



**ASIAN DEVELOPMENT BANK**

**CLIMATE CHANGE ADAPTATION PROGRAM  
FOR THE PACIFIC (CLIMAP)**

**GUIDELINES ON ADAPTATION MAINSTREAMING  
FOR PACIFIC DEPARTMENT OPERATIONS**

**Draft**

**PACIFIC DEPARTMENT**

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## ABBREVIATIONS

ADB	–	Asian Development Bank
CCV	–	climate change and variability
CEA	–	country environmental analysis
CLIMAP	–	Climate Change Adaptation Program
CSP	–	country strategy and program
CSPU	–	country strategy and program update
CSP-CP	–	country strategy and program climate profile
CPM	–	country programming mission
DMC	–	developing member country
EIA	–	environmental impact assessment
EMP	–	environmental management plan
GAM	–	guidelines for adaptation mainstreaming
GCM	–	global circulation model
GHG	–	greenhouse gas
IEE	–	initial environmental examination
IPCC	–	Intergovernmental Panel on Climate Change
PAA	–	Project Adaptation Assessment
PAB	–	Project Adaptation Brief
PARD	–	Pacific Department
PDMC	–	Pacific developing member country
SEIA	–	summary environmental impact assessment
TA	–	technical assistance
UNFCCC	–	United Nations Framework Convention on Climate Change

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## I. INTRODUCTION

1. In November 2002, the Asian Development Bank (ADB) approved a regional technical assistance (RETA) for the Climate Change Adaptation Program for the Pacific<sup>1</sup> to mainstream adaptation, on a pilot basis, in development planning and management in selected Pacific developing member countries (PDMCs) and ADB operations. The key activities will be undertaken at two distinct but strongly linked levels: (i) at ADB level (Pacific Department [PARD]) through the mainstreaming of adaptation into ADB strategy, program and project operations, and; (ii) at the country level, where two selected PDMCs<sup>2</sup> will undertake mainstreaming of adaptation at the national development planning, sector program, and project levels.

2. These initial guidelines outline modalities for mainstreaming climate adaptation, on a pilot basis, in PARD operations. They provide a pathway through PARD's strategy formulation, country programming, and project processing that will enable effective adaptation mainstreaming in a pragmatic manner. The guidelines focus on key tools for the mainstreaming process: the country strategy and program (CSP) climate profile (CP), and the project adaptation brief (PAB). The CSP-CP will provide an assessment of a CSP or a country strategy and program update (CSPU) in terms of climate sensitivity. The CP will also provide a preliminary classification of climate sensitivity at the level of CSPU lending and TA pipeline. The PAB will assess project sensitivity to climate impacts through categorization of climate risk. A preliminary finding of high risk will form the basis for further detailed climate risk assessment during project preparatory technical assistance (PPTA) preparation.

## II. BACKGROUND CLIMATE INFORMATION

3. Climate change is recognized as an issue of global concern that led world governments to adopt the United Nations Framework Convention on Climate Change (UNFCCC). The Convention establishes "policy guidance" for the developing and developed country Parties to assess the implications of the increasing greenhouse gases (GHGs) into the atmosphere and to take steps in stabilizing them to foster environmentally sustainable economic development. Under the UNFCCC, the Kyoto Protocol was developed. This Protocol will come into force after at least 55 Parties to the Convention have ratified it, including developed country Parties that account in total for at least 55% of the total carbon dioxide emissions for 1990. The targets and measures are expected to be the first steps toward global emission stabilization. Developing country parties while needing to ratify the Kyoto Protocol are not encumbered with the protocol targets and timetables during its first commitment period (2008–2012) (See Appendix 5).

4. Global climate change was first raised as a pollution issue; hence the reasoning for greenhouse gas (GHG) mitigation<sup>3</sup> and emission reduction targets, as responses. However, many country Parties to the UNFCCC later highlighted that the impacts of climate change will need to be addressed through adaptation measures within the framework of the Convention as seriously as the mitigative aspects of the Convention. This was based upon the fact that both the UNFCCC and subsequently the Kyoto Protocol while considered a first step were generally inadequate for reducing global GHG emissions,<sup>4</sup> and thus effectively reducing the risks of climate change.

<sup>1</sup> ADB. 2002. *Technical Assistance (Financed by the Government of Canada) for the Climate Change Adaptation Program for the Pacific*. Manila.

<sup>2</sup> Cook Islands and Federated States of Micronesia.

<sup>3</sup> In climate change terminology, mitigation generally refers to policies and measures that reduce GHG emissions

<sup>4</sup> The Convention's ultimate objective outlines only a stabilization of GHG.

5. As a result, adaptation to the impacts of climate change forms the other central thrust of the UNFCCC and was brought forward mainly by certain groupings of countries<sup>5</sup> that have minimal emissions and are among the most vulnerable to an increasingly changing climate. While PDMCs fall into this category, they emphasize that adaptation (to climate variability) per se is not new, as traditionally adaptation was undertaken for a wide variety of climatic and societal reasons including climate variability (in terms of extremes, such as tropical cyclones, floods, and droughts).

6. **Climate change and climate variability.** Climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer). Climate change may be due to natural processes, or to persistent changes in the composition of the atmosphere or in land use caused by human activities. The Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report in Chapter 18 notes that the key features of climate change with respect to vulnerability and adaptability are those related to climate variability and extremes,<sup>6</sup> not just changed average conditions. Climate variability include the variations in climatic conditions (both average and extreme events) on time and space scales beyond that of individual weather events, but not persisting for extended periods (decades or longer). Most sectors and regions are reasonably adaptable to changes in average climatic conditions, particularly if they are gradual. However, communities are more vulnerable and less able to adapt to changes in the frequency and/or magnitude of conditions other than average, especially weather extremes.<sup>7</sup>

7. Increases in surface temperature may raise the frequency and severity of extreme weather events. With this increase, the damages caused by weather related natural extreme events like floods and cyclones (i.e., typhoons<sup>8</sup>) also increase. While climate projections of precipitation and stream flow tend to be highly uncertain, temperature and sea level rise are two variables where climate change projections are more certain. Temperature increase alone can have wide ranging impacts, while in general sea-level rise is of critical concern to low lying atoll islands and regions.

