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AID FRAGMENTATION AND
SWEDISH BILATERAL DEVELOPMENT ASSISTANCE

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ABSTRACT

A recently discovered problem concerning foreign development assistance is that of its fragmentation. The concept of aid fragmentation refers to the composition of the flow of aid into a recipient country in terms of its origin. Highly fragmented aid is by definition that which is made up by contributions from a large share of the total number of potential donors. Sufficiently high fragmentation it is argued, has adverse effects on the efficiency of aid in a number of ways, some of which are set out in this paper. During the Paris High-Level Forum of Aid Effectiveness in 2005 aspects relating to fragmentation was brought to discussion. Following the conference, the Swedish Ministry of Foreign Affairs initiated a process of implementing a new development assistance policy. By examining data on aid flows over recent years, I attempt in this paper to find indications of any changes in the fragmentation of bilateral aid following the rise in consciousness, focusing on partners of Sweden. In addition I try to establish whether the presence of Sweden as a donor in a recipient country has a significant influence on the level of aid fragmentation. Results lead to my conclusion that Sweden, and the better part of the aid community, still has a long way to go in the process of reforming foreign development assistance.

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ACRONYMS

AFI	Aid Fragmentation Index
DAC	Development Assistance Committee
GNI	Gross National Income
NGO	Non-Governmental Organization
SIDA	Swedish International Development Cooperation Agency
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
UD	the Swedish Ministry of Foreign Affairs

1. INTRODUCTION

Development assistance is an area of growing importance and concern to the global society. Since the 1960s there has been continual evolution of development theories and changes in recommendations for appropriate ways of distributing aid. Focus has shifted from emphasis on industrialization and capital formation, to emergency aid for the world's poorest nations, to how government policies and institutions should be organized. But not only has the theoretical basis for foreign aid grown, it is also a field of growing volume both in regards to the number of participating actors as to their budgets. Every country receiving development assistance in general cooperates with a large number of multilateral donors, a greater number of bilateral donors, and an even bigger group of NGOs. This fragmentation of aid has turned to be a problem. A growing number of actors in the development field can cause inefficient utilization of aid in various ways, and this insight is one of the more recent concerns relating to foreign development assistance. The awareness initiated the Paris Declaration on Aid Effectiveness in which over 130 actors agreed to reform the structure of development assistance to improve development performance. Sweden is one of the participants in this action plan.

My purpose with this paper is to look closer into the matter of fragmentation among the main recipients of Swedish aid and to assess progress of fragmentation reduction. I will make some comparison between different parts of the developing world, as well as look into the strength of the relationship between fragmentation and Swedish development assistance. Before I do this I will outline general features of aid fragmentation and what effects it is believed to have on efficiency of aid. I will then describe the Paris Declaration on Aid Effectiveness, and also outline how the Swedish development cooperation policy has been modified in response.

2. THEORETICAL CONSIDERATIONS

2.1 Fragmentation of aid and its effects

The term aid fragmentation refers to the structure of the total aid receipt of a developing country at a specific point in time. Total aid is made up from adding the disbursements made by all the different donors active in one country at this time, and the larger this group of donors is, the more fragmented aid is said to be. Also taken into account are the relative sizes of the payments made by different donors. When all donors pay the same amount of assistance, fragmentation is higher than when total aid is made up from disbursements of different sizes. Higher aid fragmentation is said to cause the positive impact of available funds to be smaller than it could have been, had fragmentation been lower. The reasons are multiple and will be described in the sections below. Taken as a whole however, aid fragmentation is a problem of efficiency impairment.

This definition suggests that optimal aid fragmentation is zero; that a single actor should be in charge of managing all disbursements to a developing country in order to reach its potential efficiency. But assigning one donor country to represent all of the donors in cooperation with the recipient country is not a perfect solution because it can create an unbalanced power structure in which the developing country is the inferior party. Some fragmentation is in this case desirable since it evens out the power distribution. In a perfect scenario the single actor would be the recipient government who would receive disbursements as additions to the state budget and use the addition in a manner that maximizes its positive effects on development according to its own development strategy. I will touch upon this subject again further down in this section.

The remainder of section 2.1. is devoted to the problems associated with high fragmentation of aid, after which I will briefly talk about donor proliferation that is implicitly related to aid fragmentation.

2.1.1 Transaction costs

A very direct problem stemming from aid fragmentation is that of increased administrative burden on developing countries, related for example to the entering of new donors and the set-up of new projects. Aid disbursements from a large number of sources are accompanied by a large set of rules and procedures to be followed on management of programs and projects, and

different routines for monitoring and reporting results back to donors. There are also obstacles connected with practical matters such as different languages and terminology, or fiscal calendars. These diverse requirements and barriers put pressure on recipient country bureaucracies and institutions, which are likely to be relatively weak already. Inefficient use of administrative capacity reduces the value of aid by stealing time and effort of bureaucrats away from other important functions, and may erode institutional capacity even further (Knack and Rahman, 2004). This matter is a tragedy of the commons where every aid agency tries to benefit as much as possible from developing countries' administrative system, and where the additional burden from a single donor is too small to matter much. There would be benefits for all aid agencies from improvement of institutional quality in their partner countries, but the issue is generally characterized with a collective action problem inhibiting such a project. When there is a lack of coordination among donors the incentives are weak for any single aid agency to spend resources on finding a solution that benefits all donors.

Furthermore there are costs associated with negotiation of agreements and establishing relationships with donors, and meetings with delegations from partner countries in order to maintain these relations. This often requires valuable time and attention of senior government personnel. For example, senior officials in Ghana put as much as 44 weeks per year into assisting and overseeing donor activities, and were under this time more or less absent from other duties (Bräutigam, 2000). But it may be that it is not only time that is lost from pleasing aid agencies; Kanbur (2003) argues that perhaps as important is that recipient country politicians become oriented towards convincing donors to continue their support instead of working in accordance with the needs of the domestic population. Although countries in economic difficulties would benefit from rationalizing their development agendas and their list of benefactors, incentives are strong to accept all offers of assistance.

Attempts have been made to reduce transaction costs, for example by harmonization of reporting systems of all donors in a recipient country. Examples include the Independent Monitoring Group in Tanzania, the Programme Aid Partners monitoring system in Mozambique, and the Vietnam Partnership Group on Aid Effectiveness (Balogun, 2005). Evaluations of these efforts have shown only modest evidence of reduced transaction costs, but that this might be due to start-up investments required for implementing systems or that declined administrative costs are offset by increased coordination costs. However, when arrangements are fully implemented, costs are expected to decline more steadfastly. It is thus

premature to draw conclusions on whether harmonization has an improving effect on aid efficiency.

2.1.2 Differing strategies and goals

Development assistance directed towards a country with an unstable political environment or a high level of corruption may necessitate the attachment of conditions to aid disbursements. It is necessary to assure that funds are allocated to intended purposes. If, however, donors have different attitudes towards what is the desirable and most important outcome of their contributions, conditions accompanying aid disbursements may be incompatible, which will render policy making complicated. When aid is more fragmented it can be expected that the risk of contradicting conditionalities increases. By coordinating donors' conditions or assign management of conditions within every different sector to a sole donor, this problem is mitigated and partner countries need put less effort into administrating and report on requirements. On the other hand this creates a cartel of donors that jointly can exert greater power than the total influence they had when acting in isolation. This means less voice for the partner country and undermining of policy learning, as well as that the room for innovations within the development assistance field diminishes (Bigsten, 2006).

