

ROLE OF THE ARBDC IN RIVER BASIN MASTER PLANNING

A. MANDATE OF THE AGNO RIVER BASIN DEVELOPMENT COMMISSION

- The Agno River Basin Development Commission (ARBDC) was created by virtue of Executive Order 442 s. 1997 as amended by Executive Order 140 s. 1999
- Its mandate is to oversee and coordinate all developmental undertakings within the Basin to ensure that resources planning and management are carried out in accordance with sustainable development.
- It is entrusted with the primary responsibility of developing a comprehensive plan for the integrated economic, social and physical development of the basin and where maximization of equitable benefits, preservation and enhancement of indigenous cultural communities and equity between upland and lowland people are given high priority.



B. PREPARATION OF THE AGNO RIVER BASIN MASTER PLAN

The Agno River Basin Master Plan embodies the direction to which the development of the Agno River Basin will be driven as envisioned by the different groups of stakeholders in the area, considering the problems and issues confronting the Basin and current development impulses and opportunities.

B.1 The plan is specifically prepared in the light of the following conditions:

- the need for the immediate coordination of programs and projects with strategic implications to the development issues presently facing the river basin
- the current lack of necessary human and financial resources that sets a major



constraint in the preparation of a long-term, expensive master plan at the present time

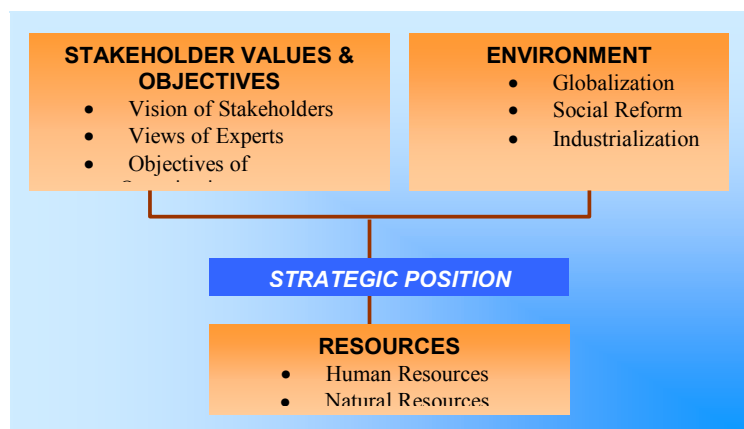
- the need to provide a strategic framework as a basis for the comprehensive master plan (medium- and long-term coverage), the short-range budget plan, and the operations-action plans
- the need to identify, develop and enhance programs and projects within a short period of time, towards a desired future
- the need to maintain flexibility in decision-making considering alternative courses of action that are open in the future, with the dedication and commitment to act and decide on the basis of a contemplation of the future

B.2 The Master Plan serves the following purpose:

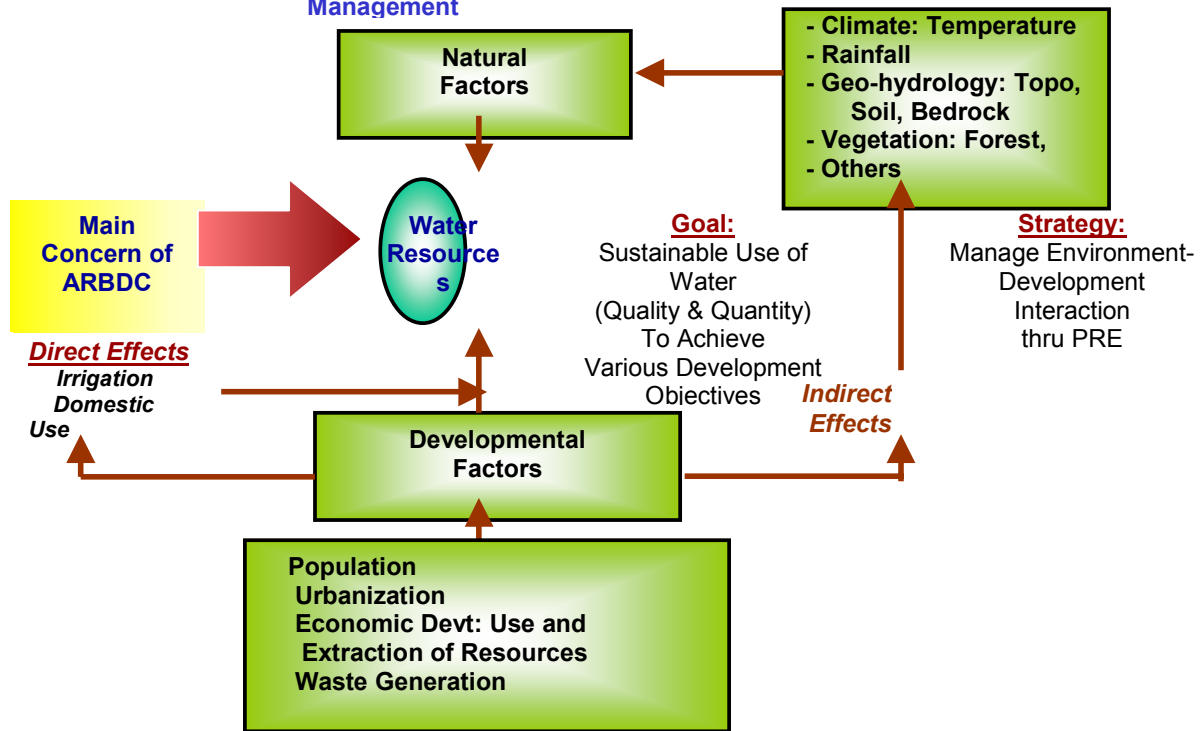
- The plan is a framework to guide in succeeding planning activities for Agno river Basin. The framework level denotes the plan's general character, putting forth development scenarios within long-term perspective and setting the overall blueprint to guide in succeeding detailed planning for specific geographic areas and sectors in the basin.
- It is also strategic in the sense of it identifying vital action areas, demanding both immediate and long-term attention, that form part of the foundation for future development activities to achieve the desired long-term scenario.
- It defines the areas of coordination among development actors to ensure that current and future programs and projects address long-term river basin concerns and objectives. It touches upon institutional arrangements to minimize if not eliminate the bottlenecks of coordination and cooperation and facilitate decision-making beyond existing local and regional planning and decision-making mechanisms.

B.3 The Role of the ARBDC

- The ARBDC, in line with its mandate, established the coordination mechanism for the preparation of the plan in accordance with participatory principles.
- It set up a planning approach which allowed for the consideration for all the development actors to input their view points on the main concern of sustainable water resource management. The approach tied up individual institutional objectives into a set of common goals that were consensually reached.

