

Climate Change and Water Resource Policies Among Major Donor Organizations

A policy report for Sida

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List of abbreviations

CDM	Clean Development Mechanism
COP 15	United Nations Climate Change Conference in Copenhagen
DANIDA	Danish International Development Assistance
DFID-	UK Department for International Development
DGIS	Netherlands Directorate General of Development Cooperation
EU	European Union
FEWS	Famine Early Warning System
G8	Group of Eight
GIS	Geographical Information System
GPCC	Global Program for Climate Change
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
IFI	International Financial Institutions
IWRM	Integrated Water and Resources Management
MDG	Millennium Development Goals
NGO	Non Governmental Organization
PPP	Polluters Pay Principle
SDC	Swiss Agency for Development and Cooperation
SERVIR	Regional Visualisation and Monitoring System
SWAp	Sector Wide Approach
UN	United Nations
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development

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1 Policy assessment findings

The policy assessment findings that emerge from the report intends to deliver a strategic summary of the current policy frameworks on water resources and climate change among major donor organizations (DANIDA, DFID, DGIS, GTZ, SDS, and USAID) and indicate areas that could be strengthened and/or gaps to fill in these two policy areas.

- 1. All assessed donor organizations have broad policy frameworks in place on water resources and climate change. However, policies integrating water resources, climate change and energy as a mitigation strategy are not comprehensively developed.**

All organizations attribute the highest level of importance to water, climate change and linked energy issues. Climate change relates to many developing aspects and is hence referred to in a common global policy framework and in donor specific policies. Climate change issues are seen to be a top priority in contemporary policy development. Major policy development steps are centered on different mitigation strategies at various levels with a growing focus on policies concerning adaptation. Increased focus on adaptation strategies can be viewed as a consequence of the fact that climate change impacts are already severely affecting the developing world and the water sector in particular. However, according to this study policies that address the impacts of climate change explicitly on the water sector seem to be lagging behind. While specific policies address how to boost agriculture, energy or water outputs/supplies, few policies directly address direct risks and linkages between climate change and water.

- 2. Few of the assessed policies address the impacts of climate change on water resources and subsequent impacts at the macro-economic level as a result of changing hydrological conditions, increasing vulnerability to rainfall variability, and droughts and floods.**

Extensive in-depth research on quantifiable economic consequences due to climate change appears lacking in the policy framework assessed. Evidence points to severe impacts on national energy-, water supply, - and agricultural sectors due to climate change that needs to be taken into consideration from a mitigation and adaptation perspective. Efforts to measure, predict, evaluate and quantify the effects and factor them to other variables such as population growth, rural/urban population densities and migrations as well as possible technical developments are not clearly visible in the current policy framework.

- 3. It appears that several of the donors assessed are concerned about the impacts of climate change and linkages to water resources and energy but fail to allocate enough resources to identify mitigation and adaptation strategies in the water and climate change sectors.**

Water management and development at the national and regional level is closely linked to reliable access to energy and electricity in particular. To be able to reduce poverty, reliable access to water and energy is a must. Without a reliable power supply, water for domestic use, industry, treatment, irrigation and desalination is at risk. In water scarce regions the supply of water becomes increasingly energy demanding as pumping and water transfers from long distances are critical to meet demand. Climate change may reduce runoff in the river systems and increase the variability which in turn may impact hydropower production negatively. Irrigation demand is predicted to increase and so will energy needs in the water sector. DFID, DGIS and GTZ appear to be the donors assessed that takes energy issues most strongly into consideration in their climate change policy framework.

4. Water supply and sanitation (WSS) is still regarded as the most fundamental element in addressing abject poverty and basic human rights in the water sector together with support in the agriculture sector.

Policy statements regarding supply and sanitation are often represented in organizational guiding principles and at the core of further policy development. DGIS, with its “50 million target” shows clear ambitions in the field, while both USAID and SDC declare principal issues of supply and sanitation as starting points for further policy development. Most organizations covered in this study state that WSS is a core area of their support. Water and agriculture is commonly viewed by donors as a strategic field for addressing rural poverty. Many different approaches can be identified in this area and with the huge number of people not being serviced with appropriate WSS and increasing food insecurity there is still a long way to go.

5. Policies promoting production leading to economic growth in the water sector are supported by some donors. This entails support to greater water storage, capacity building, improved irrigation techniques, water harvesting and farming in difficult terrain such as slopes. Such policies are not yet clearly labeled as mitigation strategies.

“Hard” approaches such as underground pipeline systems and control gates to free- flow systems are mainly promoted by GTZ. DFID might be the organization with the clearest emphasis on the water and agriculture sector connection with its ambitious goal to double agricultural growth in Asia and double agricultural production in Africa, an aim that makes more efficient water management crucial. DFID consequently promotes efforts to increase water storage capacities and more efficient resource management directly linked to agricultural and industrial growth. To further support this development, DFID seeks investments in the energy sector and, as a consequence, the organization also advocates strengthening the use of hydro power.

6. Climate change issues are divided around the concepts of mitigation and adaptation. Two ways of mitigating global emissions are favoured; achieving international consensus regarding new targets of greenhouse gases discharge and structural reform in key sectors.

Policies regarding concrete measures of adaptation and local level mitigation are focusing on *different preferences of capacity building in various forms in partner countries*. A vast majority of climate change policies strives towards two overarching achievements through different means and methods: 1) reduction of emission levels, 2) concrete measures to strengthen various adaptive and local level mitigation actions. The first concept is usually addressed through internationally agreed upon goals to cut emission. The other common way of addressing emission reductions is by promoting structural reform in targeted sectors such as energy production, transportation and forestry. Adaptation and local level mitigation measures are more diverse in nature and should encompass “harder” policy measures such as promoting constructions of physical structures to mitigate impacts caused by natural hazards or advocating changes to local building codes and regulations.

“Softer” policy areas focus on general awareness-raising including strengthening preparedness of national governance structures, and the development of disaster response functions. Others put emphasis on strengthening governing functions at several levels to increase the abilities of partner countries to adapt and respond to changing circumstances. Measures might include support to develop more sufficient mechanisms related to disaster response, including training of officials or awareness raising on drivers behind climate change.

7. Policies focusing on decentralization and inclusion are common implementation strategies amongst the donors in both water and climate policies.

DANIDA express wishes to see local executing authorities and institutions gradually taking on fiscal responsibilities. Capacity building is an important part in providing the right environment for decentralized decision making procedures. This entails broad based approaches of strengthening the functions of both civil society and governing institutions. Many donors support and direct information campaigns targeting many stakeholders. Capacity building often includes educational and training programs to develop leaders and managers who can participate effectively in national decision making processes as well as international dialogue. A major focus of institutional capacity building is the promotion of transparency and accountability to create an inclusive environment that fosters a sense of ownership. Many organizations see a need to determine the degree of state-level involvement in development projects to better determine how best to support to local decision making.