8. International concern about extreme weather events has grown as the cost in human life and economic damage associated with those events has increased rapidly. In the Pacific region, this has been shown recently through extreme weather and climate events and changes in sea levels and temperature. For example, a drought during the El Niño event in 1998 created considerable damage in some PICs, as outlined in Table 1.

9. **Vulnerability.** Vulnerability measures the degree to which a system is susceptible to or unable to cope with the adverse effects of climate change. The expected results of a vulnerability and adaptation assessment are actions that reduce the vulnerability, and increase resilience (of a human or natural system) through appropriate adaptation processes (as responses). The term vulnerability can be found in a range of thematic areas, such as economic vulnerability, social vulnerability, and environmental vulnerability, (primarily biophysical systems). In the climate change context, vulnerability is a holistic and integrative approach that crosses all these thematic areas.

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<sup>5</sup> Primarily by the Alliance of Small Island States and other developing countries.

<sup>6</sup> Such as droughts, floods and cyclones (which cause inundation, storm surges, shoreline erosion, etc.).

<sup>7</sup> IPCC. 2001. *IPCC Third Assessment Report*. Geneva.

<sup>8</sup> Typhoon as used in the northwest Pacific basin is the most severe category of tropical cyclone in terms of maximum winds near the center or the lowest atmospheric pressure. In the Atlantic basin, such category is called a hurricane.

10. Pacific island countries are highly vulnerable (i) environmentally, because of their exposure to weather extremes and increasing depletion of natural resources, (ii) economically, because of their relative isolation and smallness, and (iii) socially, because of migration and urbanization. The exposure of PICs to extreme weather events is exacerbated by their geographical locations. Rapid population growth and concentration of people and infrastructure in coastal areas increase the potential human and economic losses from these extreme weather events<sup>9</sup>. The growing urbanization and centralization of most PICs is also increasing the likelihood of adverse impacts of climate variability and change.<sup>10</sup> The possibility of more extreme events such as cyclones, flooding, and droughts greatly endangers critical infrastructure such as port facilities, roads, coastal protection structures, and life support systems such as power and water utilities.

**Table 1: Impacts of the 1998 Drought Event in some PDMCs**

<b>PDMC</b>	<b>Damage</b>
<b>Fiji Islands</b>	Some two thirds of the newly planted sugar crops were wiped out. The overall negative economic impact was equivalent to 3% of GDP.
<b>Tonga</b>	Squash crop, which produces about half the country's exports by value, was more than halved.
<b>Papua New Guinea</b>	Widespread near-starvation. Australia spent more than A\$30 million delivering food aid to people in isolated areas in the highlands and low-lying islands.
<b>Federated States of Micronesia</b>	Crops and water supply were severely affected and national disaster was declared, and food aid and water were delivered to all the affected areas.
<b>Marshall Islands</b>	Severe water shortage limited households to 7 hours of tap water every 14 days.
<b>Palau</b>	There were severe impacts with a loss of 30% of coral reefs and the drought led to major loss of taro affecting 30% of the population.
<b>Samoa</b>	Fires sparked by the unusually dry conditions destroyed large areas of forest on the island of Savai'i.
<b>Tuvalu</b>	Three cyclones occurred during this period resulting in the loss of land, inundation of taro pits, destruction of houses, and contamination of freshwater supplies.

Source: SPREP, 2000: *Pacific Islands Framework for Action on Climate Change, Climate Variability, and Sea-Level Rise*

## **A. Risk**

11. The likelihood of occurrence of a consequence or impact is what we call risk and is associated with the exposure to a defined hazard, often harmful, but occasionally with uncertain<sup>11</sup> beneficial outcomes.<sup>12</sup> The results of the decisions taken to reduce climate change and variability (CCV) impacts or to make use of climate-dependent opportunities are sources of uncertainty. A risk-based approach to climate adaptation would be to ensure that these uncertainties are recognized in the decision-making process.

<sup>9</sup> IPCC. 2001. *IPCC Third Assessment Report*. Geneva.

<sup>10</sup> Hay, et al. 2003. *Resource Book on Climate Variability and Change and Sea-Level Rise for the Pacific Region*.

<sup>11</sup> Uncertainty describes the quality of our knowledge concerning risk. Our knowledge of future hazards from a changing climate, both natural and man-made, involves uncertainty. The impacts associated with any particular future climate changes are also uncertain.

<sup>12</sup> United Kingdom Climate Institute Program 2003: *Climate adaptation: Risk Uncertainty and Decision-Making*. R. Willows and R. Connell, eds.

12. Both risk assessment and risk management allow the appraisal of different sources of risk and the possible treatments for such risk (including reducing risk through adaptation), to be compared and prioritized as part of decision making. Decisions with long payback periods or with long-term consequences (decades or greater) are vulnerable to assumptions regarding both short-term variations and long-term changes in the future climate. Climate sensitive decisions with shorter payback periods are more likely to be vulnerable to short-term variation and extreme events.

## **B. Adaptation**

13. Adaptation is a process consisting of policies, actions or other initiatives, which are intended to control the potential adverse effects as well as capture the positive benefits arising from climate variability and change (including extreme events). Although adaptation is expected to reduce both short-term climate variability and long-term climate change risks, it must take into account the full range of socioeconomic, cultural, and environmental thematic areas in order to be effective and support wide sustainable development objectives. Reducing the risks to short-term climate variability by addressing adaptation forms a core action-oriented approach that in turn can help address longer term climate change. This holistic framework also forms the basis of a no-regret approach.<sup>13</sup>

### **1. Adaptation through Risk Reduction**

14. One way to address adaptation is to integrate disaster management into a holistic risk reduction strategy that places adaptation to climate change within the broader context of sustainable development. This linking of short-term and long-term responses to climatic risks is a critical key in seeking an integrative, participatory, and holistic approach to a complicated issue. This holistic framework can be defined as “adaptation through risk reduction”.