If only one single aid agency with a large budget operates in a developing country, this agency would have more leverage in the donor-recipient relationship than any single agency has when there is fragmentation. It is reasonable to assume that coordination of donors and their fragmented disbursements could have a similar outcome when it comes to enforcing conditions for aid. Whether such power over the recipient government's actions is desirable depends in part on the government's existing development agenda, and on what action plan donors have in mind. While donors may only have interest in improving welfare of the poor in a developing country, aid inflows might affect incentives of the receiving government to use domestic funds for supporting its own poor population. If the government views marginal consumption by the poor equal to marginal consumption by the rest of the population, foreign aid might produce the result that some of the domestic government expenditure initially intended to benefit the poor instead will be transferred to the rich or the non-poor (Bigsten, 2006).

2.1.3 Responsibility for results

An advantage for developing countries of dealing with a single donor is that the outcome of aid can easily be attributed to the accountable party. If plans have failed or been without result this donor must reconsider its development agenda, evaluate performance, and try to improve the product of efforts. Responsibility for failure or success is on the other hand harder to ascribe to one donor when there are several present, often working towards the same objective but independently. When no donor is ultimately held responsible there is little reputational stake involved for any one of them (Knack and Rahman, 2004) and ineffective approaches to development may be upheld longer than in a more transparent aid environment. Without coordinated efforts towards a common set of goals there are strong incentives for individual agencies to focus on their specific objectives rather than the overall effect on development. It may thus be that the potential impact of the total development budget is not reached (Bigsten, 2006). Connected to this problem is the need of aid agencies to be able to present results of programs in order to maintain good relations with donors. Without detectable impacts of undertaken activities financing is harder to find, which naturally is crucial for any aid agency's existence. In order to maximize their budgets, agencies have reason to engage in activities that produce visible results that are clearly attributable to an aid program. Actions following the requirement for observable outcomes often conflict with what would have been the optimal long term agenda for development. Although donors indisputably have concerns for this agenda, they cannot ignore facing the trade-off against securing funds (Knack and Rahman, 2004).

2.1.4 Recurrent expenditures

If a recipient government is unable or unwilling to control direction of aid flows and donor activities, it is not unlikely that there will be excessive allocation of resources to investments. Immoderate and unrestrained investment spending that requires large recurrent expenditure in the future financed by the recipient the government, will undermine their budgeting process and possibly aggravate an already weak financial situation. To deal with such a budget hole it will not only be necessary to weed out some investment projects, and thus waste the resources spent on them, but it is also likely that less 'fashionable' sectors will be neglected. Education and health have in later years been popular targets for aid disbursements because of these sectors' direct impact on development (Knack and Rahman, 2004). When donors are left to rank sectors' importance to development and decide where to invest, it can be expected that some areas receive a surplus of funds and projects; education and health are likely to be

among those. A larger than optimal share of investments allocated to education and a corresponding deficit somewhere else, is a bias that may transfer to partner governments' budgeting decisions since these education facilities will require resources for maintenance in the future. Donors supplying a small share of total aid, i.e. high fragmentation, are more likely to overlook any adverse effect their investments may have on future budgets. Insufficient coordination and lack of responsibility for outcomes increase the risk for uncontrolled investment spending, since these factors reduce donors' concern for whether a recipient country is capable of continually funding an investment project; again there is a tragedy of the commons.

The principal-agent problems between central and regional authorities can cause or aggravate the distortion of investment spending; Bräutigam (2000) claims that local governments "view the future budget as a common resource pool which they can dip into with little or no cost". Small donors more often bypass the central planning office and work with local governments. Rahman and Knack (2004) find evidence supporting the hypothesis that donor fragmentation has a boosting effect on capital expenditure as a share of public spending. This effect is stronger the larger total amount of aid receipts is in relation to GNI.

2.1.5 Poaching

Donor fragmentation is known to have adverse impact on developing country administration not only by overload of paper work, but also through high demand for skilled local staff. Every aid agency is concerned with recruiting the most experienced and talented workers to their programs, people whom are often found working within the public sector of the recipient country. Salaries paid to civil servants in developing countries tend to be low and workers could often significantly raise their income by leaving public service to work for an aid agency. It is also common that counterparts to donors in the local bureaucracy, still hired by the recipient government, are paid supplements to their salary, which naturally give economic incentives for officers to seek being responsible for management of aid projects (Acharya et al., 2003).

That aid agencies treat the local bureaucracy as a common-pool resource for skilled labor, draining it from talent and experience, is undermining the government's capability of running its administration. It distorts the market for this type of labor, and creates incentives for civil servants to neglect their other commitments that may well have greater effect on and

importance for development, in favor of well paying donor projects (Knack and Rahman, 2004). Personal gains for public sector employees may also induce unjustified protection of particular projects, no matter what benefits they add or do not add, and less support for coordinated broader programs or budget support (Acharya et al., 2003). Particularly perverse in this situation is that aid agencies gain from better institutional quality; a competent bureaucracy in a recipient country can increase returns to all projects. The individual agency's action has little effect on public sector functioning, and thus creates insufficient incentive for the agency to restrict its behavior; another tragedy of the commons. If the group of donors was smaller and fragmentation reduced, the external cost of poaching borne by each donor might be large enough to affect recruitment choices (Knack and Rahman, 2004).

2.1.6 Sharing information

The competition produced for attractive projects, time of government officials, and assistance of public servants in the presence of a large number of uncoordinated donors, might lead to the withholding of different types of information. For efficient resource allocation in a project that is somehow connected to, or complementary to, other donors' projects, it is essential that information about the details of those is available (Bigsten, 2006). Simultaneous and coordinated decisions could help reach maximization of outcomes and minimize recurrence of mistakes, and a smaller number of donors could facilitate implementation of such an information sharing system. Duplication of efforts is another more direct cost of information hoarding that increases with the number of development assistance actors in a recipient country. Gatherings of data such as poverty evaluations, public expenditure reviews, and governance and investment climate assessments, are commonly not shared among donors (Knack and Rahman, 2004), and frequently, according to Easterly (2002), authors of these reports are not aware that similar studies on the same topic in the same country has been done recently by someone else.

2.2 Donor proliferation

The term donor proliferation describes the fact that the number of donors has increased faster than the volume of aid. It is defined as the degree at which a country is dividing its total aid budget among the total group of potential recipients, both in terms of the number of beneficiaries and of how the resources are divided among them. Maximum proliferation is reached when a donor gives aid to all potential recipients and gives them equal shares of the budget. Low dispersion of aid thus comes from aiding fewer countries, or from giving the same number of countries different shares of the aid budget. Now, how is this tied to the fragmentation problem burdening aid recipients? Acharya et al. (2003) come to the conclusion that developing countries that are subject to the most fragmentation are in fact statistically more likely to be aided by the worst proliferators. If donors could increase concentration of their efforts, this would thus have a reducing effect on fragmentation in recipient countries.