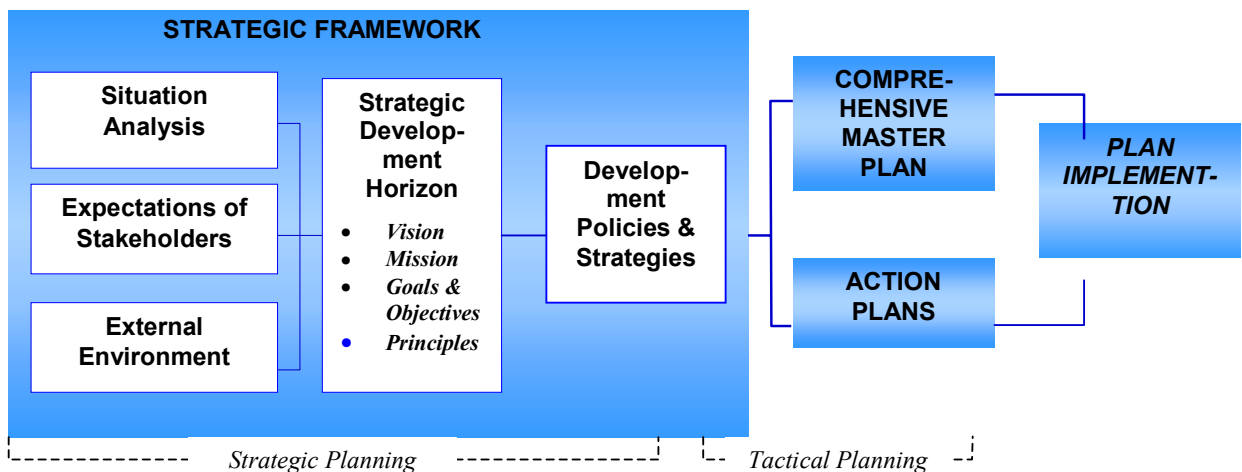


**Conceptual Framework
Ago River Master Plan and Implementation
Management**

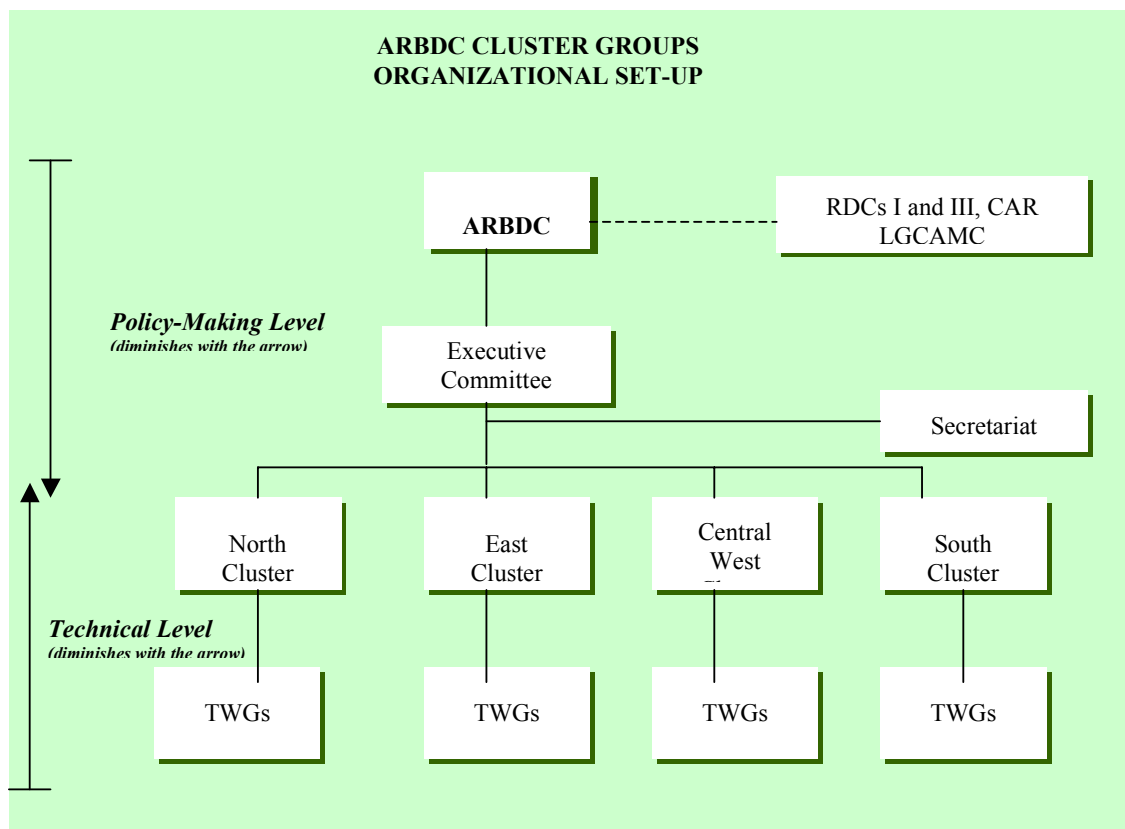


B.4 Planning Approach

- The planning approach considered the inter-relationship that exists among three components, namely: population, resources, and environment. This recognizes that the earth's resources, natural system and human population are inherently connected. The strategies generated in this plan reflect this principle.