15. An effective risk reduction approach should provide adaptation actions that are consistent with existing policy criteria, development objectives, and management structures. For example, the design of infrastructure investments should incorporate increased resilience to changes in temperature, wind strengths or precipitation intensities, in order to avoid economic losses as well as other disastrous consequences over longer climate change and infrastructure life-times.

### **2. Adaptation in ADB**

16. In general, adaptation is perceived as an unavoidable process on two accounts: (i) Even if greenhouse gas emissions were stabilized, the atmospheric concentrations will still be increasing throughout the twenty-first century, although at a slower rate than previously thought of. (ii) Significant climate risks already exist in PICs. From the ADB point of view, adaptation mainstreaming and implementation are urgent as current development planning does not properly assess these climate risks. There are many long-term development plans and projects (especially infrastructure) currently under consideration which require that future climate and sea level conditions be given due attention. If actions are postponed until climate change become highly certain, it may be too late to address these risks. At best, the range of response

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<sup>13</sup> See paragraph 17.

options will likely be fewer or the costs of addressing these risks are likely much higher than otherwise<sup>14</sup>.

### **3. Adaptation as a No-Regret Approach**

17. An objective of climate risk assessment is to identify no-regret climate adaptation options. A no-regret approach provides for the formulation of strategies, programs or projects that aim to achieve benefits regardless of whether climate change occurs or not. Many possible adaptation strategies to CCV risks are also consistent with (i) sound environmental management; (ii) wise resource use; (iii) appropriate responses to natural hazards and climate variability, including extreme events; and (iv) sustainable land-use planning.

### **4. Adaptive Capacity**

18. Many sectors and areas/locations vulnerable to climate change are also under pressure from non-climatic forces such as population growth and resource depletion. Climate adaptation and sustainability goals can be jointly advanced by changes in policies that lessen pressure on resources, improve management of environmental risks, and enhance adaptive capacity<sup>15</sup> in the context of climate risk reduction.

19. Climate-associated hazards have the capability to undermine progress with sustainable development. Through common efforts, the promotion of a wide range of precautionary measures<sup>16</sup> available to enhance the adaptive capacity of communities or sectors and move toward sustainable development can be reinforced. Some general examples of these measures are<sup>17</sup> improved access to resources; poverty reduction; lowering of inequities in resources and wealth among groups; improved education and information; improved infrastructure and expansion of insurance; diminished intergenerational inequities as well as short- and long-term planning horizons; respect for accumulated local experience or traditional knowledge; moderate long-standing structural inequities; assurance that responses are comprehensive and integrative not just technical; active participation by stakeholders, especially to ensure that actions match local needs and resources; and improved institutional capacity and efficiency, among others.

## **III. CLIMATE ADAPTATION AND THE PACIFIC DEPARTMENT'S OPERATIONS**

20. Adaptation is a process comprising of a number of key elements that include capacity building, development of methods and tools, undertaking assessments, mainstreaming, and implementation. The elements are detailed under the Climate Change Adaptation Program Technical Assistance (CLIMAP TA) paper, paragraph 9.

21. Mainstreaming is a strategy for addressing CCV issues through the integration of responses (adaptation) into the general development process. Effective mainstreaming requires adaptive capacity composed of good knowledge and awareness, and economic, political, and environmental conditions where best practices and approaches can be undertaken. Applying

<sup>14</sup> World Bank. 2000. *Cities, Seas, and Storms - Volume IV Adapting to Climate Change*. Washington DC.

<sup>15</sup> Adaptive capacity refers to the ease with which the entity (community, society, sector or the like) is able to adapt to climate variability and change, including extreme events.

<sup>16</sup> The precautionary principle simply advocates taking measures toward mitigation and adaptation now in order to avoid losses in the future - even when the exact probability of future losses is unknown.

<sup>17</sup> IPCC, 2001: *Third Assessment Report*. Geneva.



the key elements together in an integrative manner will facilitate mainstreaming within ADB and PARD, as well as at country level.

22. PARD staff is increasingly becoming aware of climate change issues which can be enhanced through a range of adaptive capacity enhancement activities, for example, awareness, consultations, presentations, media events, and briefing papers. CLIMAP has developed a series of fact sheets as part of a climate support kit that will assist in wider understanding of climate change, and how climate adaptation mainstreaming through country profiling and project screening can provide adaptation options at least cost.

23. The climate support kit will be available for wider ADB interest, and to PDMCs. The enhanced understanding of department staff will encourage the use of an adaptation through risk reduction and no-regret approach within the strategy, program and project processes. This approach will consist of risk reduction measures that increase resilience within an economic growth and poverty reduction context.

24. **Pacific Strategy Level.** The current Pacific Strategy for the New Millennium (2001–2003) outlines the broad strategic objectives of ADB; economic management, governance, and public sector reforms; private sector development; Gender; environmental protection; and poverty reduction. While the Strategy recognizes the importance of environmental protection, there is no specific guidance as to the types of interventions and approaches that can be used to promote the achievement of this objective. The new Pacific Strategy is under elaboration, and its environmental component (the Pacific Regional Environment Strategy) will include CCV adaptation as one of the key elements of the Strategy. The development of the new Pacific Strategy provides an opportunity for wider recognition of the need to take more systematically into account CCV adaptation at the strategy, program, and project preparatory processes levels.

25. **ADB Operations.** Over the past several years, ADB has adjusted its operational strategies to better achieve its overarching objective of poverty reduction in the Asia and Pacific region. The simultaneous transformation of ADB from a project lending institution to a “broad-based development organization” is continuing: reforms of policies and governance systems and development of institutional capacity have emerged as key elements of ADB’s work. Country-level emphasis is also being strengthened and country ownership of development programs is increasingly emphasized.