3. THE PARIS DECLARATION ON AID EFFECTIVENESS

The Paris High-Level Forum on Aid Effectiveness organized by the OECD in February 2005 was a response to the increased emphasis on the need for major improvements in the quality of foreign aid. The commitments made at the G8 summit at Gleneagles was to be followed by higher levels of aid (60 percent increase up until 2010), but for this amount to produce the best possible results, the aid community recognized that ambitious reforms in aid management were required. As a result of this consensus, ministers of developing and developed countries and heads of international development organizations put together a statement of resolve; the *Paris Declaration on Aid Effectiveness*. Commitments within the five following areas were formulated; ownership, harmonisation, alignment, managing for results, and mutual accountability. As opposed to previous conventions on aid effectiveness where primarily general principles of the role of aid had been discussed, the Paris Declaration also includes a set of monitorable targets. Indicators of progress towards these objectives are devised and every country has committed to establish assessment frameworks and results-oriented reporting to measure advances at country level (Paris Declaration, 2005).

The issue of aid fragmentation is mentioned twice in the declaration. Donors and partner countries promise to ‘intensify efforts to provide and use development assistance [...] in ways

that rationalize the often excessive fragmentation of donor activities at the country and sector levels.’ (para. 6). This quote is taken from the first section of the declaration, where participants in general terms agree on a resolution to reform the delivering and management of aid. The second part of the declaration consists of specified commitments regarding the five objectives, and within the *Harmonisation* section fragmentation is again recognized as impairing aid effectiveness (para. 33). Specifically, donor and recipient countries have agreed on the following:

‘34. Partner countries commit to:

- Provide clear views on donors’ comparative advantage and on how to achieve donor complementarity at country or sector level.

35. Donors commit to:

- Make full use of their respective comparative advantage at sector or country level by delegating, where appropriate, authority to lead donors for the execution of programmes, activities and tasks.
- Work together to harmonise separate procedures.’

(Paris Declaration, 2005)

Donor complementarity and full use of comparative advantages are regarded as principle gains from reduced fragmentation, which are matters that can be connected to the problems previously pointed out in this paper. These are furthermore referred to numerous times in the Paris declaration as issues that need to be addressed. In order to reduce large transaction costs, donors have committed to implement common arrangements for planning, funding, disbursement, monitoring, evaluating, and reporting on activities and aid flows (para. 32).

In the *Ownership* section the agenda seeks to strengthen partner countries’ leadership over development strategies, and coordination of activities. Donor countries have accepted to respect this and to assist in building capacity for effective management (para. 15). To assure that progress is made in the intended areas and that responsibility for results is allocated, the declaration seeks to bridge the “accountability gap” and hold donors and recipients mutually responsible, and responsible towards their citizens, for development policies, strategies and

performance. Partners and donors have committed to jointly assess the progress of putting the development agenda into practice (para. 3.iii and 50, OECD, 2006). The difficulties brought about by competition for skilled labor is also implicitly addressed; donors will take action towards strengthening partner countries' capacity to plan, implement, and manage policies and programs by making effective use of existing capability, and harmonize support with other donors (para. 22 and 24). Procedures for recruitment will also be reformed (para. 36).

Under the *Harmonisation* section donors have endorsed working together to streamline efforts to minimize duplication of missions, studies, and reviews, to train together, and to share lessons learnt (para. 32). They have also agreed to provide comprehensive information on aid flows (para. 49).

The Paris Declaration includes a section of detailed targets to ensure successful progress in the fulfillment of commitments made in the preceding sections; the *Indicators of Progress*. It states detailed goals within each of the five key principles to be reached before 2010. Indicators referring to harmonization are number 9 - *Use of common arrangements or procedures* - and number 10 - *Encourage shared analysis*. The target for 2010 on Indicator 9 is to compress aid activities into programs where development is coordinated to support locally owned development agendas; by 2010 66 per cent of aid flows should be provided in this way. Secondly, the share of field missions and diagnostic reviews conducted jointly by donors should have increased by 2010 to 40 per cent and 66 per cent respectively.

4. SWEDEN'S RESPONSE TO THE PARIS DECLARATION

4.1 A New Swedish Development Assistance Policy

In the Swedish government's proposition on global development policy of 2003 there were some references made to issues later highlighted and formalized in the Paris Declaration on Aid Effectiveness, suggesting that the Swedish development aid society was becoming aware of the problems burdening their efforts. The proposition stated that development can never be created from the outside of a society, but solely by people within it. The reality, the experiences and the priorities of these people must therefore be the basis of the policy, and that what Sweden can contribute with is know-how in various areas. Furthermore, it pointed

out the importance of national policies and national ownership of the developing countries, that Swedish efforts should be concentrated to fewer areas, and that cooperation on analyzing, financing and evaluating should be increased with other EU countries, other donor countries, and multilateral agencies (Utrikesdepartementet, 2002).

Prior to the awareness of the problems with lack of focus in the development field, and the subsequent reforms of the policy in 2007, Sweden was conducting bilateral development partnership with over 120 countries (Utrikesdepartementet, 2007). With reference to the Paris Declaration, the government in 2007 initiated a process by which the management of foreign aid was to be changed with the objective of improving its quality, efficiency, and results. In the budget bill of 2008 it was written that the way to succeed in this was to ‘[...] target those countries and regions where Swedish contributions can achieve the greatest possible benefit’ (the Ministry of Foreign Affairs, 2007). The major move made by the foreign ministry was thus to go over the partner countries and determine which of these to continue assisting, with what goals in mind, and in what manner. A comprehensive evaluation preceded the choice in which every country was analyzed on the basis of four main issues identifying;

1. what countries were in greatest need of help with regard to income, health, equality, etcetera,
2. what were the expectations on the effectiveness of aid based on current political conditions in the country,
3. what countries were developing towards democracy and if not, could Sweden make a difference in promoting democracy, and finally,
4. what specific knowledge and competences Sweden could contribute with to the country relative to other donors (the Ministry of Foreign Affairs, 2007).