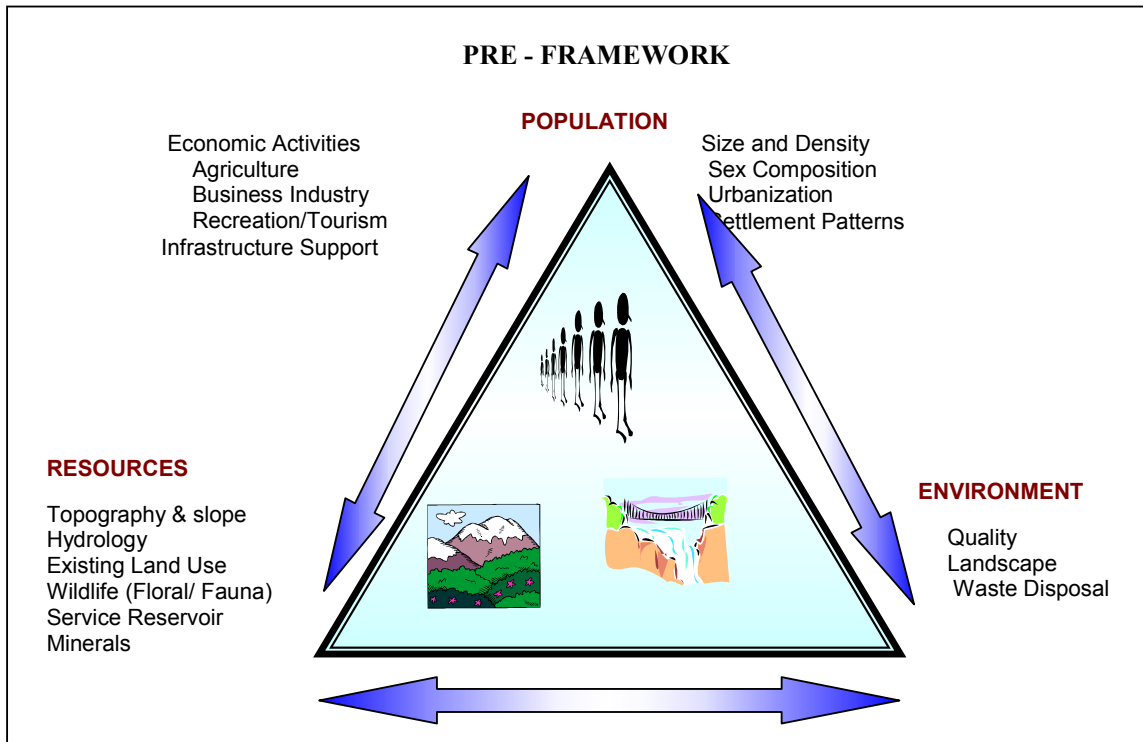
- The plan was prepared within a wider context that goes beyond specific sectional and local concerns. The Agno River Basin, drained by the Agno River that meanders through parts of three administrative regions (namely, the Cordilleras, Ilocos and Central Luzon, finally emptying into the Lingayen Gulf), transcends established politico-administrative boundaries. As such, framework plan integrates the plans of the different administrative units at local and regional levels into a river basin perspective, addressing in the process the development inter-relationships and conflicts that current planning structures are unable to address.
- The planning process applied a participatory approach and widespread involvement of stakeholders in the River Basin. Planning workshops and conferences were conducted among national government agencies operating in the three regions, the concerned local government officials and key non-government and private sector leaders to obtain their inputs into plan. These inputs were further processed and refined by the technical committees of the ARBDC.
- The different Committees at the local levels took the lead in translating the vision into more specific interventions aimed at placing the River Basin in the national mainstream of development and thereby contribute to the broader national developmental goals and objectives while ensuring consistency with local plans.



C. THE MASTER PLAN

C.1 Conceptual Framework

- The population-resource-environment (PRE) framework was adopted as the analytical structure in planning for Agno River Basin. This is in line with the principle that the “earth’s natural resources, natural systems and human population are inherently connected” (Livermash and Rodenburg).



- The PRE linkage considers that people need food, air and water to survive, such needs are provided from the Basin’s resources, and the use of such resources in turn have an impact on the Basin’s resources and systems.
- Population would refer to the demographic attributes, urbanization trends and the socio-economic characteristics of the people in the Basin. Resources, meanwhile cover such bio-physical aspects as topography, geology, soils, wild life and factors on resource use described in land uses, mineral exploitation, recreation and tourism and the like. Environment component, finally, pertains to activities that impact on the quality and state of the air, water and land environment, particularly waste disposal and landscape enhancement/deterioration.

C.3 The formulation of the strategic plan and the plan is guided by the following principles:

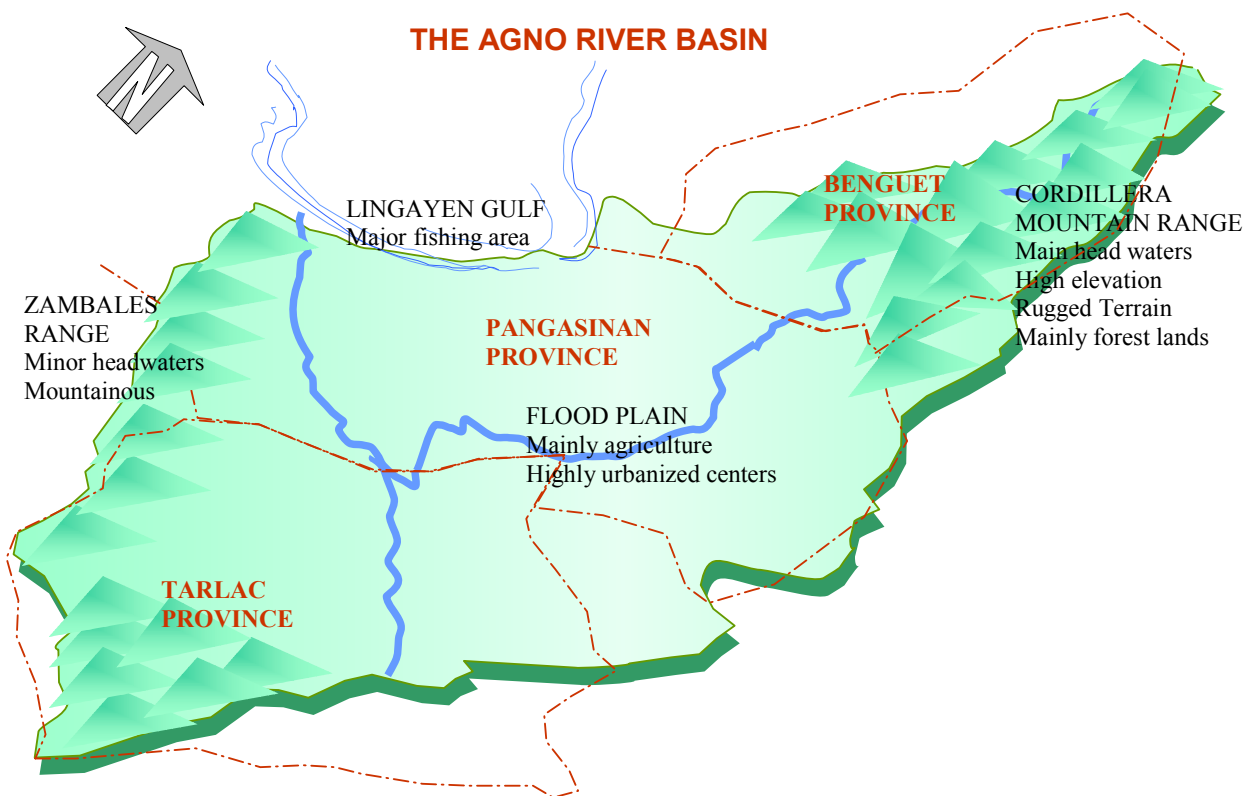
- The plan shall ensure an integrated economic, social and physical development of the Basin- a striking balance among conflicting interests and optimizing the utilization of natural resources;
- The plan shall ensure maximum participation of all stakeholders in the area, establishing the most effective approach to effect an active and sustainable collaboration among stakeholders from government agencies, non-government/people's organization, and the private sector;
- The plan shall be prepared in accordance with appropriate devolution and sharing of functions and technical expertise among the participants in the planning process, particularly between the foreign experts and the local counterparts;
- The plan shall ensure the preservation and enhancement of indigenous cultures and communities;
- The plan shall ensure the preservation and enhancement of indigenous cultures and communities;
- The plan shall promote equitable sharing of costs and benefits from the Basin's natural resources across sector's, groups of communities, across space and time; and
- The plan shall ensure long term sustainability of plan implementation; embark on massive capability building activities to promote local self-reliance and initiatives in the development process.