26. Amidst these changes in the way ADB does its work, the need to mainstream environmental considerations into all aspects of its operations has emerged as another important reform element. ADB’s Poverty Reduction Strategy (PRS), Long-Term Strategic Framework (LTSF), and Medium-Term Strategy (MTS), among others, all call for a renewed emphasis on sound environmental management in the development process. Environmental sustainability is recognized as a central pillar of any ADB country development strategy, and it is also identified as one of three main crosscutting themes in the ADB’s overall assistance strategy. This process has culminated in the approval of a new ADB Environmental Policy that reconfirms this direction and stresses the need to “mainstream” environmental considerations fully into development planning, policy making, and investments. The concept of mainstreaming, placing environmental management concerns firmly within the macro and sectoral plans and programs, has emerged as a crucial element of the approach. Strategic environmental assessment (SEA) has been identified as a new and potentially important tool together with a new requirement that ADB routinely prepare country environmental analyses as an integral part of the country strategy and programming process.

27. ADB's environmental mainstreaming efforts have positive implications for climate adaptation. Climate adaptation as part of the environment mainstreaming approach creates opportunities for promoting no-regret approaches and risk reduction measures, such as improved project design, and disaster avoidance, each of which can provide significant cost savings to investment programs and projects. Within these contexts, the current CSP and CSPU processes have been examined to identify areas and tools where and how mainstreaming adaptation can be undertaken. In addition the project preparatory TA process has been examined to identify where mainstreaming approaches could be used, and how the project design and preparation may be adjusted or climate-proofed to account for adaptation. These tools and processes are described below.

#### **IV. FRAMEWORK FOR MAINSTREAMING CLIMATE ADAPTATION INTO PACIFIC OPERATIONS**

28. **Guidelines for Adaptation Mainstreaming (GAM).** The GAM provides guidance on how adaptation mainstreaming will be undertaken in ADB's PARD operations. Adaptation mainstreaming at ADB level will require the development, use, and improvement of key mainstreaming tools within existing country strategy, program and project preparation (see Figure 1 and Appendix 1).

29. The CSP Climate Profile (CP) will provide an assessment of a CSP in terms of country climate sensitivity. The CP also provides a preliminary classification of climate sensitivity at the level of the CSPU lending and TA pipeline (See Appendix 2).

30. The Project Adaptation Brief (PAB) will initially assess project sensitivity to climate impacts through a categorization of climate risk, and will form the basis for further detailed climate risk assessment during PPTA preparation and implementation (See Appendix 3).

31. In addition, the Climate Support Kit will include a number of climate fact sheets and country/region specific climate information useful for awareness and adaptive capacity building. The Kit also contains a compendium of technical advisory notes, information and reference guide supporting the Climate Profile and PAB processes.

32. The final component of the adaptation mainstreaming framework is a monitoring and evaluation process comprising the steps needed for assessing the effectiveness of the overall adaptation mainstreaming and adaptation implementation in ADB operations.

#### **V. TOOLS FOR MAINSTREAMING CLIMATE ADAPTATION INTO PACIFIC OPERATIONS**

##### **A. Country Strategy and Program Climate Profile**

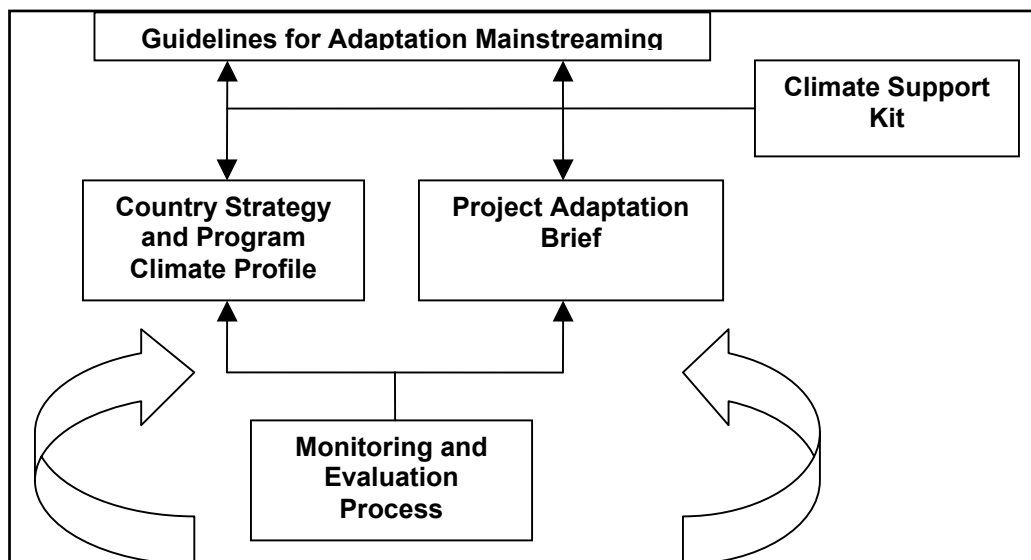
33 The revised ADB business processes<sup>18</sup> give increased emphasis to the preparation of upstream sector road maps and thematic analysis, including Country Environmental Analysis (CEA), as basic elements of a sound CSP and CSPU.<sup>19</sup> The CSPU comprises country strategy and program analyses such as trends and issues, economic performance, and implementation of the CSP. The CSPU also lists in appendix a range of country and portfolio indicators, as well

<sup>18</sup> Approved by ADB in 2002.

<sup>19</sup> CSPU is prepared annually, while CSP provides longer term programming of up to 5 years.

as a pipeline of possible PPTAs and concept papers for lending products and non-lending products and services.

**Figure 1: Framework for Adaptation Mainstreaming and Implementation in the Pacific Department**



34. Through the CSP/CSPU process, a general analysis of country climate sensitivity will be undertaken, possibly as part of the CEA preparation, based upon the existing information and data contained in the CSPU and supported by additional country climate and other environmental information. Furthermore, a preliminary adaptation screening of the project preparatory TA pipeline to identify projects that may be sensitive to expected climate impacts will also be undertaken. Together the analyses and preliminary screening will form the basis of the CSP climate profile.

35 The climate profile will identify any changes in the context of climate risk from the existing CSPU (as the baseline) to the next and subsequent CSPU. The climate profile is initiated during pre-CSPU activities and during preparation and development of the next update. The climate profile will also outline the relevant climate change and climate variability (including extreme events) issues specific to each member country, and the general level of adaptive capacity in terms of socioeconomic structures and human resources, which are important to development strategy.