1.1 Overview of policy priorities among donor organizations- matrix

Water Policies			Climate Change	
Focus areas		Prominent Strategies	Focus areas	Prominent strategies
DANIDA	Capacity development, water resource management, water productivity (livelihood development), climate change integration	Promote decentralisation through regulatory system changes, improve components in water demand management processes, improve local production systems to promote economic growth.	Vulnerability & adaptation, sector integration with regard to climate change.	Support efforts to develop alternative energy use in partner countries, promote trust building efforts and new alliances with the developing world and integrate natural resource management processes with intrinsic values and traditional knowledge of partner country communities.
DFID	Supply & sanitation, economic growth (agricultural development), capacity building, conflict resolution, climate change integration	Promote efforts to increase water storage capacities and improve water resource management linked to industrial and agricultural growth, improve disaster responsive functions, stream line transboundary organizational structures.	Emission reduction, international dialogue participation	Support developments to set new trajectories regarding global emission reduction levels, dramatically reduce reductions of tropical rainforests, promote development of new “climate –proof” technical advancements and connect these to commercial markets, promote enhancements of concerned international institutions.
DGIS	Supply & sanitation, capacity building, gender equality	Promote program sustainability through awareness raising campaigns and technical support, implement special programs highlighting women’s role in water sector related developments.	Energy sector developments	Invest in developments of local renewable energy sources (small scale hydro power, biogas) and distribution systems, promote rural usage of solar energy induced electricity, develop several aspects of bio- mass production and consumption (at house-hold levels, seek compliance to sustainability certificates of local producers etc), work through various international forums to facilitate dialogue and influence important partners.
GTZ	Climate change integration, supply & sanitation, capacity building, science and technology	Support to improve climate change related modelling, improve urban waste water treatment and multiple water use systems, promote responsibility shifts from state to user, support private sector involvement in public utility services.	Support partner country planning, international dialogue participation, sector integration with regard to climate change	Assist partner countries in creating their own national plans and strategies, support partner countries stake in international dialogue, promote new “clean” technologies in water and energy sectors.
SDC	Supply & sanitation, water productivity (food production), environment	Improve supply and sanitation utilities, improve rural watershed - and harvesting systems, promote multiple water use in energy and industry sectors.	Forest & land use, energy, vulnerability & adaptation, disaster reduction	Support shifts towards decentralised land use management structures, initiating expansions of multi-functional land use, promote access to local/rural utilization of renewable energy, bilateral support to boost information accessibility and monitoring functions.
USAID	Supply & sanitation, water productivity, water resource management, economic growth	Boost local supply utilities to functions independently, improve irrigation and production methods, seek sector linkages.	Vulnerability & adaptation, strategic coastal climate change assessment, knowledge & data development , sector integration with regard to climate change	Strengthen local affiliations on the ground in partner countries to assess and mitigate impacts of coastal climate change, develop warning systems based on merging climate data to specific regional settings, evaluate impacts of climate change in various complexes of problems and to strengthen capacities in pre-emptive purpose.

1.2 Potential policy gaps to fill

The analysis of policy development levers (section 2) to tackle the water and climate change challenges indicate that:

1. **Integrating climate change, water and energy.** An integrated policy framework where climate change, water and energy meet is lacking and should be considered to provide a common analytical and implementation framework.
2. **The role of water in key economic sectors.** Medium to long term impacts of climate change in key economic sectors (agriculture, energy, water supply) need to be better understood, valued and integrated in current economic planning frameworks due to potential changing hydrological patterns.
3. **The water sector is still underinvested in all its aspects.** Tackling traditional water services sectors such as WSS, water and agriculture and hydropower production is still critical for building sustainable societies. As these investments are scaled up climate change impacts need to be stronger integrated in the water governance framework including in planning, design and implementation by both public and private sector actors.
4. **Planning for adaptation is urgent.** Adaptation to climate change impacts in sensitive areas such as coastal zones, estuaries, and degraded watersheds, and coastal cities is of growing concern. These areas will be most affected by climate change. Sensitive areas and early analysis of multi-sector adaptation strategies need to be promoted and action plans linked to investment prepared.
5. **Investment in renewable energy is a good mitigation strategy.** Renewable energy investment strategies in the water sector including hydropower (artificial storage and water shed management) and biofuel production where major potential exists is a good mitigation strategy which can bring substantial economic benefits at small, medium and large scale. Further assessments on how to best incorporate feasible renewable energy alternatives at micro levels are needed to avoid social and environmental tradeoffs.
6. **Planning systems.** Reliable information systems to plan for mitigation and adaptation to climate change are weak. Support to applied research in partnership between public and private sector should be encouraged to build and strengthen capacity to plan for climate change.

Box 1 SIDA policies on water resources and climate change (see annex)

Water Resources

Management and use of water resourcesⁱ

In a position paper issued in 1999 (Management and Use of Water Resources – A summary of Sida's Experiences and Priorities, Position Paper) it is stated that SIDA aims to promote sustainable management and equitable use of water related natural resources to benefit people especially exposed population groups. Policies aim among other things to increase IWRM implementation and develop demand management.

Pure waterⁱⁱ

In 2004 SIDA issued a publication (Pure Water, Strategy for Water Supply and Sanitation) which formulated strategies for efforts in the water supply and sanitation sectors (WSS). Development of water supply and sanitation as part in achieving the MDG:s. Efforts target WSS sectors in mainly urban, peri-urban and rural settings, with clear ambitions to develop WSS management.

Climate change

In a publication released in 2004 (Klimat och utveckling) SIDA declares ambitions to minimize greenhouse gas emissions and strengthen adaptation and mitigation strategies through capacity building measures and knowledge developments in the following fieldsⁱⁱⁱ.

Strategic sectors/themes for SIDA climate change policies

Energy

Transport

Water resources

Utilization of natural resources and disaster reduction

Health

Industrial developments

1.3 Method

This study has been carried out using different means of information collection. There are three primary sources.

- Information acquired in specific policy documents relating to respective organizations. These documents have either been sent on demand by each confronted donor- organization or found in official information portals managed by the organizations in question;
- Information has also been gathered by interview, preferably conducted via electronic correspondence;
- Further information has been gathered through more conventional desktop searches and data collection on various electronic forums related to the organizations that are analysed in this study.