The outcome of the assessment was a decision to decrease the number of countries with which Sweden is to conduct bilateral partnership, and to shift Swedish aid away from Latin America and Asia towards Africa. The total number of bilateral partner countries was reduced to 33, divided into three categories depending on the characteristics of the aid directed to them; long-term poverty alleviation and development assistance, support to conflict or post-conflict zones, and reform efforts in Eastern European countries. Three more categories comprise the “phase out countries” that in the future will receive selective and/or time limited support, or

that will be aided through other channels than a direct bilateral relation with Sweden. The following twelve countries constitute the first category;

- Burkina Faso
- Kenya
- Mozambique
- Tanzania
- Zambia
- Cambodia
- Ethiopia
- Mali
- Rwanda
- Uganda
- Bangladesh
- Bolivia

The Swedish foreign ministry, UD, and the Swedish International Development Cooperation Agency, Sida, have developed an action plan in order to concretize commitments made and intensify efforts towards improving the efficiency of Swedish foreign aid; *Handlingsplan för ett effektivt bistånd 2009-2011* (Utrikesdepartementet, 2009). Seven main goals are pinpointed:

1. Increase use of partner countries' and partner organizations' systems;
Swedish development assistance will have priorities set out by the partner country and with systems regarding planning/budgeting, procurement, execution, monitoring, etcetera, set up by the same. When this for some reason is impossible, UD and Sida should cooperate with the partner country and reach an agreement on how to develop and strengthen these systems.
2. Increase the share of funds assigned to program efforts;
Priority will be given to projects over which a recipient country has ownership, where there is a formalized process for harmonization and alignment of systems, and where local systems are employed.
3. Increase predictability and responsibility of results;
Results will be the basis of analysis, decisions and dialogue.
4. Increase focus and decrease number of contributions;
By concentration of assistance more monitoring and qualified dialogues with actors in relevant sectors can be carried out.
5. Increase cooperation on analyses and coordination of visits to regions and countries;
Analytical work and visits will be fitted to plans and needs of the partner country.

6. Improved global joint action, especially within the European Union;
Sweden will try to coordinate aid with as large a number of other donors as possible. The EU shall be an important forum for developing the agenda for improved aid efficiency.
7. Increase focus on supporting multilateral organizations and fulfill commitments on aid efficiency;
Furthermore, the goals should affect and guide cooperation and dialogues with multilateral organizations. Sweden will try to influence other donors to work towards these goals and review their efficiency in common partner countries.
(Utrikesdepartementet, 2009)

Based on these objectives specific country goals are devised and a maximum of sectors in which development cooperation will take place have been set to three per partner country. Areas that are prioritized by decision of the Swedish government are democracy and human rights, equality and women's role in development, and climate and environment. Together with poverty alleviation, education, and health service, these sectors are frequently recurring among those determined as country specific.

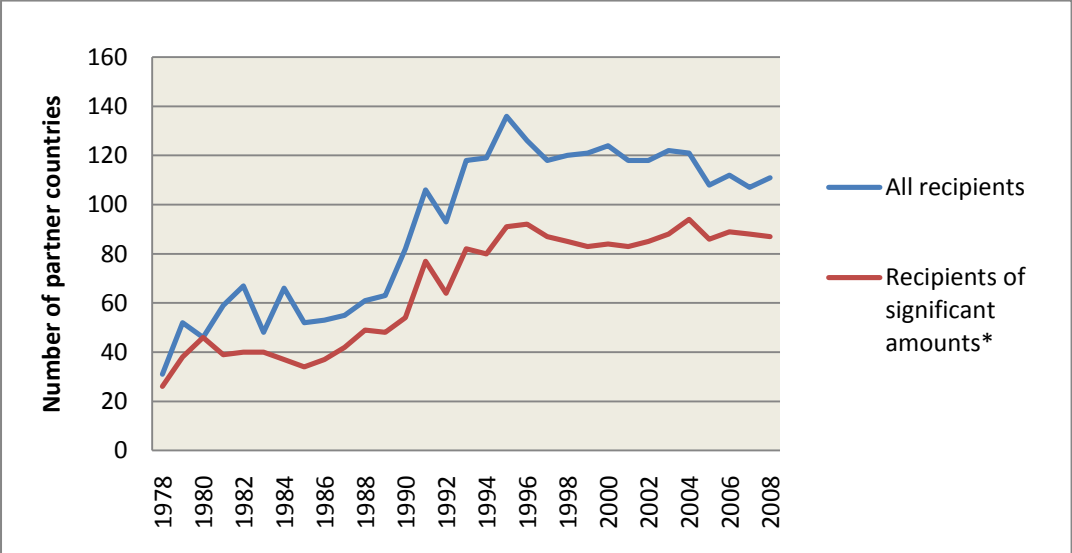
4.2 Distribution of Swedish Development Assistance in Recent Decades

Before taking on the fragmentation calculations I want to take a brief look at the evolution of the distribution of Swedish bilateral aid over the last three decades. As I will do for measuring fragmentation, I have used statistics from the OECD database OECD.Stat on total gross ODA disbursements, as well as data from the World Bank's World Development Indicators.

Since aid fragmentation is related to donor proliferation it is interesting to take a look at the number of countries that receive Swedish bilateral aid and what has happened to the size of this group over time. It is at this point necessary to determine which aid recipients qualify as bilateral partners; should a distinction be made between countries receiving very substantial amounts of assistance and those receiving a minor amount, or should they all have the same status and weight? The distribution of the aid budget is the second component when measuring donor proliferation and I have therefore chosen to distinguish between countries receiving significant amounts of Swedish foreign aid from those receiving less. As threshold

value I chose US\$500 000 or more during one year for the index year 2000 and calculated values for each of the remaining years using the GDP deflator. For the first year, 1978, I thus disregarded all aid events at a value below US\$228 000. For 2008 the threshold is US\$612 000. Figure 4.1. shows how the size of the significant group has developed, as well as the total number of recipients irrespective of disbursement sizes between the years of 1978 and 2008.

Figure 4.1. Number of countries receiving bilateral aid from Sweden, 1978-2008



* Significant aid events amount to between \geq US\$228 000 and \geq US\$612 000, depending on year.
 Source: World Development Indicators

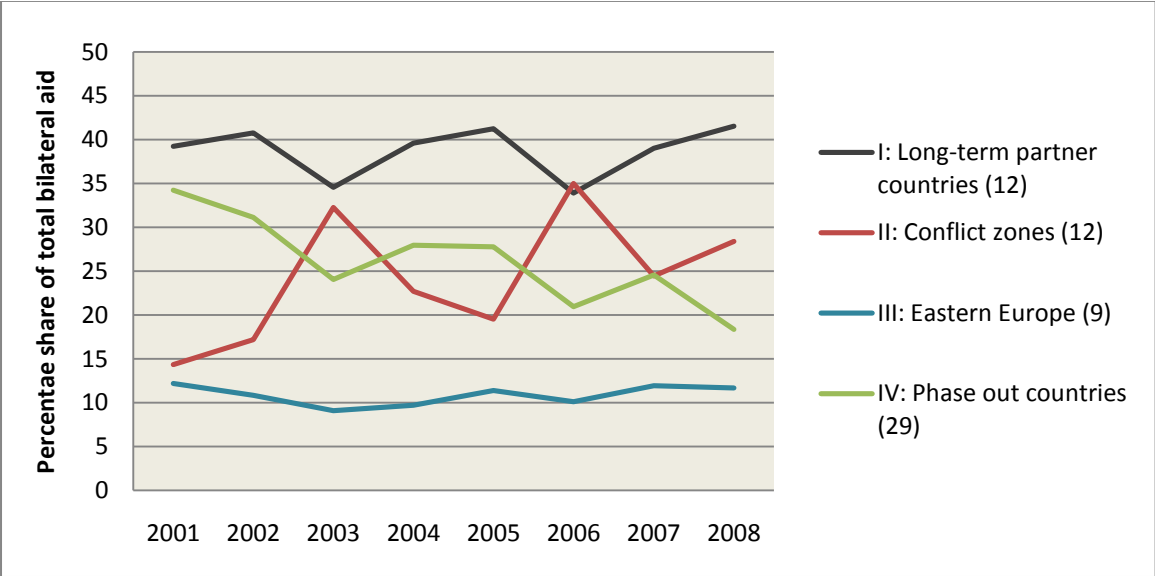
Both the bilateral partners that received significant amounts of aid and the total number of recipients more than trebled in numbers during this period. The highest counts of significant recipients are found in 1996 and 2004 when 92 and 94 countries respectively were beneficiaries of large amounts of Swedish development assistance. In 2008 they had decreased to 87, which is in accordance with the aim of the policy for efficient aid. It should be noted that there is still great variation within the group of significant aid events; on average the standard deviation of the significant disbursements is over 19 000 000. The group of total recipients was largest in 1995, then including 136 partners, but has since then shrunk to 111 in 2008.