36 The climate profile will describe ADB's role in helping mainstream adaptation into the country's strategy for sustainable development. The objective of conducting a Climate Profile is to ensure that climate change and variability risks are considered in a balanced way with economic concerns when formulating CSP/CSPU. Over time, or through subsequent CSPU, the climate risk classification can change reflecting higher or lower sensitivity. Sensitivity in this context will be a broad-brush approach mainly for country strategic planning purposes. The Climate Profile results will also feed directly into the CSPU annual updates. During CSPU preparation, the approved parts of the narrative discussion and recommendation in the climate profile will form part of the inputs to the new drafted CSP/CSPU<sup>20</sup> paper (See figure 2).

<sup>20</sup> Such as in Sections II and III of the CSPU format.

37. The climate profile, wherever possible is prepared as part of the CEA, and is undertaken at the policy, program and sector levels, and not at project level. It will not duplicate the CEA; rather will be an important component of the CEA in addition to enhancing the consideration given to climate change and variability factors in formulating policies, plans, and programs. The information and analyses contained in the Climate Profile will form the basis for facilitating adaptation implementation at the project level. This will be achieved through the preliminary climate sensitivity classification of the TA pipeline found in the most recent CSPU, and will provide the linkage between the strategy and program process and the project preparatory process, where PAB will be undertaken.

38. The climate profile preliminary climate sensitivity classification and pipeline screening is carried out through a set of questions that results in a table of expected climate risks for each PPTA in the pipeline. The table is the first step toward more detailed analyses of those projects identified with significant climate sensitivity.

39. The climate profile should be undertaken at regular intervals<sup>21</sup> and be seen as a dynamic and evolving analysis designed to assist both ADB and its PDMCs in mainstreaming adaptation within a risk reduction approach, at strategy and program level.

## **2. The Project Adaptation Brief**

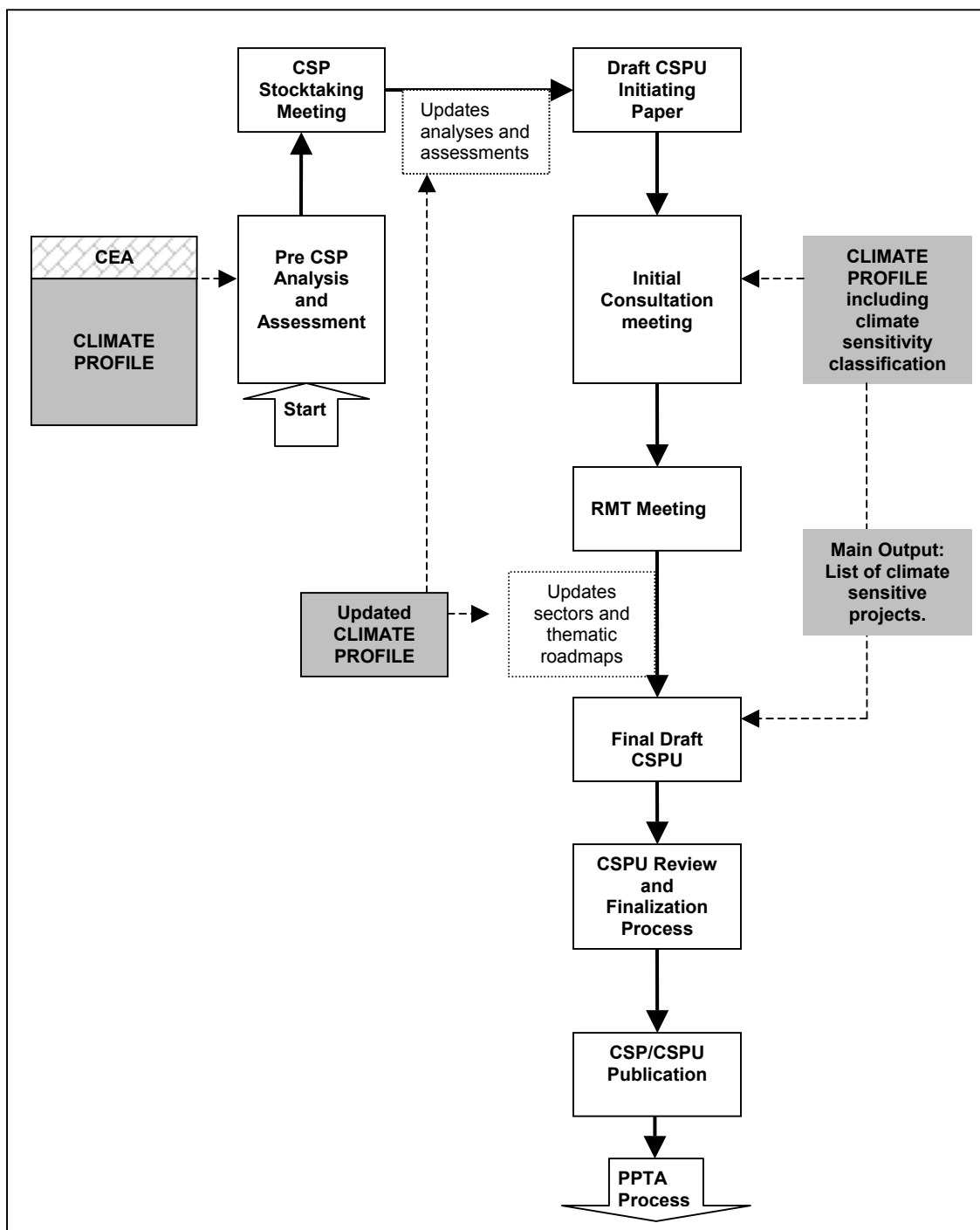
40. ADB's investment financing support is generally provided through projects developed through the project preparation; processing, approval, and implementation cycle process. The process is a feasibility and project development pathway consisting mainly of the following key steps: (i) project concept formulation; (ii) provision of technical assistance, including feasibility studies and advisory services; (iii) project development and processing; (iv) loan approval; and (v) project implementation. This process provides an opportunity for undertaking specific and detailed adaptation mainstreaming and adaptation implementation. The first step toward identifying how adaptation at the project level can be carried out is through the preliminary project screening for climate sensitivity<sup>22</sup> as part of the climate profile. Those projects identified in the PPTA pipeline that are determined to be of low climate sensitivity will not require any detailed climate risk analyses during the project preparatory phases (See Appendix 2).