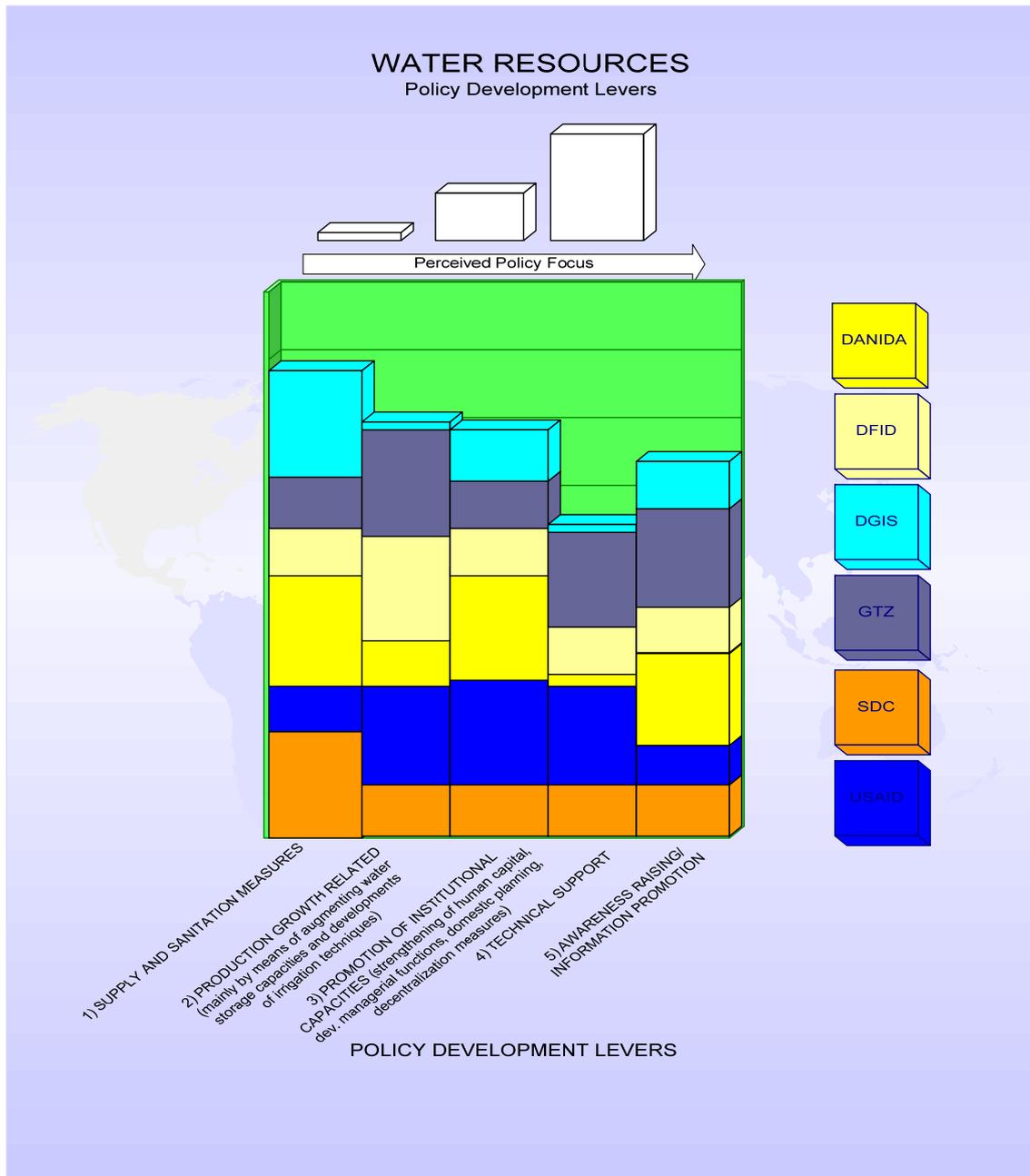
Subsequently a policy lever scheme has been compiled to be able to compare the level of effort by the different donors. This scheme is the basis for the policy gap analysis.

The detailed analyses making up findings and policy lever schemes are not included in this report but are available on request.

2 Policy development lever scheme and gap analysis

The graphs below illustrate the policy focus of the assessed donor organizations. The indicators include “less focus”, which would indicate that few or no policy statements have been encountered. This position would be indicated by the smallest block of the table scale. The indicators also include “major focus” which indicates that donors are very active in this area. This position would be indicated by the largest block of the table scale. When all blocks of the table are in place, the combined staples of different policy focuses help to indicate where there might be perceived gaps or room to allocate further resources. The height of a specific staple would indicate a more comprehensive general policy field according to the findings of this study. All assessed donors are active in most of the policy areas analyzed to a lesser or larger degree. The policy lever schemes assess policy statements that are found in the policy literature examined

2.1 Analysis of water resource development levels



1) These policies include efforts aimed at beefing up water supply functions and sanitation facilities. Common strategies include support to local water suppliers, beefing up distribution systems; allocate resources to institutional/organizational functions of water delivery services and to lesser extents supply system constructions and advocating privatization initiatives in supply schemes.

2) Policies in this field mainly focus on boosting outputs and economic growth that can be connected to the water sector. Foremost these include efforts directed at the agricultural sector. Strategies support augmentation to agricultural water supplies, developments of irrigation systems and promotion of more feasible farming techniques, including farming practices in difficult terrains.

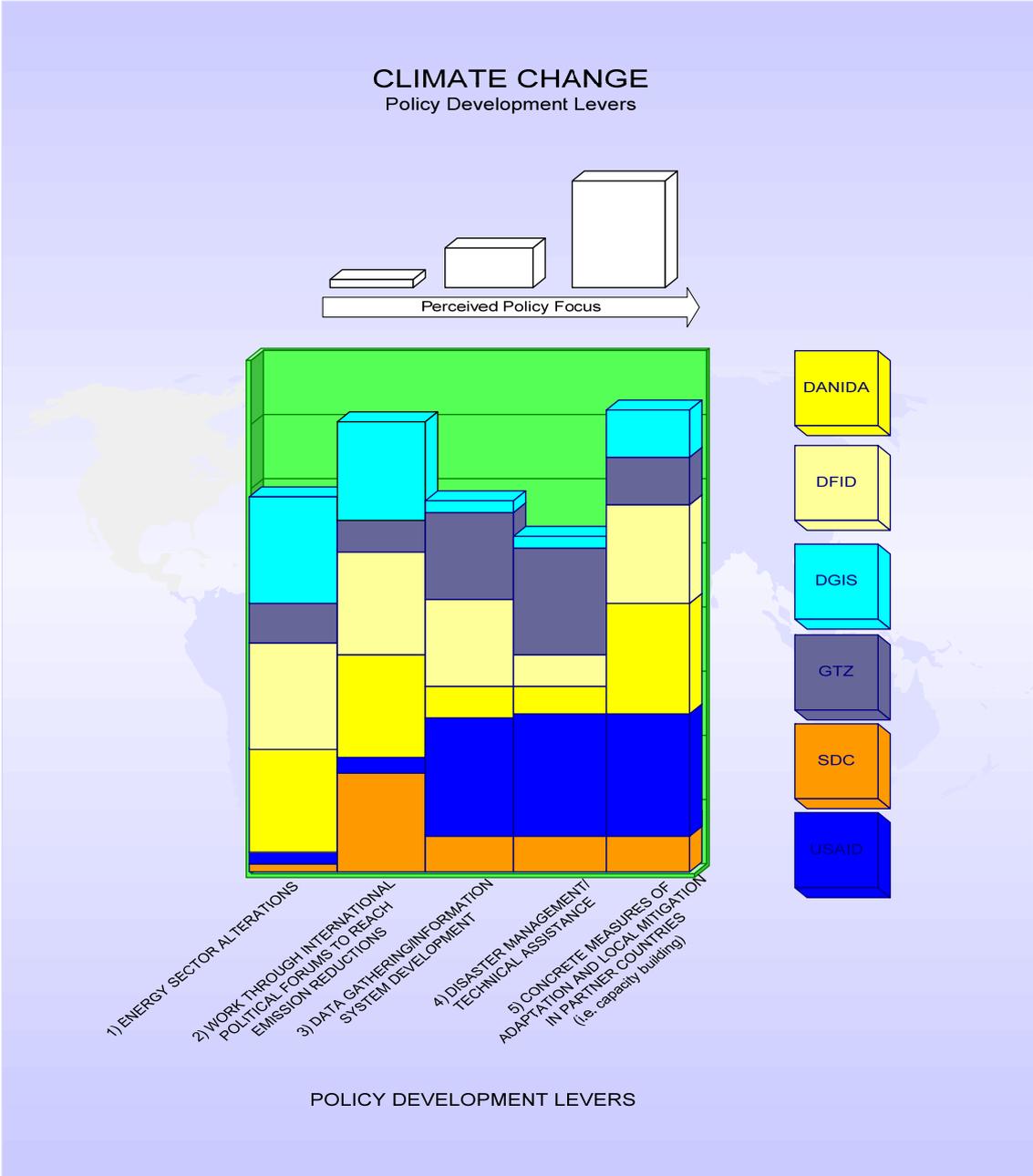
3) This theme incorporates the various policies promoting activities that can be said to enhance managing capacities of institutions, people and governing functions through various means. General