C.4 The Master Plan is directed towards the achievement of the following development goals:

- Judiciously develop and manage the resources of the Agno river Basin;
- Maintain an ecologically balanced environment;
- Develop the eco-tourism potentials of the river basin;
- Ensure and sustain food security in the basin;
- Generate livelihood opportunities and develop entrepreneurship;
- Improve access to social services;
- Promote and institutionalize community participation in decision-making and development process;
- Uphold, protect and respect the rights, interests and cultures of the people in the basin;
- Enhance the disaster management capability of the communities in the basin;
- Provide efficient and adequate infrastructure support to all sectors and areas in the Basin; and
- Develop Agno Rivers potential for commerce and navigation.

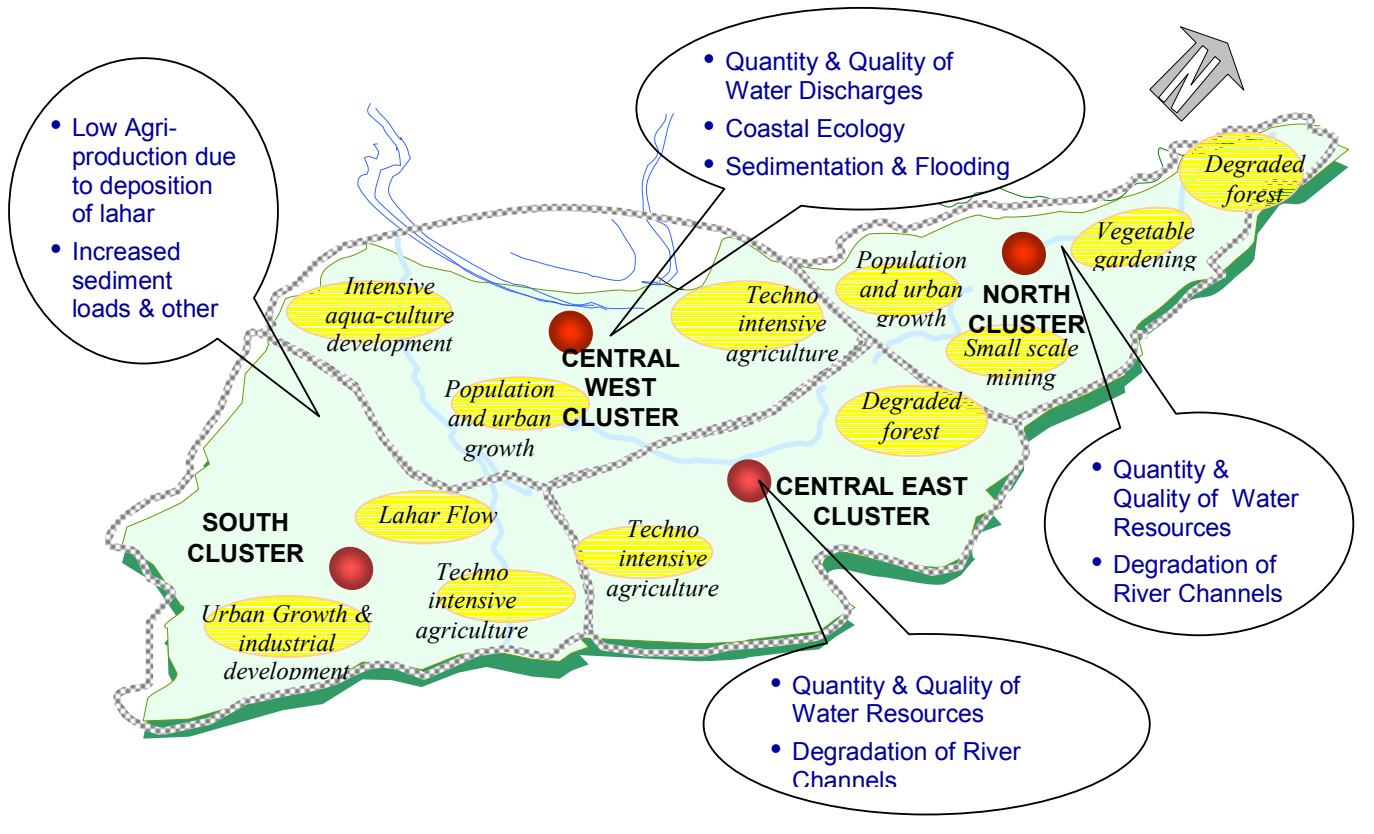
C.4 Development scenarios

- The River Basin is divided into four planning clusters: (1) The Cordillera, referred to as north cluster; (2) Eastern Pangasinan, as Central East cluster, is affected by the Agno river downstream flow; (3) Western Pangasinan as Central West cluster covering municipalities located westward in the direction of the Lingayen Gulf; (4) The Tarlac area covering all areas south of Agno