41. A PAB is an outline of project climate risk and starts from the preliminary climate sensitivity screening from the CSP Climate Profile. The PAB is prepared after a project concept paper is drafted and describes the general project situation in the context of climate change and climate variability risks, as well as general adaptation measures, and existing policies in the country (where the project will be located) that may reduce the risks to an acceptable level. The key outcome from a PAB is an analysis of the general project conditions, and potential project impacts that can be exacerbated by CCV. The results lead to a categorization of levels of climate risk of the project. These resultant risk levels categorized as either high or low, determines the degree of risk assessment required during the project preparation technical assistance phase (see figure 3).

### **Figure 2: Mainstreaming Climate Adaptation into the CSP/CSPU Process**

<sup>21</sup> Such as annually or every 3 years depending on resources, or when significant new information is available.

<sup>22</sup> A preliminary screening of the projects identified in the TA pipeline in a CSPU is undertaken during a Climate Profile. The screening forms the first step of assessment for a selected project and flags potential projects where further assessment may be required. The next steps are focused through the PAB.



CEA = country environmental analysis, CSP = country strategy and program, CSPU = country strategy and program update, PPTA = project preparatory technical assistance, RMT = regional management team.  
 Note: CSP/CSPU processes are shown in the clear boxes, while adaptation interventions are in shaded boxes.

42. Under the PAB, the assignment of a high risk level is a trigger for undertaking a detailed Project Adaptation Assessment (PAA) during the preparatory project technical assistance

feasibilities. A high risk project will require specific PAA for key project areas that are critical to implementation. The PAA required for high risk projects will be identified through draft terms of references developed as an outcome of the PAB. The terms of reference (TORs), expected to be added to the PPTA paper, identifies the required climate expertise needed and the degree of risk and adaptation assessment details required. Uncertainties in future climate risks will be considered through the use of climate scenarios. Results from the PAA will include: adaptation options for the project conditions, social and economic evaluations of the options, costs and benefits of the options, and the prioritization of those options identified during the PAA. The PAA will cater to the changes from baseline climate (current) to future climate scenarios as well as other considerations, such as human and financial resource requirements and management and safety processes (precautionary measures). A low risk project will not require any detailed assessment but the PAB itself can provide a brief statement regarding potential climate related impact on the project during the project lifetime.<sup>24</sup>

43. **Expanded PPTA Terms of Reference.** During the PAB, the level of detail required for implementation of a PAA as part of feasibility studies prepared under the PPTA, is provided through a set of draft TORs for specific adaptation assessment activities. The PAA is a holistic and integrated set of activities that cross-cut themes and sectors at specific sites or areas. A PPTA is usually undertaken by a team of experts. In terms of a PAA requirement, an additional team may not be needed so much as ensuring a team has the requisite experience and skills for undertaking a PAA as part of its tasks within the process, coordinated by an additional expert, a climate specialist. The TOR for a climate specialist would indicate the need for close coordination with all team members, particularly where an Environmental Impact Assessment (EIA) is a requirement. In this respect, while an EIA and a PAA are not identical, their activities and outcomes can be similar and will converge during the final PPTA reporting<sup>25</sup>.

44. During the PPTA feasibility studies, the key outputs of the PAA is presented as a report. The report will be a project assessment of possible adaptation measures/options to be used in order to reduce the climate risks to an acceptable level. The proposed measures/options are prioritized after social and economic evaluation, according to cost-benefit analysis criteria, for example, or other methodologies available in the literature as deemed applicable by the climate specialist to the existing conditions. Such methodologies should be thoroughly outlined and discussed in the final report. The final report should also include the institutional and resource requirements and identify existing or required policies in the country (and location) that could support the implementation of the results of the assessment. The PAA report forms part of the final PPTA report.

45. The final PPTA report, including the PAA results, contributes to the preparation process of the project document, the report and recommendation of the President (RRP). After appraisal and review, the RRP will conform to possible adaptation covenants outlined during the appraisal and review process, leading to loan negotiation and approval for project implementation.

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<sup>23</sup> The high risk assignment will require actual field measurements and modeling (primary information), if applicable, as well as identification and evaluation of adaptation options. More detailed project adaptation assessment information is available in the Climate Support Kit found in the annex.

<sup>24</sup> The high risk assignment will require actual field measurements and modeling (primary information), if applicable, as well as identification and evaluation of adaptation options. More detailed project adaptation assessment information is available in the Climate Support Kit.

<sup>25</sup> See paragraph 49.

46. Projects identified with low climate risk do not need a PAA. However, the PAB itself will provide a brief statement regarding potential climate related impacts during a project lifetime and could be undertaken without climate specialist recruitment.

### **C. Monitoring and Evaluation of Adaptation Mainstreaming and Adaptation Implementation**

47. Monitoring compliance for adaptation mainstreaming and adaptation implementation in the current ADB business process would be initially difficult as there is no procedural basis, unlike the EIA system. Adopting ADB's Safeguard Policy on Compliance would enable initial monitoring to take place.<sup>26</sup>

48. Monitoring and evaluating the effectiveness of adaptation mainstreaming and adaptation implementation will require the development of a framework that can outline monitoring and evaluation at both project, and at program and strategy levels. The effectiveness of adaptation mainstreaming and adaptation implementation under the framework could then be quantified in social, economic, and environmental terms, as well as through policy effectiveness.

## **VI. MAINSTREAMING CLIMATE ADAPTATION AND THE EIA PROCESS**

### **A. EIA Process**

49. ADB requires environmental assessment of all project loans, program loans, sector loans, sector development program loans, financial intermediation loans and private sector investment operations. Recognition of the significance and importance of possible impacts on the environment by development projects is well described in ADB operational procedures, resulting in a project categorization system, and identification of the types of projects that may impact significantly on the environment. At the PPTA final report level a qualitative/quantitative analysis of the possible impacts, and measures needed to minimize the impacts is provided through an assessment process (Initial Environmental Examination (IEE)<sup>27</sup> and EIA<sup>28</sup>).