key focuses of these measures seem to be enabling of decentralization of decision making and management at the lowest appropriate level.

4) Policies spanning technical support deal mostly with “hard” infrastructure aimed at different water resource applications. These might be constructions that contribute to building water supplies (water storage/harvesting facilities), irrigation efficiency (pipeline and pumping systems) or water treatment functions among many others.

5) The fifth theme involves policies aimed at raising awareness in the society. This entail targeted campaigns or educational efforts at the national level.

2.2 Analysis of climate change policy levels



- 1) The first theme covers policies aimed at finding and developing feasible alternative, renewable energy sources as alternatives to fossil fuel based energy. This includes bio-energy and hydropower.
- 2) The second policy field incorporates efforts to push forward climate change agendas at international levels through engaging and courting influential key stakeholders and work through major channels such as COP 15 and other events in order to produce consensus on new emission targets.
- 3) This category more directly involves efforts of enhancing existing information sources and generate greater volumes of qualitative data in order to enhance abilities to predict future climate scenarios and weather patterns. Cooperative constellations between private sector and science institutions are often sought after in this regard.
- 4 & 5) These two themes might be more closely related. As other themes have included mitigation measures of more wide ranging character these are mitigation measures of more strategic, local character as well as adaptation measures which perhaps normally are more focused on specific geographical settings. Adaptation measures are in this case aimed at helping communities co-exist with effects of environmental impacts and consist of both physical measures as well as targeting resources at adapting managing functions and systems to respond to changing climate. This include promoting reactive disaster management functions responding to heightened and “real-time” exposure to natural hazards. Mitigation measures in this regard relate to work conducted at local levels aimed at promoting behavioural change over time or help developing building codes or regulations in specific settings.

2.3 Features of policies where water and climate change meet

Water sector issues often intersect and are intertwined with different aspects of climate change, and this is reflected in several policy developments of major donor organizations. The agricultural sector, in particular, is of importance in efforts to prepare and organize water demand in order to enforce efficiency enhancements to maximize production outputs without disturbing natural flows or utilizing greater (or preferably reduce) quantities of water in farm activities. Several policies aim at different means to harvest or store water as well as improving irrigation.

Introduction of more resistant crop types are suggested by some donors as another way to protect agricultural production from natural disasters like floods. Different ways of disaster management with regard to risk analyses and vulnerability estimations often incorporate impacts of water related natural hazards. Ways to mitigate phenomena like floods, flash floods, mudslides, landslides and heavy rain are present in many strategies. These often incorporate suggestions of concrete actions in form of different engineering efforts such as constructions of levees, dams, control gates, barriers, channels or wadies. On the other side of the spectrum are impacts of water shortages such as drought and desertification normally combated through irrigation efforts and afforestation and promotions of land use alterations. There seem to be widespread awareness among donors of potential risks posed by climate change to development assistance programs related to the water sector. Consequently, policies that suggest development of monitoring functions and prediction of changing hydrological conditions are strategies sought among organizations. USAID has developed an entire program devoted to climate change impacts and mitigation measures in coastal areas, thus underlining the importance and sensitivity that specific donor attribute to zones where land and water meet. Different measures of decentralization are common strategies to address the undefined threats that climate change might pose to the water sector, suggesting that the greatest flexibility and adaptability to cope with swift changes are provided when decisions can be made at the lowest appropriate level.

2.4 Common strategies and deviating policies

There are policy fields that can be said to be of more or less consensus among donor organizations. The major themes that seem to be unison in focus among water resource policies are the ones focusing on development in WSS. Water resource development within the agricultural sector to boost output and growth is also a major focus among most donors. Regarding climate change policies achieving reduction in global emission discharges through various means as well as boosting adaptive capabilities and enhancing local mitigation measures are central themes.

Water resource policies that seem to be common in focus are the ones targeting aspects of WSS. Policies in this category aim at strengthen small-scale providers, secure financial support to operational systems and work towards finding decentralized management structures. Differences might be found regarding policies addressing private involvement in WSS where especially USAID and DFID are more outspoken proponents of private involvement. Support to water resource development in the agricultural sector by different means is of general interest to fight rural poverty. Regarding policies addressing technical assistance to the water sector through physical appliances (pumping systems, waste water treatment systems etc) GTZ is better represented than other organizations. All organizations work towards decentralization of managing functions within the water sector. Bringing decision making closer to user groups is a central theme.

Regarding climate change two main tracks can be found to curb emission levels. Using international channels in trying to commit stakeholders to agree on new emission targets and working with partner countries in developing alternative energy sources. While most organizations seem to operate in the middle ground between the two themes, DFID and DGIS seem to put more focus on one or the other. Through the British government DFID has declared several ambitious goals demanding international cooperation that are set as organizational targets at COP 15. These targets seem to define the direction of future British climate change efforts. DGIS on its part have developed a policy framework devoted to combat climate change through development of renewable energy sources in partner countries. Mainly bio-energy and to some extent hydropower seem to be in focus.

3 Water and climate change policy review- six ODAs

3.1 SDC- Swiss Agency for Development and Cooperation

Water resources

SDC has quite clearly assessed strategic areas and related themes (however wide ranging) in which the organization intends to focus its water resource efforts. The first identifiable field relates to water as a basic human need and policies with clear focus on water supply and sanitation. Policies towards healthy inclusive involvement of private sector segments are also an agenda item in this regard. Support for boosting prevention of water borne disease through research synergies is also a connected and prioritised focus area.

Another distinctive policy- field pursues water resources from an economic standpoint or rather as an integral part of food production^{iv}. The Policy focal points tend to include efforts to promote different water shed- and harvesting practices as well as more efficient irrigation methods and schemes in rural arid or semi-arid settings at village levels. Promotion of economic incentives to boost agricultural outputs of small- scale producers are also important policy focuses relating to the wider water sector.

Thirdly, SDC approaches water sector policies from an ecological perspective with a special emphasis on water saving schemes^v. Other important ecological policy targets are measures to implement monitoring and mapping activities as well as raising general awareness through support of nature conservation organizations.