Acharya et al. (2003) ranks 22 donor countries according to their decisions on distribution of aid and identifies eight as proliferators. These donors mainly have two things in common: first; their aid programs are generally progressive in their nature and show responsiveness to

poverty and need, and independence from domestic business interests. Second; they have little or no history of colonial power and thus have no clear commitments or cultural inclinations to particular parts of the developing world. An interpretation of these results could be that the more altruistic and progressive donors, seemingly with the best intentions, are the worst proliferators. Among the eight countries with worst aid dispersion Sweden ranks as number eight.

It is also of interest to study how the bilateral aid is divided between the groups of current or former partner countries of Sweden, referred to in section 4.1. as the outcome of recent assessments and policy changes. 62 developing countries are included and divided into four groups instead of six for simplicity; (I) long-term partner agreements, (II) support to conflict or post-conflict zones, (III) reform and integration support to Eastern Europe, and (IV) phase-out countries with which Sweden eventually will have no partnership¹

Figure 4.2. Distribution of Swedish bilateral aid, 2001-2008



Number of countries included per group in parenthesis.
 Source: OECD.Stat

The development is illustrated in Figure 4.2. The relative sizes of aid allocated to Group I countries and to Group III countries have changed only slightly. Group II and IV however show signs of transformation along a trend. Group II has received an annual share of the aid budget on average 2 percent larger than the preceding year, while the share disbursed to Group IV has been reduced by approximately 2.3 percent per year over the period. The two

¹ See Appendix 1.

conspicuous upward pointing dents on the Group II line, with corresponding dips on the other lines, derive from two large isolated payments to the Democratic Republic of the Congo in 2003 and to Iraq in 2006. When these two entries are removed all lines move in a less volatile manner, making the trends more discernable. The immediate conclusion is thus that the major shift in Swedish bilateral aid has been the withdrawal of funds from countries in the phase-out group in favor of countries in conflict or post-conflict countries. The share of total aid reallocated towards the twelve long-term partners has been increasing only marginally over the period.

5. ASSESSING AID FRAGMENTATION

5.1 How to Measure Aid Fragmentation

I have chosen to use a way of measuring fragmentation based on two dimensions of total official development assistance (ODA) as reported by the OECD (2010). The first dimension shows the number of partner countries a recipient country has, in relation to the total number of potential donors. A high proportion signifies more fragmentation of the total amount of aid; it is divided into more shares. The second dimension relates how these parts together make up the total aid amount. If they are equal in size, that is if every partner country donates the same amount, the fragmentation measure reaches its highest level. The larger one share becomes in relation to the rest, the lower fragmentation will be. No consideration will be given to the relative sizes of aid receipts of different countries; the index calculates the diversity of aid inflows regardless of the quantity. As fragmentation index I will use the Hirschman-Herfindahl Index, which is developed for measuring the degree of competition between firms in a market. The squares of the market shares of the firms are summed and the result is an index ranging between 0 and 1, where an index approaching zero indicates zero concentration, that is infinite competition, and 1 signifies a single monopolistic producer and no competition due to total concentration.

The formula is thus simply

$$H = \sum_{i=1}^N s_i^2,$$

where s_i represents donor i 's share of total aid and N is the total number of donors. The score is then inverted and subsequently multiplied by 1 000 to create a more manageable measure that makes intuitive sense. A result approaching the maximum value of 1 000 now indicates that aid fragmentation is high, while a score of 0 means that aid originates from one single donor and thus that fragmentation is at its lowest possible level.

I have based the calculation upon disbursements made by the 31 donor countries listed by the OECD to 140 of the developing countries in the same database, between the years 2001 and

2008. I have chosen to include all developing countries that received aid during this time, irrespective of the size or number of disbursements.

5.2 Results and analysis

5.2.1 Aggregated aid fragmentation trend in partner countries

The overall results from calculations are summarized in Table 5.1. As can be seen, all the partner countries show indexes in the upper range of the scale, with no more than a couple of measures even falling below 700 and with a total average on 845. Figure 5.1. gives an illustration of the circumstances. In five of the twelve countries (Bangladesh, Bolivia, Ethiopia, Mozambique, and Zambia) the fragmentation index is either very volatile or, in the case of Mozambique, especially high. The other seven lines have more steady positions on the graph. The obvious conclusion is that there is no common trend of changes in aid fragmentation in the twelve countries.

Table 5.1. Fragmentation index in Sweden's twelve partner countries, 2001 – 2008

	2001	2002	2003	2004	2005	2006	2007	2008	Average
Bangladesh	801	791	817	802	867	825	861	708	809
Bolivia	881	734	770	703	858	830	869	870	814
Burkina Faso	875	880	865	863	871	831	860	846	862
Cambodia	767	837	808	871	857	866	877	882	846
Ethiopia	891	867	690	809	702	857	843	778	805
Kenya	878	855	856	866	868	830	833	807	849
Mali	835	861	828	844	858	870	794	883	847
Mozambique	887	838	915	925	926	925	926	912	907
Rwanda	861	846	866	846	851	833	848	847	850
Tanzania	812	908	855	897	881	888	805	891	867
Uganda	868	881	851	864	845	850	855	847	858
Zambia	871	892	813	812	699	811	879	848	828
Average value	852	849	828	842	840	851	854	843	845