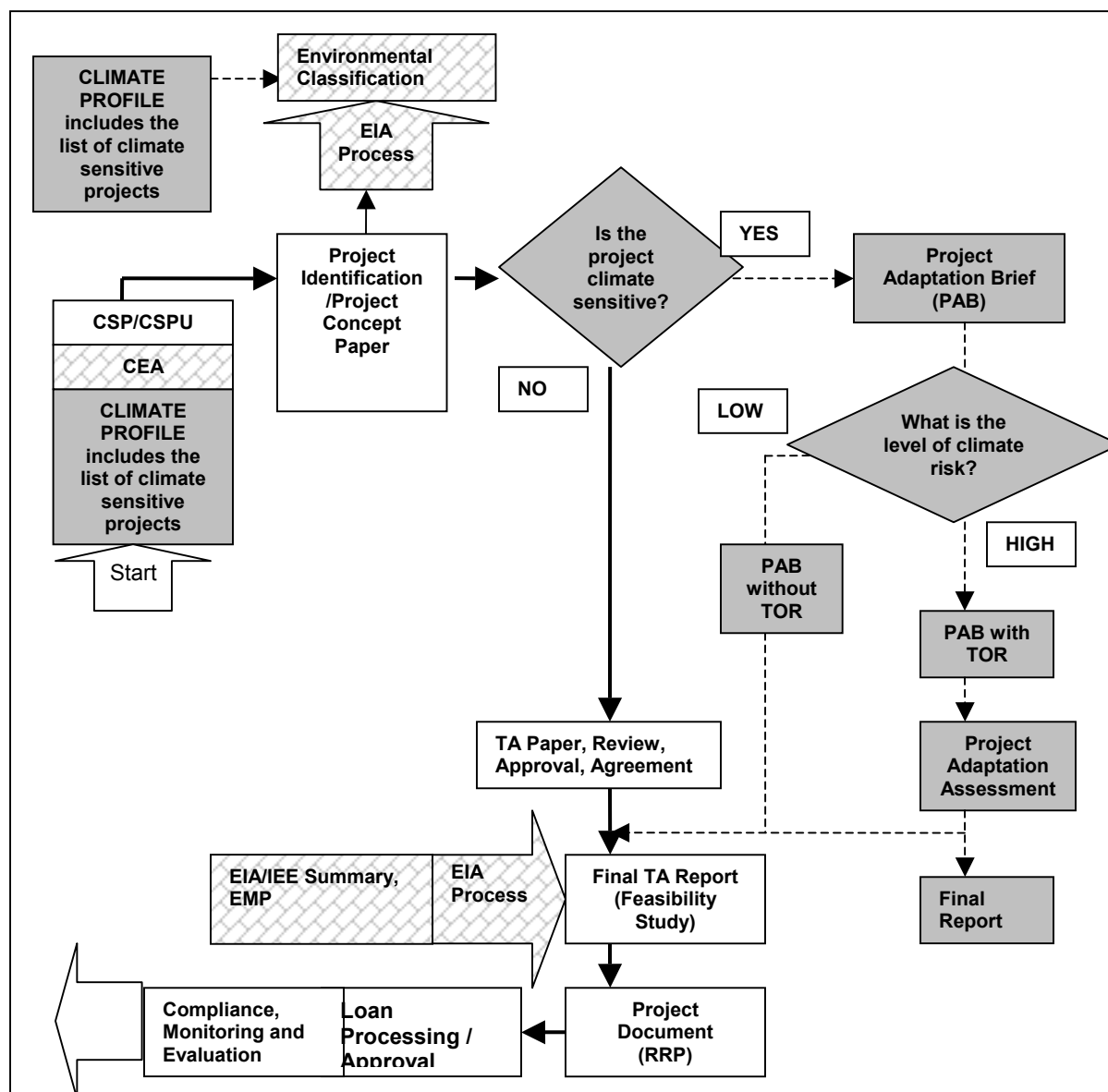
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<sup>26</sup> The ADB Safeguard Policy on Compliance focuses on the EIA process, Indigenous Peoples Policy, and the Involuntary Resettlement Policy

<sup>27</sup> A typical IEE includes the following major elements: (i) description of the project, (ii) description of the environment, (iii) potential environmental impacts and mitigation measures, (iv) description of institutional requirements and environmental monitoring program, (v) public consultation and disclosure, (vi) findings and recommendations, and (vii) conclusion.

<sup>28</sup> A typical environmental impact assessment (EIA) report includes the following major elements: (i) description of the project, (ii) description of the environment, (iii) anticipated environmental impacts and mitigation measures, (iv) alternatives, (v) economic assessment, (vi) an environmental management plan that includes institutional requirements and the environmental monitoring program, (vii) public consultation and disclosure, and (viii) conclusion. The report is prepared by the borrower and reviewed and cleared by the EIA regulatory agency of the borrowing country and ADB.

**Figure 3: Mainstreaming Climate Adaptation into the PPTA Process<sup>29</sup> through a Project Adaptation Brief**



CSP = country strategy and program, CSPU = country strategy and program update, EIA = environmental impact assessment, EMP = environmental management plan, IEE = initial environmental examination, PAB = project adaptation brief, RRP = Report and Recommendation of the President to the Board of Directors, TA = technical assistance, TOR = terms of reference

<sup>29</sup> The PPTA cycle processes are shown in clear boxes, while adaptation interventions are in shaded boxes. Elements of the EIA process are shown in hatched boxes.

<sup>a</sup> CSP/ CSPU go together with the climate profile and CEA since the latter derived some initial inputs from CSPs. Significant results from the climate profile are summarized and included as one of the thematic and sectoral issues in the CSPs/CSPUs.

<sup>b</sup> Adaptation TORs will enumerate the responsibilities and scope of work for the multi-disciplinary assessment team, to be led by a climate specialist. Coordination in order to optimize resources is essential as the work requirements may overlap with the work required from an EIA team (for example - data collection from the field).