The last specific policy field relates to multiple uses of water resources with emphasis on industrial use and the energy sector. SDC seeks to support efforts involving cleaner industrial production methods and efforts regarding renewable energy, not least multi- purpose use of dams. While it raises a caveat, regarding its inability to fund large scale endeavours, it expresses ambitions to advocate the inclusion and rights of poor groups through existing channels like the World Commission on Dams.

SDC seeks various partnerships, not least with environmental- and health institutions but also with various levels of the private sector and related institutions. Most policies have clear focus on poverty alleviation with aims of strengthening agricultural outputs of poor rural communities through strategic and planned interventions in the water sector. SDC also intends to champion rights of poverty stricken communities through international channels dealing with industry and energy issues related to the water sector.

Climate change

SDC has distinct areas of policy focus regarding climate change. The four part structure involves the following themes: forest and land use, energy, vulnerability and adaptation and disaster reduction^{vi}. Regarding forest and land use SDC estimates that improved forest and land use activities can compensate green house gas emissions substantially.

In order to achieve this, SDC focuses on advocating (mainly through international dialogue) decentralisation measures through transfers from state to local levels of resource management and utilization issues. This entails support to capacity building in order to train individuals and officials in climate issues and related negotiations. Land use diversification and multifunctional land use are other strong themes pursued in partner countries^{vii}. This policy also strongly advocates new dynamics in state relations and public relations. . Promotion of new legislation and network initiations on behalf of local communities are some suggested examples of such changes.

Regarding energy SDC mainly supports measures to achieve decentralized electrification of rural areas and access to sustainable locally generated renewable energy as well as offering know-how on energy efficient housing construction methods, both scientifically and technologically. The latter assistance would preferably be offered to emerging economies with potentially rapid growth in the housing/construction sector.

Regarding vulnerability and adaptation, policies seek to build capacity of national governments in creating their own preventive policy frameworks, plans and monitoring capabilities (such as early warning systems). In the area of disaster reduction, SDC seeks to promote developments of preventive structures such as dams and levees and enforcing national emergency responsive services. This theme also includes support for plans that focus on specifics in impact preventive measures, such as producing detailed building codes and zoning regulations.

SDC mainly seems to work through bilateral programs with partner countries on climate change issues^{viii}. Thus, cooperation might foremost be concentrated on different forms and levels of government in respective countries. Efforts of decentralisation, multipurpose land use and rural electrification should be considered vital steps in overall attempts to link climate change issues to empowerment of poor people.

3.2 USAID- United States Agency for International Development

Water resources

Policy outlines regarding water resources was last specified in depth in the Water for Poor Act in 2005. In it the US government divides the sector in to four target areas^x, namely: 1) improving access to water supply and sanitation, 2) improving water resources management, 3) improving water productivity and 4) water sector programming in country development plans.

Regarding the first theme, USAID policies seek to capacitate small-scale local suppliers in mainly rural settings to boost a more direct service delivery. Other favoured policy aims in this field support restructuring public services to operate as independent business and advocacy for changes in legislation and regulations to generate capital aimed at expansions in water supply and sanitation sectors. Regarding the second target area, USAID aims investments at basin or water shed levels. Support to partner countries is mainly in the form of technical assistance and facilitation of monitoring and risk assessment schemes. USAID firmly supports developments of participatory processes in all its involvements regarding water management issues. The third theme includes policies directed towards support of improved irrigation systems, upgrading production techniques and waste water recycling. Another important feature is stated ambitions to prevent industrial water pollution and create clear boundaries for private sector water use. Policies also declare support for improvements of urban water provision systems and upgrades of supply infrastructure. Fourth, USAID seeks to develop linkages between the water sector and other fields, and to integrate these in national frameworks. This is considered vital due to the interconnectivity of water resources. Such linkages can be described as bonds between water and governance, water and schooling, - water- and HIV/AIDS, among others.

USAID seeks to strengthen coordination with other major donor organizations that pursue extensive water sector policy programs. It further seeks engagement with concerned NGO:s, private actors and foundations. USAID polices seem to aim at poverty reduction impacts by creating links between water suppliers and consumers and efforts to raise funds for sector expansions and more vital service utilities. Efforts to restrict private sector water use might also be a more direct way to support access to water resources for weaker groups.

Climate change

A troika of policy issues is central in USAID climate change strategies: 1) Strategic policies for “on the ground” measures in coastal regions^x. 2) Support worldwide efforts to increase information, reliable climate data and knowledge sharing^{xi}. 3) Policies that focus on issues of vulnerability and adaptation^{xii}.

The first theme corresponds to the latest policy issuing from USAID in 2009. These policies have the sole purpose to function as strategy blueprints for USAID operatives or affiliates in coastal regions of partner countries and consist of recommended measures of planned adaptation. Policies aim to help users prioritise impacts of coastal climate change vulnerabilities in order to chose specific adaptive measures in accordance with ongoing programs and activities. The second set of policies refers to US ambitions to produce qualitative data and to provide this to countries with lagging capabilities in that area. One major target is to achieve the ability to link climate data to specific local and regional settings incorporating local knowledge and “on the ground” insights in order to produce efficient reliable warning systems and sufficient response strategies. Thirdly, USAID seeks broad connections between climate change issues and various fields of development where improvements might lessen impacts of climate change. Examples of such interconnected fields where US policies aim for general improvement with secondary impacts related to climate change are: peace and security, just governance, economic growth, health and others.

Regarding coastal climate change strategies, USAID focus on its bilateral partnerships with potentially exposed nations and search meaningful cooperation with various levels of government. USAID seeks to engage and incorporate the scientific community with local partners and stakeholders in order to form productive relationships with regard to generation of climate data and system developments. Continued developments of several different systems like FEWS clearly play an instrumental part in crisis prevention efforts for the poorest nations and segments of societies. The obvious local character and straightforward structure of the policy program regarding coastal climate change should also have an immediate effect on exposed groups that often depend on these regions to sustain their livelihood.

3.3 DANIDA- Danish International Development Assistance

Water resources

DANIDA has a comprehensive policy program with regard to water resources management. Different policies are categorised in five separate fields^{xiii}: 1) capacity development, 2) enabling environment, 3) appropriate institutions and mechanisms, 4) strengthened livelihood through specific interventions and 5) management tools.

DANIDA states that considerations of capacity building needs should always be a central part in all institutional settings. Planned programs must have the installed capacity to adapt and capitalize on favourable shifts on the ground. DANIDA further states that capacity building should include gradual takeover of fiscal responsibilities time to local institutions to enhance managing capabilities. The second theme includes policies to support accountability and transparency in all water related processes in order to make them more inclusive. A central part of this effort is to support the establishment of national frameworks determining the level of involvement for different governmental institutions and stakeholders. Awareness raising is also crucial in the process and DANIDA seeks to promote this through both general and targeted campaigns, through educational systems and by enabling easy access to relevant data and essential information.