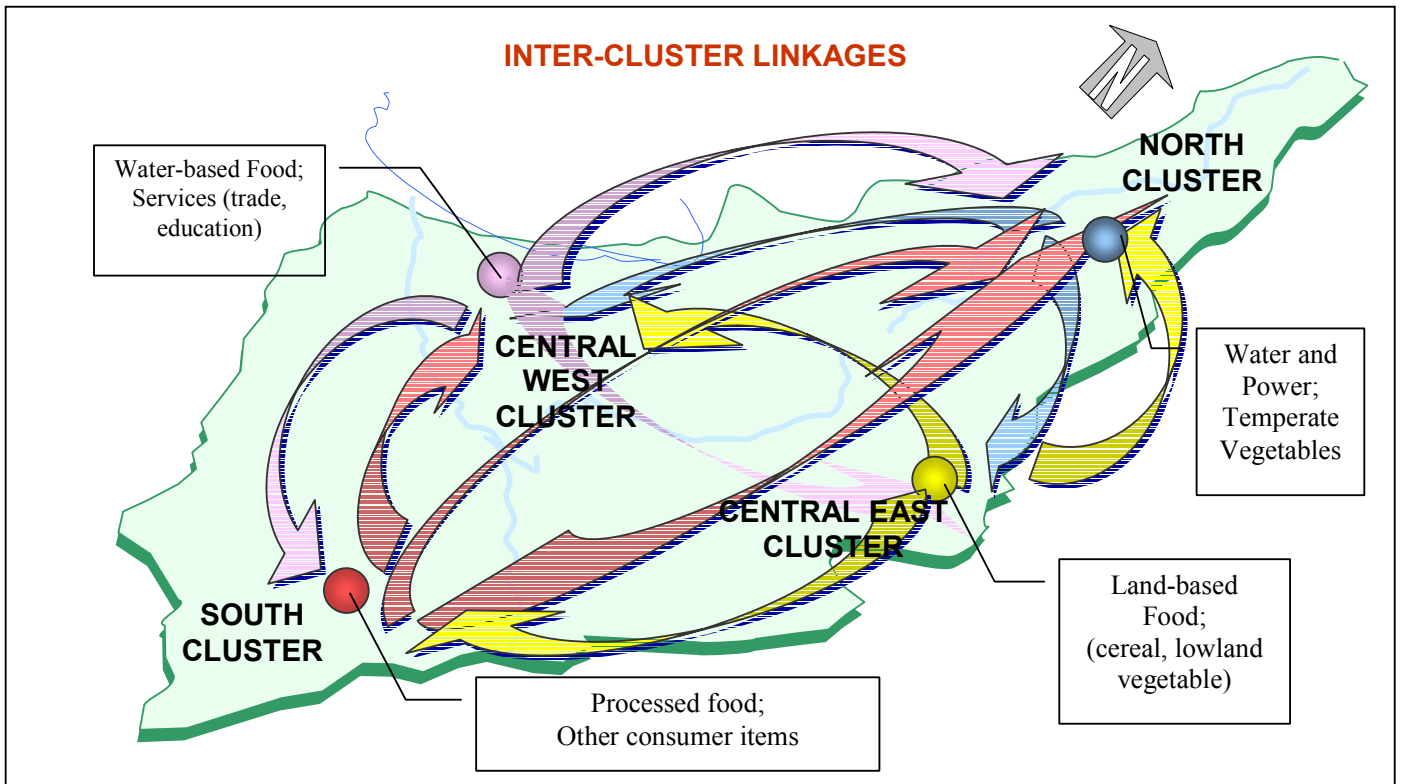


- The inter-relationships among the development of these cluster were drawn up based on a review of existing major resources and development patterns in each of the clusters. The scenarios were then analyzed in terms of their impacts on the other clusters. This guided in the formulation of strategic interventions aimed at minimizing adverse development and negative externalities.

DEVELOPMENT SCENARIO: PLANNING CLUSTERS, ACTIVITIES, IMPACTS



INTER-CLUSTER LINKAGES



CLUSTER DEVELOPMENT INTER-RELATIONSHIP MATRIX

Cluster / RESOURCES & DEVELOPMENT PATTERS	DEVELOPMENT SCENARIO	IMPACT	STRATEGIC INTERVENTIONS
<p>NORTH CLUSTER</p> <ul style="list-style-type: none"> • Owing to its elevation, this cluster has a temperature that is lower by 8–10° compared to the lowland; its temperate climate, mountainous scenery and native culture makes it a favorite tourist destination. • As a major watershed of the Basin, it hosts 2 hydroelectric power plants, which supplies the Luzon Grid. • Mineral production (gold, silver, copper) is no longer as important as in the pre-and post-war period, although small - scale mining continues as a key industry. • Vegetable production of the famous "Benguet Vegetables" remains a key economic activity • Baguio City is the recognized center of higher education, seat of governance, and center of trade and tourism in the Cordillera. • Together with the capital town of La Trinidad, Baguio City is the focus of in-migration within the Cordillera. 	<ul style="list-style-type: none"> • The twinning of the growth of Baguio City and La Trinidad will continue and will even expand within the BLIST area. As the center of governance, tourism, trade, education, financial and personal services, the area's population will expand and will certainly impact on its forest, soil and water resources. • Small scale mining, vegetable production for the Benguet type vegetables and fish cage culture will expand in response to the market, notwithstanding other production areas in the lowland; unregulated, these activities will also impact on the forest ecology affecting the headwaters of the Agno River. 	<ul style="list-style-type: none"> • The requirements of population and economic growth will impact on the soil, forest and water resources of the area, affecting its development and producing externalities in CEC and CWC, particularly in terms of the quality and quantity of water, degradation of river channels and the consequent flooding that destroys private and public properties and endanger lives. 	<ul style="list-style-type: none"> • Put in place, enforce and implement appropriate regulatory measures for hillside farming and small - scale mining; • Intensify vegetable gardening by enacting the Vegetable Industry Act or similar law to regulate upland activities and optimize industry; • Open up other social and economic opportunities within and outside the BLIST area to deflect population movement in other areas within the Cordillera; • Intensify land use planning activities of LGUs and monitor their implementation; • Ensure speedy completion of SRMPP to control flooding, check sedimentation downstream while providing irrigation and power.
<p>CENTRAL EAST CLUSTER</p> <ul style="list-style-type: none"> • As a flatland directly in the path of Agno River, this area has the highest farm yields in lowland agriculture, close to 70% of its area as within 0-18% slope, and more than 50% of it land use is devoted to paddy rice. • The mountainous areas in the northern and eastern fringes provide opportunities for tourism, pasture and forest and water resources. • Center of trade and business activity is the city of Urdaneta along the Manila North Road; other minor centers are located along the MNR arterial road. 	<ul style="list-style-type: none"> • Agri-business will continue to lead the growth in the area, with agri-processing becoming a major component. • The city of Urdaneta and adjoining municipalities will dominate the urban landscape, performing interregional functions along agricultural trading and services 	<ul style="list-style-type: none"> • Intensified farming utilizing commercial technology packages will increase pollutants that can contaminate the ground water or will be carried away as run-off to be discharged in the LG, affecting the coastal ecology. • Urbanization may affect water resources with developments in flood prone areas, dumping of wastes in rivers, and the squeezing of river channels particularly in urban areas. • Degradation of forest resources in the mountain fringes may result to 	<ul style="list-style-type: none"> • Farming technologies that are environmentally friendly as well as sustainable should be encouraged; in the interim, the proper use of agri-technology should be effectively disseminated and even enforced. • Adoption and enforcement of appropriate land use prescriptions relative to agricultural land conversions and flood prone zoning particularly in urban and fast urbanizing areas should be monitored. • Immediately arrest and stabilize the deteriorating forest resources thru