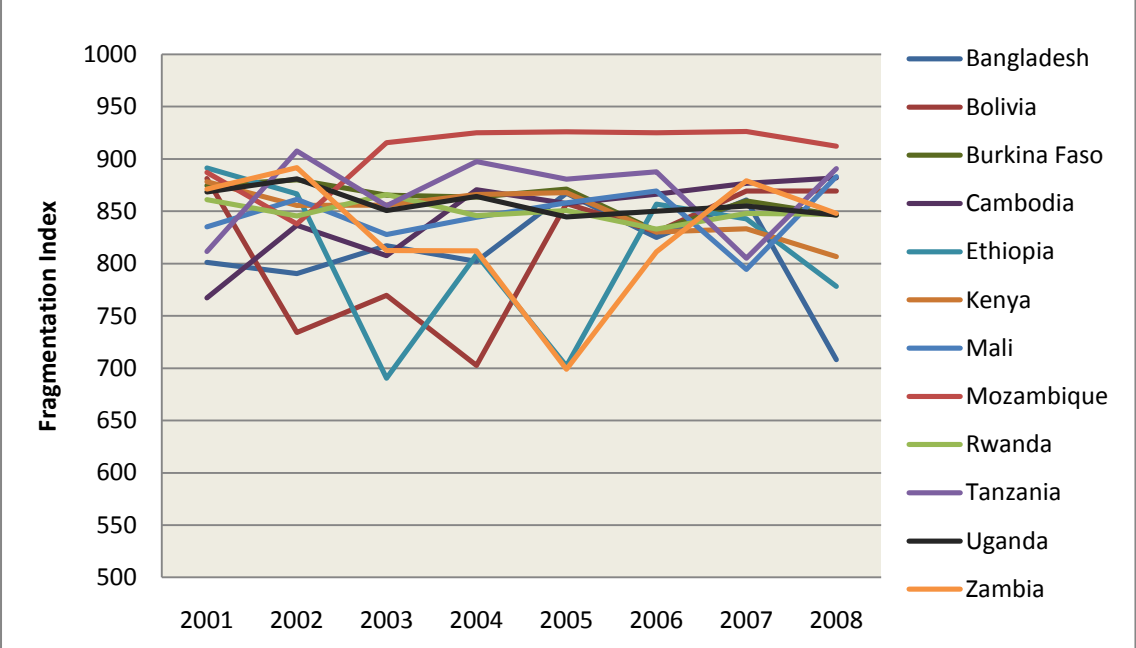
Notes: Fragmentation index

Source: OECD.Stat

The average level of the index at the bottom of Table 5.1. is graphed in Figure 5.2. together with the averages of the three other groups (II – IV) mentioned in section 4.2. The only group showing a clear pattern of change is the phase-out group IV, while the groups II and III share the ambiguity of group I. Although demonstrating some ostensible stability in its

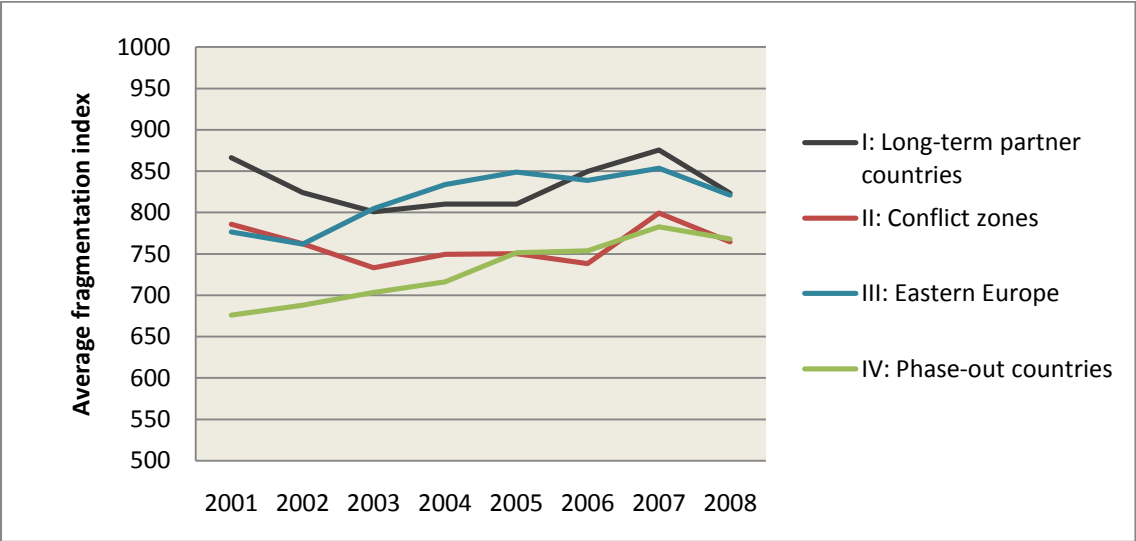
development, the fragmentation index of group IV is not moving in the desirable direction. The average index has increased from about 670 to 770 between 2001 and 2008, not decreased in correspondence with the intentions of the Swedish policy makers.

Figure 5.1. Aid fragmentation in the twelve partner countries, 2001-2008



Note that the index scale ranges from 500 to 1000 in figures 2-4.
Source: OECD.Stat

Figure 5.2. Fragmentation in Sweden’s current of former partner countries, 2001-2008



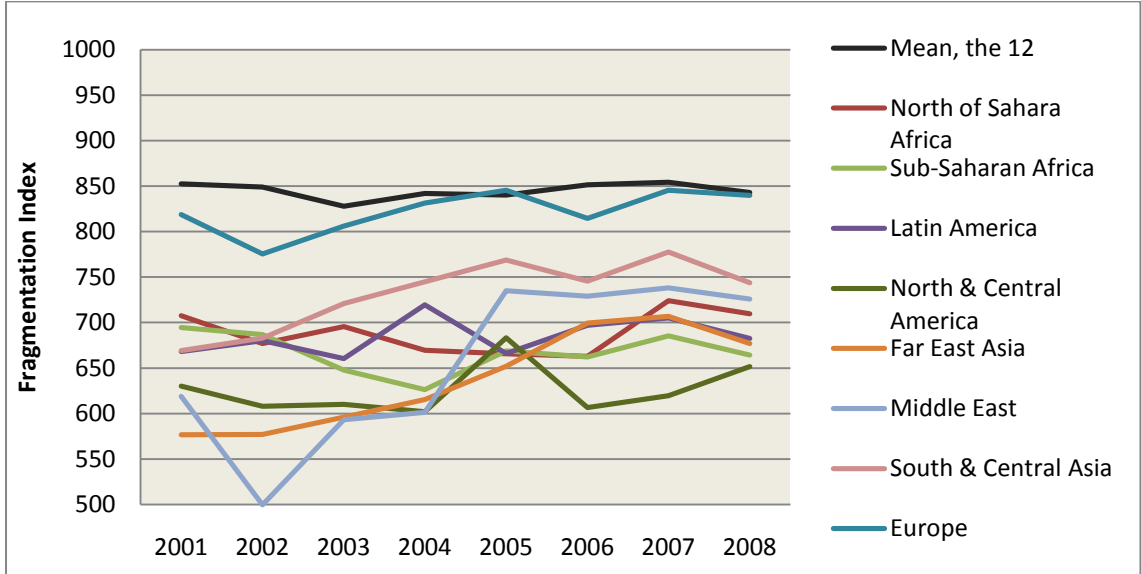
Source: OECD.Stat

In Figure 5.3. the average result is compared with fragmentation in different parts of the developing world. Also these scores are found to be high, but only the thirteen Eastern

European countries compete with the twelve at the top of the scale. In a ranking of 139 countries according to their average index with the highest value as the top, the twelve long term partners all place high; eight of them in the top twenty range and the remaining four within the next twenty slots. Out of the twelve European countries five place in the top twenty and the rest rank above seventy². Average fragmentation index for the European countries over the eight years is 826, while the other regions are found below a mean of 700 aside from South & Central Asia at 732. An examination of the total average of the developing world reveals no signs of any existing trend.