Policies constituting the third theme aim at promoting water resource management at the lowest appropriate level^{xiv}. DANIDA seeks opportunities to implement IWRM reforms to coincide with governmental structural reform that achieve sustainable results, and further stresses that all IWRM measures must strive towards livelihood enhancement. DANIDA seeks opportunities for private sector involvement in water resource management functions, under the condition that it serves public interests and is sustainable. The fourth category of policies aims to promote poor groups rights with regard to water resources. This entails advocating changes in organizational structures in order for poor people to capitalize and build on their assets, thus strengthening overall influence. The theme also includes aiding improvements in local production systems and advocating legal protection regarding the rights of poor people. The fifth element highlights the importance of water demand management. To facilitate this DANIDA supports several measures like: interdisciplinary research, streamlining information systems relating to water management, instalment of viable monitoring functions as well as the creation of guidelines regarding health and environmental impacts.

DANIDA seeks wide ranging cooperations and involvements of various actors. Not least in efforts to involve poor groups does it seek the engagement of civil society organizations, NGO:s and local stakeholders as well as various levels of national governments. Noticeable links to direct poverty reduction are found in DANIDA livelihood strengthening policy with aimed support at boosting resource access for poor and advocating rights through legal channels.

Climate change

DANIDA deals with climate change issues through policies down the general lines of adaptation and mitigation. DANIDA seeks to mainstream the issue of climate change, making it an integral part of all its development efforts as the issue is regarded as a risk factor of cross-cutting character potentially affecting almost all aspects of development. DANIDA's policies seek to ensure that undertaken projects have the ability to withstand potential future impacts.

Adaptive protective measures must be considered in all of DANIDA's future investments. It states that all predictions relevant to DANIDA's decisions regarding the issue must be based on climate projections depicting future scenarios as opposed to those based on historical data. Deploying adaptive measures should be seen as a development issue linked immediately to future potential of achieving the MDG:s

Regarding mitigation efforts; development of alternative energy sources is essential and low-carbon alternatives^{xv} are to be actively pursued especially in emerging economies. Sectors to be targeted are those with especially high energy dependence such as the transportation sector and aviation sector.

Regarding cooperation: DANIDA underlines that individual nations must be the exclusive owners of projects aiming at "climate-friendly" processes. DANIDA states that, (in common effort with the EU, it wishes to pursue new alliances with the developing world and to include issues of climate change integration in its continuous dialogue with international financing-, development-, and non-governmental institutions. Bilateral assistance to partner countries should be concentrated to ensure national ownership of processes and aid-coordination regarding adaptive and mitigative endeavours. DANIDA aims to integrate climate change in all aspects of its development work and to "climate-proof" all of its development programs, which would have positive indirect impacts on poverty reduction. Strategies to find new alliances with developing nations might also aim at finding new ways to more directly engage poor groups in climate change debates.

3.4 DFID- UK Department for International Development

Water resources

In 2008 DFID formed a new policy framework regarding how to pursue water resource related development assistance. Five major aims^{xvi} were created that address international and bilateral approaches: 1) Annual report production, 2) hold an annual global meeting, 3) draw national plans, 4) formation of coordination groups, 5) have one UN led group in each country.

The first target of producing an annual report is to make sure that all engaged parties have the same platform on which to structure their work. This would ensure that same value bases and data references would be used in all assessments, thus enabling more efficient dialogue and planning. The second aim is to create a common meeting place where official representatives can meet and deliberate on sector related progress and what components are needed to facilitate progress. The third objective aims to specify the exact current accessibility to clean water and improved sanitation as well as pin pointing components needed to improve weak parts of the sector and how to raise capacity to achieve improvements. Fourth DFID advocates the creation of national coordination units compiled of numerous groupings representing both the international community and nationally based organizations with the purpose of coordinating the implementation of national plans. Finally DFID would like to promote the emergence of single UN bodies in each nation rather than several different UN groups operating simultaneously and independently in each nation. This would ensure more concentrated and unison actions and responses on behalf of the organization.

Regarding policies dealing with more strategic development work with partner countries DFID targets the agricultural sector in order to generate economic growth where water resource related measures are likely to have considerable impact. Thus DFID promotes actions to increase storage capacities as an integral part of achieving the overall goal. As a supportive measure DFID encourages ventures in the energy sector not least hydro power developments. It further states that it wants to promote the facilitation of a viable single lead organizational body in order to create a more structured environment regarding water resources management and transboundary water conflict issues which it now considers being to fragmentary structured.

DFID seeks cooperation of both bilateral and international character. It seeks to involve the World Bank and European commission in developing means to improve accountability of national governments. With partner countries it seeks to produce data that evaluates government's performances concerning water and sanitation sectors. Both the previously described action and proposed steps to create functions that compare practices of water- and sanitation service utilities are directly beneficial to exposed groups and their stake in water resources management. Together with policies describing proposed agricultural campaigns, DFID's direct linkages to poverty reducing measures in the water sector can be considered to be well established.

Climate change

DFID clearly focuses its attention on policies that deal with emission reduction and strategies at different levels that can achieve efficient results in this regard. The British government together with DFID puts much attention to the upcoming COP-15 climate debate in Copenhagen (December 2009). DFID policies and desired outcomes of the debate go hand in hand and are intimately intertwined^{xvii}.

DFID proposes steps for both developed and developing nations (according to varied abilities) to cut their emission levels to specific limits and in accordance to certain timeframes. DFID envisions a trajectory that guarantees 50% reduction of global emissions by 2050, which would require immediate actions in order to start seeing results within a decade. Another key focus of the strategy in cut emission levels is deforestation. Thus DFID proposes that global forest loss should be halted before 2030.

The support to create to create global carbon markets is another important strategy that DFID wishes to promote. This would enable cost effective reductions of emission levels and would create opportunity for financial flows to developing nations. DFID also promotes developments and instalments of new clean technologies in partner countries. These include support to general science in the field as well as making new technologies accessible to commercial markets as quickly as possible.

DFID further seeks to address issues of disproportionately large impacts of climate change in the developing world, given its small contribution to the problem, by large scale support in partner countries regarding their adaptive capabilities while at the same time putting pressure on developed nations to live up to pledges of development assistance to weaker nations.

The ambitious strategies of global concerted action require extensive cooperation which DFID acknowledges and seeks. Common agreements in world forums and with organizations that encompass the world community will be crucial to meet policy targets. Healthy bilateral cooperations with forms of partner country governments and institutions will be of vital importance in order to install functions to compare service functions and increase accountability. Involvement of the private sector is also essential in order to boost new technology developments. It would seem that many climate strategic policies are directly connected to efforts of poverty reduction. Among these are proposed carbon markets and measures to prevent deforestation, which would ecological benefits and sustain traditional sources of livelihood of exposed groups.

3.5 GTZ- Deutsche Gesellschaft für Technische Zusammenarbeit

Water resources

GTZ has developed a broad set of policies regarding water resource utilization and management, often with significant technical approaches. It has also adopted rather developed guidelines of linkages between climate change and water resources. Key policies are categorised according to seven prioritized themes^{xviii} of water resource development: 1) integration of climate change issues, 2) expanding the knowledge base, 3) efficient water use and technology, 4) governance and management reform, 5) augmenting water supply, 6) investments in research and usage systems, 7) raising general awareness.