<p>arterial road.</p> <ul style="list-style-type: none"> Two of three persons reside in rural than in urban areas; compared to the other clusters, population density is relatively low. 		<p>accelerated erosion and its consequent sedimentation and flooding in the lowland.</p>	<p>appropriate watershed management interventions.</p>
<p>CENTRAL WEST CLUSTER</p> <ul style="list-style-type: none"> With flatlands (0-8% slope) constituting 76% of the land area, farming remains to be the dominant economic activity; since it also adjoins the gulf, aquaculture within the delta of the Agno River (Lingayen, Binmaley and Dagupan) is a major economic activity as with municipal fishing. The CAMADA area all the way to San Carlos City represents a major urbanized area where trade, various businesses and services (financial, educational, health and government) are provided. Unlike the other clusters, almost two thirds of the population reside in urban areas; also, it has the densest population with 736 persons per square kilometer. 	<ul style="list-style-type: none"> In terms of land use in the coastal zone, aquaculture will give way to urban forces but near-shore marine culture will intensify. Intensive farming with cash crops production will expand particularly within the Lower Agno Irrigation System; small-scale agri-processing and agri-related services will also intensify in response to market demand within and outside the area. Perennial flooding in the area would significantly be reduced by two major interventions, namely, the SRMPP and the ongoing Agno River Flood Control Program. 	<ul style="list-style-type: none"> The intensive and extensive urban growth in the area is expected to adversely impact on the quality of water, whether surface, ground and coastal/marine. Uncontrolled urban growth in many salvage zones particularly within the Agno River delta will continue to pose hazards to life and public health, as well as limit the recreational and touristic potential of these areas. 	<ul style="list-style-type: none"> An effective land use planning and coastal zonation in the midst of urban growth should be put in place in an area-wide basis. The administrative capacity of LGUs to effectively deal with rapid growth in economic and population development should be developed with special external assistance.
<p>SOUTH CLUSTER</p> <ul style="list-style-type: none"> With close to 60 percent of its land area being flat (0-3% slope), the area is largely agricultural with a vibrant agri-business and agri-processing activities. Urban growth with trade and other services as key economic activities remains concentrated in Tarlac City and other towns particularly along the MNR; industrial activity likewise focuses in the Luisita Industrial Park. The Pinatubo eruption has affected the population configuration of certain towns as well as economic activities; although the area has largely recovered from this calamity, 	<ul style="list-style-type: none"> Agri-industrialization will continue to make its mark in the area's growth pattern; in agriculture, cash crops production will intensify with the export market as target. Footloose small scale agri-business will continue to crop up, while the Luisita Industrial Park continues to be the center of high-tech industrial development 	<ul style="list-style-type: none"> Lahar deposited within the slopes of Mount Pinatubo will continue to flow downstream affecting the drainage channels and water quality not only within SC but also the CWC and the LG; consequently, the deposition of lahar within farmlands will temporarily affect agri-production and will also induce flooding as river channels get sedimented. Urbanization and intensive techno-application in agri production will increase sediment load and other pollutants. 	<ul style="list-style-type: none"> Expanding economic activities in non-agricultural endeavors will provide alternative productive activities for groups and areas temporarily disturbed by lahar. A pro-active, area-wide land use and physical planning should be established to mitigate the continuous deposition of lahar, phase development in accordance with land availability and optimize resources in unaffected areas.

continuous flooding is still experienced in certain areas.			
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C.5 Plan Implementation Policies and Strategies

C.5.1. Legislative/Administrative/Policy

- a) Implementation of the following environment and natural resources-related laws, including a review of these laws and the implementation processes to determine how they can best support an integrated river basin management framework.
- Indigenous People's Rights Act
 - The Forestry Reform Code of the Philippines (Presidential Decree 389) as amended
 - Adopting Community-Based Forest Management as the National Strategy to Ensure the Sustainable Development of the Country's Forestlands Resources and Providing Mechanisms for its Implementation (EO 263)
 - Vesting on the National Power Corporation the Complete Jurisdiction, Control and Regulation Over Watershed Areas and Reservations Surrounding Its Power Generating Plants and Properties of Said Corporation (EO 224)*
 - Establishing an Environmental Impact Statement System, Including Other Environmental Related Measures and for Other Purposes (1586)
 - Philippine Environment Code (Presidential Decree 1152) especially with respect to Title II – Water Quality Management
- b) Passage of laws along good quality (e.g. Clean Water Act), sustainable quantity and manageable space of water
- c) Implementation of policy to ensure the inclusion of the Agno River Basin concerns in the land use plans and development plans of all the affected LGUs – Comprehensive Land Use Plans of concerned Municipal Governments, and in the Provincial Physical Framework Plans of Benguet, Pangasinan, Tarlac, and Nueva Ecija

C.5.2 Institutional/Linkages and Networking

- a) Development of the Agno River Basin calls for the participation of both the government and the civil society. Institutions in the government side include inter-agency and inter-LGU partnerships in the three regions.

Two-level of participation shall be enforced:

- a.1 Political level . This is the policy-making level of participation. Actors involved include (1) the officials of the ARBDC, (2) officials of the member LGUs such as the LCEs, Sanggunian members, Congressmen, (3) secretaries of concerned NGAs, and (4) representatives of NGOs/POs/PS.
- a.2 Technical level. This involves the actual implementation of the Project from planning stage to monitoring and evaluation stage. The bulk of participation

* The Upper Agno Watershed as covered by Proclamation 548 is covered under the said EO.

will come from the concerned line agencies, community leaders and members of NGOs/ POs/PS concerned with water use and preservation.