It should be noted that there is great variation within some of these regional averages. Among Latin American countries for example Argentina reveals the highest average fragmentation index at 805, while Colombia and Suriname fall at 485 and 274 respectively.

Figure 5.3. Aid fragmentation per region



Source: OECD.Stat

5.2.2. How Significant to Aid Fragmentation is the Contribution of Sweden?

To get a deeper idea of the impact of Swedish aid on fragmentation I examined the statistical significance of a three sets of variables to the fragmentation index of 134 developing countries that received foreign aid in 2007. I used a dummy variable to denote the presence or absence of Sweden as a partner country and I have included countries that received development assistance from Sweden in 2007; 87 out of 134. I used OECD data on ODA

² See Appendix 2.

disbursements and excluded insignificant disbursements using the limit of US\$500 000 for index year 2000 as in section 4.2 (US\$599 200 in 2007).

In the first model I included two other independent variables; GNI per capita and foreign aid per capita in the recipient countries. The selection of the independent variables is based on my own appreciation of the likelihood of their influence since I have not found any similar studies for reference³. GNI per capita gives a general idea of income in the recipient country and the proposal is that the lower is income, the more ‘popular’ will the country be as an aid recipient. If donors are responsive to poverty, it will not only attract larger amounts of aid but also more donors. Foreign aid per capita could potentially contribute to fragmentation in that a large amount of aid does to some extent imply that it originates from more donors.

If there is some inclination in donors to watch what other donors are doing and let this affect their choice of partners, then the activity of one donor in a recipient country may be a sign that there will also be other donors present. It may thus be that the impact on aid fragmentation of Sweden as a donor country cannot be considered in isolation from other donors. In model 2 I extended model 1 with three more dummy variables for the presence of the worst proliferators as ranked by Acharya et al. (2006); Germany, Canada, and the Netherlands.

In model 2 I could have created a dummy variable for each of the bilateral donors, but such a model would not have any additional explanatory value that could be trusted due to its complexity and to the characteristics of the data. I therefore created three other dummy variables to control for the different behavior of donors, again based on the ranking of proliferators. Excluding Sweden, which as mentioned is ranked as number eight, I divided the donor countries into three groups of seven with the high proliferation donors in the first group, medium proliferation donors in the second, and low proliferation donors in group three. The variables denote whether the recipient is aided by four or more of the donors in each group. Model 3 also includes the initial three independent variables.

Table 5.2. shows the results.

³ Bethélémý (2006) tries to understand allocation of bilateral aid and uses GDP per capita and donors’ aid budgets as control variables.

Table 5.2. Aid Fragmentation Index and the presence of Sweden as a donor

	Model 1	Model 2	Model 3
(Constant)	688,395 (28,656)	492,482 (47,684)	599,635 (32,927)
Aided by Sweden	142,904** (28,884)	54,368 [#] (31,409)	39,089 (35,664)
GNI per capita (USD)	-,012** (,003)	-,007* (,003)	-,007* (,003)
Aid per capita (USD)	-,074** (,023)	-,045* (,022)	-,056* (,022)
Aided by Germany		195,706** (39,527)	
Aided by Canada		65,644 [#] (36,581)	
Aided by the Netherlands		27,095 (26,737)	
Aided by ≥4 of high proliferation donors			151,928** (38,320)
Aided by ≥4 of medium proliferation donors			44,942 (33,796)
Aided by ≥4 of low proliferation donors			5,662 (30,644)
N	134	134	134
Sign. of model	,000	.000	,000
R ²	,399	,514	,488
Std. error of estimate	143,409	130,463	133,828

[#], *, and ** indicate significance at the .10, .05, and .01 level. Standard errors in parenthesis.

Notes: High proliferation donors are Germany, Canada, Netherlands, Switzerland, Norway, Belgium, and United States.

Medium proliferation donors are France, Finland, Japan, Italy, United Kingdom, Luxembourg, and New Zealand.

Low proliferation donors are Denmark, Spain, Austria, Ireland, Australia, Portugal, and Greece.

Source: OECD.Stat, World Development Indicators, United Nations Statistics Division

The outcome of model 1 shows that for countries in partnership with Sweden fragmentation index increases with about 143 units and that the coefficient is significant at the .01 level. The value of this coefficient is very high considering that maximum value of fragmentation index is 1 000. The next independent variable *GNI per capita* is also significant at the .01 level and predicts that when GNI increases by US\$1, fragmentation decreases by 0,012 units. It is realistic that poorer countries are up against higher fragmentation if one can assume that poorer countries are aided by more donors. This does not have to be the case however; as Acharya et al. (2006) points out some donors have less altruistic motives than others and are

less responsive to need. However, the most altruistic donors are found to be the worst proliferators which we by now have established are prone to aid recipients with highly fragmented inflow of aid. Results say that fragmentation also changes in a downward direction as a response to an increase in the variable *Aid per capita*; when aid per capita increases by one dollar fragmentation is reduced by 0,074. Although the change is very small the result does not make much intuitive sense. A close examination of the data reveals an outlier observation with an extremely high level of aid per capita. In fact, removal of this single observation reduces the significance of aid per capita from significant (.002) to insignificant (.323). The R^2 value also decreases slightly by the adjustment. This is true for all the models.

Model 1 has an explanatory value of .399 and thus offers some insight into determinants of aid fragmentation. The coefficient indicating the presence of Sweden is however disturbingly high and the extended model 2 shows that there is indeed more to find out about the relationship. The inclusion of three more donors reduces the coefficient for Sweden quite drastically to about .54 and the significance to the .10 level. The coefficient for Germany is extremely high and highly significant; 196 units increase if present as a donor. Canada affects fragmentation to a slightly higher degree than Sweden according to the results, while the coefficient for the Netherlands is lower and insignificant. The transformation causes only small changes of results for GNI per capita and aid per capita, while the coefficient of determination increases to .514. The model suggests that it is of some importance to investigate which donors are active in a recipient country, and also that it is difficult to assess the impact of Swedish assistance due to the complex nature of donation patterns.

In the third regression the explanatory value R^2 falls slightly compared to the model 2 value but is still much higher than the value for model 1. I was surprised to find that the coefficient of the presence of Sweden did not fall further than it did, which is what I expected, but its significance was reduced well below the .10 level. The new variables show expected results; the group of high proliferation donors has a large and highly significant impact on fragmentation if they are present. The effect is smaller for medium and low proliferation donors and not significant.