The first theme includes policies aiming at strengthening partner countries abilities to assess hydrological changes and to model climate scenarios. Thus the need to promote synergies between water managing institutions and climate research functions is of key importance. Secondly GTZ promotes applications of GIS technologies and remote sensing systems to strengthen knowledge capabilities and assessment of risk and vulnerability. Thirdly, policies address methods and technologies of water saving, which include provisions of drip irrigation systems, underground pipeline systems and control gates to free- flow systems.

The fourth set of policies addresses institutional reforms as a compliment to technical assistance and the importance of such. GTZ advocates a decentralised management structure that sees irrigation responsibilities shift from state run procedures to become responsibilities of the private farmer to safeguard fair resource allocation. Fifth, GTZ supports increases in water supply capabilities by capitalizing on urban waste water treatments. GTZ promotes further science and developments of constructed wet lands to forward this ambition. Other favoured strategies involve further advancements of water storage technologies. Category six involves policies aiming to enhance multiple uses of water resources to mitigate impacts of changing hydrological patterns in order to sustain many different production activities. GTZ also support introductions and developments of more enduring crops regarding future water use and agricultural potentials. The final category includes strategies to raise general awareness with particular focus on water and climate change and its underlying drivers and measures needed to be taken to mitigate impacts. Thus wide ranging information campaigns targeting a broad spectrum of societies are a prioritized matter.

The different technical developments suggested need favourable inclusions of scientific institutions in order to be realized as well as cooperations with the private sector to commercialise products. A productive relationship with partner country governments and local institutions is an important step in order to win support for and implement new ideas of physical incursions in existing infrastructural schemes. Many technical solutions if allocated favourably and with crucial and responsible backing of national governments should bring favourable structural benefits in water resource accessibility and quantity that might help exposed communities in livelihood support.

Climate change

GTZ integrate climate change complex of problems to a comparable extensive degree all of its development activities (as suggested in the section above) and has a long history of doing so. GTZ is cautiously anticipating follow up agreements to the Kyoto protocol.

Foremost GTZ climate change polices aims at assisting its partner countries in developing own national climate plans and guidelines with focus on reducing emission levels. GTZ states that all developed plans and strategies must take specific notice of specific conditions in targeted regions.

GTZ also express readiness to function as a conveyer of developing nations concerns regarding the CDM.

GTZ seek to involve climate change issues early on in development fields considered of great importance like water and energy.

In order to achieve efficient deployments of earlier mentioned measures, including climate modelling and assessment functions there needs to be partnerships with institutions with capacity to enable the development of those functions in the targeted setting. This would mean engaging science- and technical facilities as well as national organizations with insight in favourable application areas. To promote the involvement of developing nations in the climate debate engagement with international development agencies and funding institutions will be of importance.

Many technical assistance measures given full and healthy support from national governments in partner countries might have direct impacts on poor communities. Many policies and suggested implementations provides increased accessibility and quantity that in the right circumstances would enable poor groups to capitalize on and enhance their stake in national water sharing schemes.

3.6 DGIS- Netherlands Directorate-General of Development Cooperation

Water resources

In 2005 DGIS formulated its ambitions towards the water sector in a policy statement labelled “the 50 million target”. The genesis of the policy was the perceived slow progress of millennium development goals concerning the water sector. The policy consists of two overarching ambitions^{xix} 1) To provide sustainable access to clean drinking water for 50 million people by 2015, 2) To provide sustainable access to adequate sanitation for 50 million people by 2015.

Under the umbrella of the “50 million target” a couple of key areas are identified in the policy framework. 1) Participation: DGIS aims to make sure that all taken actions regarding the water sector must not be built on donor organization preferences but rather the local perspective. This would guarantee the prevalence of the “bottom- up” perspective through engaged dialogue with local governments, users and companies is essential. 2) Sustainability: DGIS looks to safeguard the self sustaining qualities in all initiated programs, making sure that they are economically, institutionally and technically independent, not least regarding the duration when “active” support has been decommissioned. 3) Gender equality: DGIS highlights the importance of programs that put special focus on women and water, promoting their shares in supply, dialogue and management during all stages of water sector related processes. 4) Support to local capacities: DGIS strives to implement decentralized structures in all its water sector related endeavours, economically, politically and managerially. In this regard DGIS underscores that respective partner countries are responsible for determining where support should be directed, but it is DGIS responsibility to make sure that different measures are seen through.

DGIS states that its policies should always align with national frameworks and existing policies in partner countries. In order to monitor progress in partner countries, and measure the effectiveness of assistance given, wide ranging and different cooperations are sought. DGIS seeks to unite partner country expertise with Dutch expertise from both public and private sectors and governmental functions at both local and regional levels. Many policies can be considered actively focused on combating poverty. The gender equality perspectives and proposed accountability measures regarding service provision, as well as the ambition to seek local solutions, are some examples of policy intents with abilities to be of significance regarding the inclusion of marginalized groups.

Climate change

In 2008 the policy outlines for Dutch climate goals were formulated stretching to 2012. The climate change agenda focuses all but exclusively on the energy sector and adaptations of the same that would help prevent potential negative climate scenarios. Four major fields of energy related intervention strategies are identified^{xx}: 1) Increasing direct investments in renewable energy, 2) Encouraging sustainable production of biomass for energy purposes, 3) Influencing energy policies of important partners, 4) Developing capacity and knowledge in the field of renewable energy.

The first theme covers approaches for investments in the energy sector in partner countries and the need to condition these to specific regional and local circumstances. Small scale hydropower projects are favoured for investments, as well as the development of national networks distributing electricity from renewable energy sources (hydro and biogas). The second theme contains ambitions to develop sustainable biomass production in suitable partner countries in alignment with the Dutch policy theme called the “Global Biomass Action Plan”. In this, DGIS aims to work with multiple partners in order to produce incentives for producers to freely adapt to sustainability certificates as well as enabling qualitative macro-monitoring of increased bio- fuel production. Thirdly, DGIS seeks to influence important partners to actively pursue strategies towards renewable energy alternatives. This includes different strategies such as bilateral approaches to affect individual G8 countries, encouragement to development banks to set up investment programs as well as engaging suitable UN functions and strengthening relationships with strategic EU partners. Fourth, DGIS seeks to boost qualitative information flows regarding renewable energy which is regarded to be lacking presently. DGIS wishes to engage NGO’s of different types to set up training programs, forums and courses. Gender equality issues in energy will be a special focus in national policy developments supported by DGIS.

As touched upon above, a multitude of partnerships are sought for various approaches regarding foremost efforts in the sector of renewable energy. Investments in national and regional energy schemes will preferably be made in conjunction with major investment banks and institutions such as the World Bank and the African Development Bank. Close collaboration with public and private sectors in partner countries are needed to promote sound bio- fuel production methods. In accordance with the stated ambition to keep renewable energy alternatives actively on the agenda, cooperation with world forums and organizations such as the G8 and the UN are prioritized. Practical suggestions such as reforestation for greater firewood access and supply as well as biogas for household consumption are strategies that can be considered concrete steps to direct poverty alleviation along with strategies to promote rural use of solar energy as source for electricity.

4 Annex

4.1 SIDA policies on water resources and climate change

4.1.1 Water resources

Management and use of water resources^{xxi}

SIDA aims to promote sustainable management and equitable use of water related natural resources to benefit people especially exposed population groups.