C.5.3 The ARBDC will be responsible for the over-all coordination of programs/projects/activities and other related efforts for the development of the Basin. It will not be an additional layer of oversight but will constitute improvements in coordination with current programs/activities, processes and procedures to address pressures along the basin

- a) Its relationship with all the entities involved shall be based on complementation, consultation and partnership
 - Relationship with RDCs, LGCAMC, LGUs and other policy-making bodies shall be complementary and consultation in terms of policies formulated and resolutions approved related to water management along the Agno River Basin
 - Relationship with the government line agencies, LGUs and NGOs shall be based on partnership in program/project implementation.
- b) Sub-basin teams to be created shall focus on the major and common problem/s:
 - North cluster (Cordillera and some areas of Nueva Vizcaya) – erosion and deforestation
 - East and Central West cluster (mainly Pangasinan municipalities) – flooding
 - South cluster (Tarlac and Some municipalities in Nueva Ecija) – lahar and erosion
- c) The cluster teams organized according to the four planning clusters shall be strengthened and shall serve as the main forum of coordination among politco-administrative units comprising within the catchment area of the basin.

C.5.4 Criteria for an appropriate establishment of sub-basin structure shall consider: (1) integration mechanisms, and (2) maximum participation of actors involved

- Synchronization of the activities of the policy-making bodies and implementing entities involved
- Promotion of community access and participation in decision-making, development processes and implementation/Convening of the different development councils on matters relating to the basin
- Communities along the basin shall be organized along the sub-basin grouping for a more systematic participation in planning and program/project implementation

C.5.5 Technological processes

- a) Adoption of the Sloping Agricultural Land Technology

- b) Use of sustainable and Environment-friendly agricultural technology in farming in both upland and lowland, e.g., Integrated Pest Management, Organic Farming
- c) Adoption of soil conservation measures in the uplands
- d) Adoption of indigenous cultural practices in watershed management
- e) Promotion of appropriate environmental management technologies
- f) Adoption of GIS technology and the establishment of a functional information system
- g) Determination of the carrying capacity of the basin

C.5.6 Information and Education Campaigns

- a) Use of consultations/dialogues in communicating with the people the different government plans, programs/projects as well as new policies
- b) Tapping the different educational institutions and the print and broadcast media in educating the residents on proper resource management

C.5.7 Financial Arrangements

- a) Implementation of Energy Regulations No. 1-94
- b) Inclusion in the budget of local government units and regional line agencies Agno River Basin-related programs and projects
- c) Adoption of the Build-Operate-Transfer scheme in the funding of BOTable infrastructure projects in the area
- d) A combination of internal and external fund sources will be utilized
 - ARBDC to continue an aggressive fund sourcing from foreign funding institutions for major programs/projects
 - Counterparts from the concerned LGUs and government agencies shall be observed and implemented

D. SUMMARY STATEMENT OF EXPERIENCES IN RIVER BASIN PLANNING

D.1. What We Have Learned

- D.1.1 Importance of inter-agency and grassroots participation in the planning and plan implementation process
- D.1.2 Sustaining capacity building at all levels of decision-making (from bottom to top) to institutionalize sustainable river basin and watershed management perspectives
- D.1.3 Addressing social and economic problems as an important aspect of integrated river basin management
- D.1.4 Strengthening/capacitating the coordination mechanism (structures, processes and manpower skills) to carry out an effective integrated river basin management
- D.1.5 The need to mobilize all potential financial sources from the local, national and foreign sources, both public and private investments to finance river basin development

D.2 What We Have Gained

D.2.1 Laid the groundwork for institutional cooperation/coordination in river basin planning and management

Through the master planning process, the ARBDC was able to establish a broad-based participatory institutional decision-making process to effect a multi-stakeholder coordination for river basin planning and management. This is directly achieved through the organization of inter-agency and inter-LGU committees and technical working groups (TWG) consisting of representatives from major stakeholder groups within the Basin and eventually re-structured into cluster technical working groups. These inter-agency committees and TWGs continue to be the forum of stakeholder coordination and cooperation.

The local government units, belonging to different regional administrative units were also given the institutional environment by which to come together to discuss and agree on development concerns that have inter-LGU/regional dimensions.

D.2.2 Generated a consensus on the desired development direction for the Agno River Basin

Through the master plan, the ARBDC was able to bring into surface the development milestone for the future scenario of the Agno River Basin, encapsulated in a vision statement, a mission and development principles. These were generated through a multi-stakeholder consensus-building and reflect the different view-points of the various groups.

D.2.3 Increased dynamism in decision-making, widening perspectives, evolving and sustaining operational concepts on sustainable development

The Master Plan provides the framework for a unified watershed management to ensure the sustainability and productivity of natural resources. The Master Plan and the planning process itself marked the commencement of advocacy activities geared towards the institutionalization of a river basin management framework into the plans, programs and decision-making processes among national line agencies, local government units and private groups with significant stakes in the development of the river basin.

The plan preparation process also significantly contributed to watershed management capability building. The process was partly geared towards improving the technical competence of officials and staff from government agencies, private sector and non-government organizations for them to become effective participants in expanding the basin's economic base and in managing and protecting the basin's environment and natural resources.

D.2.4. Opened up opportunities for social and political participation among various groups

The Master Plan is one of the mechanisms by which the ARBDC initiated and continue to cultivate political and social participation of key stakeholders, particularly indigenous peoples. It provides the process for nurturing people empowerment and the advancement of pro-people initiatives in the development and management of natural resources.

D.2.5. Directly contributed to the national strategy of adopting the river basin as an integrated unit for government action towards ensuring the sustainability of natural resources

The Philippine Medium-term Development Plan asserts a strategy on water resource development and management that uses the river basin as a spatial unit of government policy interventions. The preparation of the Agno River Basin master Plan supports and contributed this strategy and sets the standard by which future river basin planning activities and processes in the Philippines will be prepared and implemented.

D.2.6 Provided the basic framework for problem solving concerning the utilization and management of natural resources

With the Agno River Basin Master plan defining the development guidelines and principles that have been agreed upon to underlie development decisions within the Basin, it thus lends the basic elements towards resolving conflicts and issues on resource management. It for instance set the basic policies in resolving compensation issues in the course of the planning and implementation of the multi-billion dollar project, the San Roque Multi-purpose Dam Project.