6. SUMMARY AND CONCLUSIONS

It is empirically proven that the most altruistic donor countries are also the worst proliferators. These are furthermore most likely to be aiding the developing countries most beset by aid fragmentation. Sweden is one of these donor countries. Awareness of this problem is steadily increasing and to address it the Swedish government presented in 2007, as a reaction to the commitments made in the Paris Declaration on Aid Effectiveness, a new policy for bilateral development assistance. The new focus is concentration and alignment of aid. The number of bilateral partner countries has been reduced based on an assessment of need and on the potential relative impact of Swedish assistance, and country specific strategies are narrower in terms of targeted sectors. Alignment concerns the operations of aid in terms of conformity with the recipients own agenda for development, and that of other donors present in the same country. The new approach is to as far as possible harmonize procedures, work towards the same objectives and cooperate on analytical work, and thereby gain efficiency and improve results.

There is at this point no clear evidence as to what outcome in terms of fragmentation index the new approach has had for Sweden's partner countries. It is a fact that the twelve countries Sweden has selected as long term partner countries are at present still all facing fragmentation higher than average levels in all parts of the developing world. This might be due to that the process of implementing the changes is only recently begun and that the plans are not yet fully realized. This appears to be true when looking at data on distribution of Swedish aid which shows that the number of bilateral partner countries is still very high and that, with the exception of phase-out countries, there is no clear indication of how distribution of the aid budget is changing. In addition, available data reaches at this point only as far as 2008. It could also be the case that Swedish development assistance does not constitute a large enough share of total aid in any of the partner countries to generate an effect on fragmentation index. The estimated model of the relationship between Swedish aid and fragmentation index shows that there is not a straightforward connection and that it is difficult to assess one donor's actions in isolation from other donors'. The connection can be established with more certainty to the group of high proliferation donors and although Sweden is not included in this group, it does not fall far behind.

It is clear that an intention of working towards greater concentration of efforts exists within the Swedish development agenda, which is an important step considering the high degree of proliferation that Sweden has been maintaining. If the intention is upheld and the goals of the new development assistance policy can be reached, Sweden should be able to change its present status as one of the worst proliferators. It is however only by changes to the entire structure of the foreign aid field, and to the group behavior of the high proliferation donors in particular, that large scale reduction of aid fragmentation can be achieved. Sweden can set a good example if accomplishing what it has set out to do.

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APPENDIX 1.

Listing of the four groups of countries currently or formerly in partnership with Sweden, referred to in section 4.2.

Group I - Long term partner countries

Burkina Faso
Ethiopia
Kenya
Mali
Mozambique
Rwanda
Tanzania
Uganda
Zambia
Bolivia
Cambodia
Bangladesh

Group II - Support to conflict zones

Burundi
Congo, Dem, Rep,
Liberia
Sierra Leone
Somalia
Sudan
Guatemala
Colombia
Timor-Leste
Afghanistan
Iraq
Palestinian Adm. Areas

Group III - Support to Eastern Europe

Albania
Belarus
Bosnia-Herzegovina
Macedonia, FYR
Moldova
Serbia
Turkey
Georgia
Ukraine

Group IV - Phase-out countries

Botswana
Namibia
South Africa
China
Indonesia
Viet Nam
India
Angola
Cote d'Ivoire
Malawi
Nigeria
El Salvador
Haiti
Honduras
Nicaragua
Chile
Peru
Laos
Mongolia
Philippines
Thailand
Pakistan
Sri Lanka
Lebanon
Montenegro
Armenia
Azerbaijan
Kyrgyz Republic
Tajikistan

APPENDIX 2.

Ranking of 139 countries on average aid fragmentation index over the years 2001 through 2008. Sweden's twelve long term partners are highlighted.

<i>Rank</i>	Country	AFI	<i>Rank</i>	Country	AFI
1	Mozambique	907	39	Lesotho	798
2	Bosnia-Herzegovina	902	40	Ecuador	797
3	Albania	870	41	Peru	797
4	Burundi	867	42	Sierra Leone	796
5	Tanzania	867	43	Laos	795
6	Serbia	867	44	Moldova	792
7	Burkina Faso	862	45	Mauritania	790
8	Uganda	858	46	Guinea	785
9	South Africa	855	47	Venezuela	784
10	Nepal	853	48	Eritrea	783
11	Rwanda	850	49	Guatemala	782
12	Macedonia, FYR	849	50	Slovenia	782
13	Kenya	849	51	El Salvador	781
14	Mali	847	52	Croatia	779
15	Nicaragua	846	53	Dominican Republic	779
16	Cuba	846	54	Cape Verde	779
17	Cambodia	846	55	Iran	778
18	Costa Rica	845	56	Sudan	777
19	Belarus	844	57	Niger	777
20	Gambia	841	58	Kyrgyz Republic	775
21	Benin	841	59	Mongolia	773
22	Malta	833	60	Uruguay	773
23	Zimbabwe	830	61	Bhutan	773
24	Montenegro	829	62	Yemen	772
25	Zambia	828	63	Brazil	772
26	Ghana	828	64	Nigeria	771
27	Somalia	826	65	Morocco	771
28	Malawi	822	66	Honduras	770
29	Namibia	820	67	Myanmar	770
30	Angola	819	68	Syria	763
31	Timor-Leste	818	69	Turkey	761
32	Bolivia	814	70	Jamaica	757
33	Congo Dem. Rep.	811	71	Afghanistan	755
34	Bangladesh	809	72	Chile	753
35	Argentina	805	73	Senegal	753
36	Ethiopia	805	74	Chad	749
37	Palestinian Adm. Areas	799	75	Lebanon	749
38	Ukraine	799	76	Mexico	746

<i>Rank</i>	<i>Country</i>	<i>AFI</i>	<i>Rank</i>	<i>Country</i>	<i>AFI</i>
77	Viet Nam	745	109	Togo	634
78	Pakistan	744	110	Paraguay	627
79	Uzbekistan	737	111	Sao Tome & Principe	626
80	Trinidad and Tobago	734	112	Central African Republic	623
81	Panama	730	113	Turkmenistan	621
82	Guinea-Bissau	724	114	Saudi Arabia	613
83	Cameroon	724	115	Algeria	601
84	Azerbaijan	724	116	Dominica	600
85	Belize	723	117	Jordan	587
86	Kazakhstan	722	118	Djibouti	524
87	Madagascar	720	119	Seychelles	521
88	Swaziland	719	120	Philippines	514
89	Tajikistan	717	121	St. Vincent & Grenadines	506
90	Liberia	717	122	Colombia	485
91	Indonesia	712	123	Congo Rep.	467
92	Tunisia	711	124	Equatorial Guinea	466
93	Maldives	710	125	Mauritius	444
94	Sri Lanka	707	126	Antigua & Barbuda	431
95	Georgia	700	127	Thailand	428
96	Iraq	693	128	St. Kitts-Nevis	387
97	Korea, Dem. Rep.	692	129	Suriname	274
98	Egypt	690	130	Malaysia	261
99	Barbados	670	131	Oman	258
100	Guyana	668	132	Gabon	248
101	Armenia	668	133	Turks and Caicos Islands	210
102	Haiti	668	134	Comoros	175
103	Botswana	661	135	Anguilla	164
104	St. Lucia	659	136	Bahrain	51
105	Libya	657	137	Montserrat	37
106	Grenada	638	138	St. Helena	4
107	China	637	139	Mayotte	0
108	Côte d'Ivoire	634			