Strategic policy targets

- Promotion of increased IWRM implementation.
- Support functions for cooperation regarding shared water resources.
- Develop methods of demand management.
- Enhance water supply functions in urban and rural settings.
- Develop capacities for water conservation in agricultural the sector.

Pure water^{xxii}

Development of water supply and sanitation as part in achieving the MDG:s.

Strategic policy targets

- Develop WSS in urban and peri -urban slums.
- Promote waste water management in urban areas.
- WSS promotions in rural areas.
- Capacity building for industrial water and waste water management.
- Enhance functions of WSS in emergency situations.

4.1.2 Climate change

SIDA aims to minimize greenhouse gas emissions and strengthen adaptation and mitigation strategies through capacity building and knowledge developments.

Strategic policy targets in various sectors:^{xxiii}

Energy

- Create opportunities for sustainable energy systems.
- Help to develop regulative frameworks.
- Support various competence developments.
- Promote developments of renewable energy sources in rural settings.

Transport

- Support urban, - spatial and traffic planning.
- Promote public transportations.

Water resources

- Monitor water related climate change impacts from a gender perspective.
- Promote knowledge enhancements on how climate change impacts on water resources.
- Support developments of reliable, accessible information based on climate observation models aimed at supporting decision making.

Utilization of natural resources and disaster reduction

- Promote sustainable production methods especially in arid and semi arid areas.
- Deepen knowledge on sustainable development measures.
- Promote reaction- and preparedness functions in area exposed to natural hazards.

Health

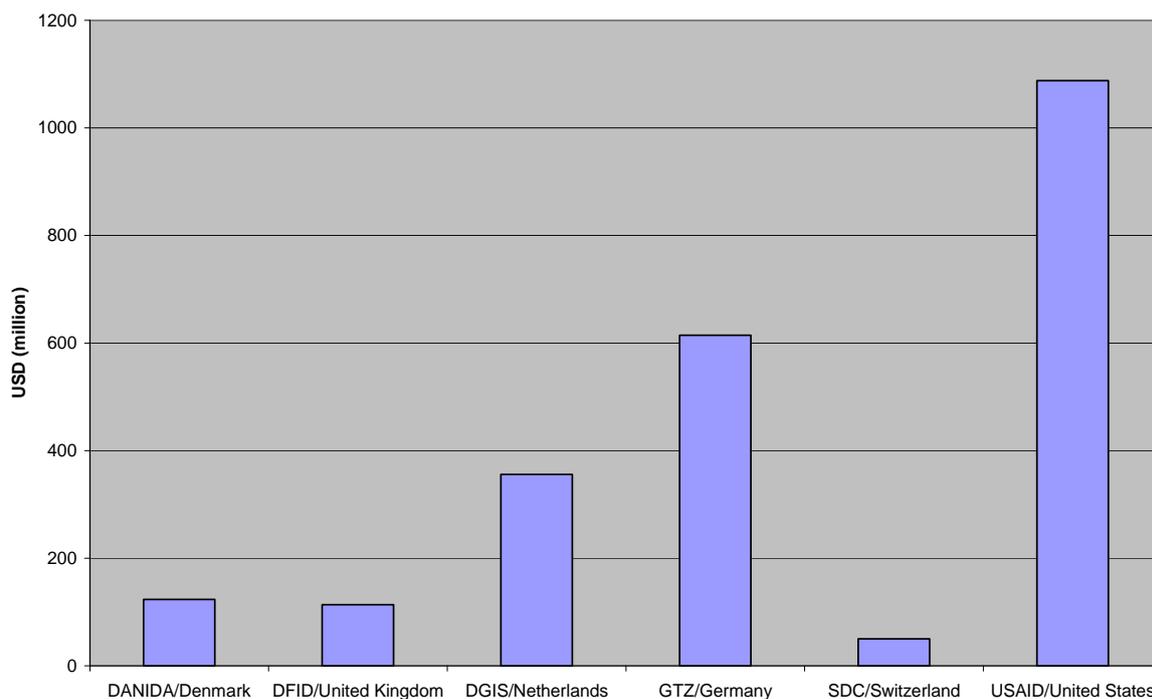
- Investigate and mitigate risks of infectious disease arising from climate change impacts.

Industrial developments

- Enhance developments of practical programs equating climate proofing to reduced production costs.

4.2 Graphs on financing to water and climate change related issues

Aid to water related sectors 2005-2006
Source: OECD statistics

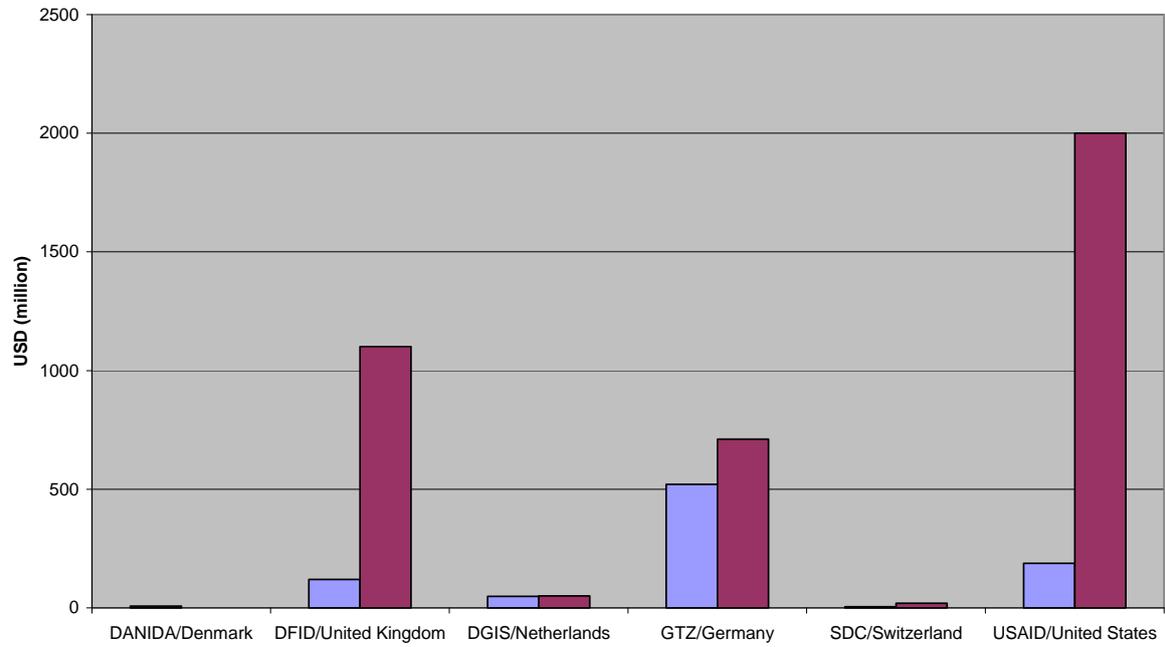


Climate change investment

Blue: Climate change related aid by donor, annual average 1998-2000

Purple: Pledged investments to CIF (Climate Investment Funds)
as of January, 2009

Source: OECD statistics, World Bank



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