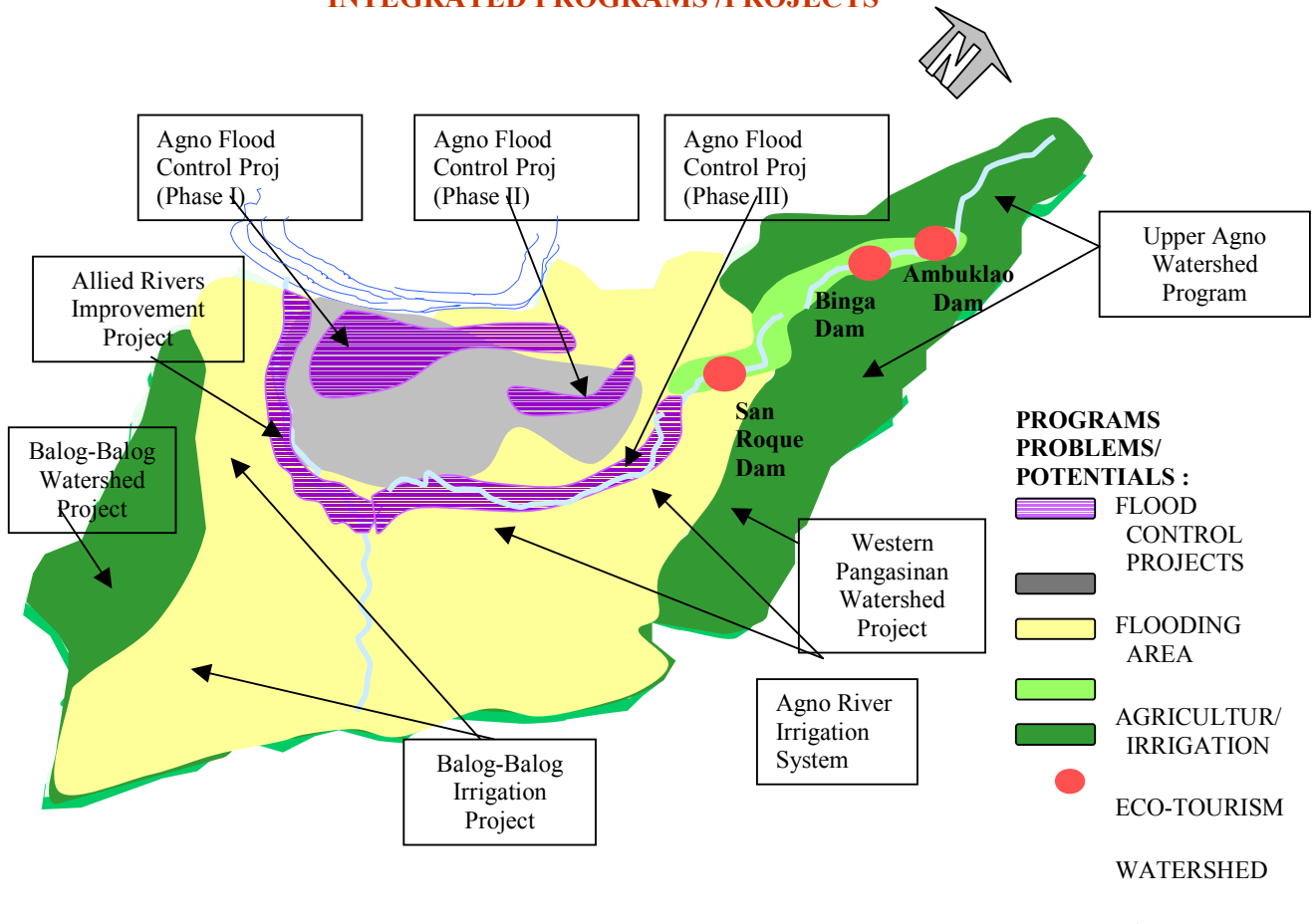
D.2.7 Provided the basis for the monitoring and evaluation of development projects in terms of impacts on the environment and viewed from the perspective of a unified lowland-upland resource management continuum

Prior to the creation of the ARBDC and the preparation of the Agno River Basin Master Plan, the system for project monitoring and evaluation was set upon politico-administrative jurisdictions as the main unit of assessment. The decisions derived from such system failed to consider the wider context on which these individual units make a broader impact. Through the master plan, a context was defined for the collaboration of

the existing project monitoring and evaluation systems and the actors which expanded project decision-making from parochial to river basin considerations.

D.2.7 Strengthened the integration of programs and projects, both on-going and proposed to address and re-enforce inter-relationships and maximize the benefits from each project.

INTEGRATED PROGRAMS /PROJECTS



D.3. The Present Challenges

D.3.1 Institutional Challenges

- *On watershed protection.* There is a need to assess current policies and decision-making processes on watershed protection with the end in-view of increasing motivations and capacities among all stakeholders in watershed areas to sustain long-term productivities and regenerative capacities of watershed resources
- *On water and natural resource utilization and development.* There is a need to mobilize private investment resources and grassroots managerial capabilities to meet the demand for water and other natural resource facilities and ensure proper maintenance and operation of said facilities
- *On water and other resource use regulation, monitoring and evaluation.* There is a need to generate water and resource utilization standards and establish regulatory mechanisms that are location-specific to ensure that obtaining resource conditions are effectively addressed.
- *On technical data.* There is a need to update and improve the reliability of present information and data on water and other natural resources to ensure that decision-making processes are reflective of ground-realities and responsive, effectively and promptly, of real issues.
- *On stakeholder participation.* There is a need to decentralize functions on water resources management from the NWRB to lower level planning units in order to make broad-based participation feasible and to ensure that plans/program and policies on water resources management are responsive to actual ground conditions. The implications of the Indigenous People's Rights Act should also be considered in designing management and access strategies to water resources, particularly those falling within ancestral domains, with the aim of strengthening the capacities of indigenous cultural communities in watershed management.
- *For watershed protection,* there is a need to strengthen the capabilities of other stakeholders at the local and grassroots levels to effectively mobilize them for sustainable resource management purposes. Institutional adjustments for broad based participation include capitalizing on group stakes to build incentives for active involvement in sustaining the integrity of the environment.

D.3.2. Political Challenges

- *Strengthening collaboration.* The decision-making process continues to be dominated by parochial interests, notwithstanding agreements on collaboration and cooperation. The ARBDC needs to persevere on its advocacy activities concerning river basin management to overcome this barrier and achieve a political environment by which the benefits of cooperation and coordination are recognized at both the lower and higher level administrative units.
- *Gaining political legitimacy as an institution.* The ARBDC is constantly confronted with the question of its relevance as a resource management structure, particularly among law-makers. This puts into light the lack of appreciation as to the benefits of

setting in place institutional structures for river basin management. The ARBDC is working for its transformation into an Authority through a legislative action in order to lend stability to its existence as an institution and to expand its scope of responsibility, influence and accountability to meet the institutional requirements for a decisive river basin planning and management of the Agno River Basin.

D.3.3 Financing

- The present sources of funds for the implementation of the Agno River Basin Master Plan are from the national and local government units. Given the budgetary constraints being felt at all levels of the bureaucracy, alternative fund sources needs to be explored. A potential source being looked at is from the private sector. The ARBDC is then expanding its advocacy to gain the support of the private sector and build an attractive environment for their involvement in natural resource management.