the addition cost, which appears necessary to influence significantly investment fluxes.

ISPA has yield positive results. First, indicators on wastewater treatment presented a steady improvement, as the study on Hungary by Berkenstock(2006) and the report by the European Court of Auditors show. Interestingly, and maybe replicable in the case of adaptation funds, the review of efficiency is done with precise indicators and targets such as the number of households connected to the wastewater treatment system or the quantity of untreated sludge per year for instance. Audits are done on a 0-1-2 basis for approving requirement (do not meet requirement/ meet requirement borderline/meet requirement), which parallels Rio sustainability criteria.

Nevertheless, if the achievements were high, ex-post evaluation provides interesting insights on what are the problems of funds based on *additionality* criteria. The European Court of auditors conducted a review on EU cohesion fund spending in Greece, Ireland, Portugal and Spain on Wastewater treatment (10).

This ex-post evaluation can be considered as a valuable and unbiased (at least not against the programs) sources of feedbacks from past experiences. Results are the following.

First, there have been huge improvements in wastewater treatments in these four countries measured in field studies. It is in agreement with qualitative study by Berckenstock (2006) on Hungary. Best practices implementation rose. Hence, there is an improvement in social acceptance and understanding of certain practices. In the long run, this may even be more important than the successfully managed projects.

Second, the court of auditors notifies the following points that have to be addressed for a better practice. They are consistent with what we have underlined in this paper.

¹⁶ Extendable to structural funds with regard to (23).

- More consistency in the review of grant applications. Systematic applied framework including internal guidelines and checklist is essential. For adaptation finance it will be difficult to develop guidelines for each type of project, thus it requires common guidelines.
 - Need for a better outcomes monitoring by the EC when examining final reports before final payment. There is a lack of indicators and the difficulty to define a baseline to measure the improvement is a problem for good monitoring. The initial situation should be better taken into account in the final review. The court suggests that technical requirement with quantitative indicators of achievement would improve performance.
 - The projects need to be considered in a broader and dynamic vision of development. In wastewater development projects one needs to take in account whether the wastewater system will have higher or lower number of households connected in 50 years. It is as well dependent of other areas of development such as transport system. If a road is built two years after the treatment plant is built, it will result in an increased population in the nearby town due to transport, overshooting the capacity of the newly built plant. This aspect is critical for adaptation, since adaptation policies have to be consistent with development plans.
 - The quality targets need to be included in the project to benefit from feedbacks and best practices knowledge in place in other projects. Even though only few cases have been analysed, some plants were not built accordingly to best practice to date, especially in the reuse of sludge for agricultural purposes.
 - Need for feedback into the legislation process. Projects cannot work out without institutional flexibility, feedbacks and soft adaptation strategies. For instance, EU puts the application of the polluter pays principle as a determinant of the level of the funding.
 - Projects and developments should be part of a broader plan, and therefore MS should anticipate achievements of their projects as well as ensure their financial sustainability.
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(lxxxvi) *This paper was presented at the Conference on "Urban and Regional Economics" organised by the Centre for Economic Policy Research (CEPR) and FEEM, held in Milan on 12-13 October 2009.*

(lxxxvii) *This paper was presented at the Conference on "Economics of Culture, Institutions and Crime" organised by SUS.DIV, FEEM, University of Padua and CEPR, held in Milan on 20-22 January 2010.*

(lxxxviii) *This paper was presented at the International Workshop on "The Social Dimension of Adaptation to Climate Change", jointly organized by the International Center for Climate Governance, Centro Euro-Mediterraneo per i Cambiamenti Climatici and Fondazione Eni Enrico Mattei, held in Venice, 18-19 February 2010.*

(lxxxix) *This paper was presented at the 15th Coalition Theory Network Workshop organised by the Groupement de Recherche en Economie Quantitative d'Aix-Marseille, (GREQAM), held in Marseille, France, on June 17-18, 2010.*