## **B. The Challenge**

50. It is important to note that environmental assessment categorization and the level of climate change and climate variability risks are not always congruent. The challenge is posed by the fact that the current EIA process at ADB<sup>30</sup> looks primarily at the impact of the project on the environment; whereas climate change and climate variability risk assessment looks primarily at the impact of climate (and in a broader sense, the environment) on a project. Classifying projects according to environmental categories and according to the level of climate risks at this time should remain two distinct activities in the process. Convergence of the two assessment processes is envisaged during PPTA feasibility studies and when the final PPTA report is prepared.

51. The present ADB EIA process can be enhanced in the context of CCV risks through the identification of existing questions used during screening and scoping that reflect climate sensitivity as well as project impacts that can be worsened by CCV risks. Under EIA procedures, the categorization of impacts segregates projects according to significance of impact. This process can tentatively be enhanced through the preparation and implementation of the CSP climate profile and PAB process, as they segregate projects according to climate risk in a project context. See Appendix 2, a flow diagram of the current EIA process and possible enhancement with climate adaptation mainstreaming tools.

52. An inconsistency can occur when a project categorized with low environmental impact has a high climate risk level categorization. The need for an initial adaptation approach outside of the EIA process can be therefore be justified. The PAA, as already recognized, could converge with the EIA report at the time of the final PPTA report.

53. Long-term initiatives in the ADB adaptation mainstreaming can consider merging the risk and adaptation assessment in the context of the EIA process. This may be undertaken by initially modifying the EIA scoping process to include CCV risk and adaptation screening questions. Statements on climate change and climate variability risks and the adaptation measures to reduce these risks will ultimately then be included in the summary environmental assessment reports or summary initial environmental examination. The PAA report resulting from a risk and adaptation assessment could also form part of the environmental management plan.

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<sup>30</sup> Best practice in EIA looks at interactions (i.e., two way) e.g., an EIA should consider the potential for a cyclone to damage project infrastructure; thus all one is proposing is that a longer time frame be adopted, so that changes in the frequency and magnitude of such events are considered.

## GUIDELINES FOR ADAPTATION MAINSTREAMING—A STEP BY STEP OUTLINE OF THE PROCESS

<b>ADB Business Process</b>	<b>Key Stage</b>	<b>Key Adaptation Mainstreaming Tool</b>	<b>Key Action</b>	<b>Key Output</b>	<b>Responsible Party and Duration to Complete</b>	<b>Remarks</b>
<b>I. Country Strategy and Program (CSP)</b>		<b>CSP Climate Profile (CSP-CP)</b>				
CSP	1. Pre-CSP analyses and assessments  2. Update of pre-CSP analyses and assessments	Updating of sectors and thematic roadmaps	Additional country climate information and data will assist in climate profile development	Climate profile narrative outlining the country's climate sensitivity; Identification of projects from TA pipeline and possible associated climate risks	Climate specialist 10 days for CSP  7 days for CSPU	Planning and Reference Guide available outlining a listing of vulnerable thematic areas, sectors and project categories, as well as range of general adaptation measures
CSP Update (CSPU)		Climate profile undertaken based on indicators, analyses, and sensitivity tables found in the CSP and other information	Updated climate profile (as above)			
	3. Internal consultation		Discuss the climate profile as a narrative and form key paragraphs/statements on climate sensitivity	After consultations ready for insertion into CSPU sections II and III	Desk officers, director, climate specialist	As part of the existing process climate profile narrative and key paragraphs discussed and text developed

<b>ADB Business Process</b>	<b>Key Stage</b>	<b>Key Adaptation Mainstreaming Tool</b>	<b>Key Action</b>	<b>Key Output</b>	<b>Responsible Party and Duration to Complete</b>	<b>Remarks</b>
	4. Draft CSPU		CSPU drafted with insertions	CSPU updated with climate sensitive paragraph insertions on climate risk, and preliminary climate risks assigned to projects in the TA pipeline	Desk officers, director, and climate specialist	
	5. Country Programming Mission (CPM)		CPM undertaken with draft CSPU and draft Climate Profile for discussion.		Desk officers, director, Pacific developing member country (PDMC)	The PDMC should see the draft Climate Profile and make comment or input during CPM

<b>ADB Business Process</b>	<b>Key Stage</b>	<b>Key Adaptation Mainstreaming Tool</b>	<b>Key Action</b>	<b>Key Output</b>	<b>Responsible Parties and Duration to Complete</b>	<b>Remarks</b>
<b>II. PPTA / Loan Processing</b>		<b>Project Adaptation Brief (PAB)</b>				
	1. Project identification		PAB begins when project concepts are developed	Draft PAB started	Sector officer and climate specialist	Initial concepts from CSPU TA pipeline/Climate Profile can be used
	2. Project design		<p>Within PAB, climate risks identified and assessed; project risk level categorized</p> <p>Some adaptation options for the project outlined. Recommended assessment level detailed for TA implementation</p>	<p>Risk category highlighted</p> <p>Draft PAB completed with draft TORs for assessment and evaluation included</p>	<p>Sector officer, desk officers, director, climate specialist</p> <p>1 week</p>	Climate risk level in the PAB: High CCV risk or Low CCV risk
	3. TA paper 4. TA review and approval 5. Consultants selection 6. Final TA report (feasibility study)	Adaptation TORs finalized as part of PPTA preparation	<p>Draft TORs from PAB finalized for climate expert/activities based on CCV risk category</p> <p>Undertaking Project Adaptation Assessment (PAA)<sup>a</sup>            Preparation of PAA Report<sup>b</sup></p>	<p>TOR is part of PPTA preparation</p> <p>PAA undertaken</p> <p>Results after analyses inputted to</p> <p>Draft PAA Report</p> <p>PAA Report finalized and synergized with EMP and is part of final TA report</p>	<p>Sector officer, TA consultants, climate specialist</p> <p>Time taken dependent upon level of PAA</p>	PAA undertaken as part of existing PPTA feasibilities and arrangements

<b>ADB Business Process</b>	<b>Key Stage</b>	<b>Key Adaptation Mainstreaming Tool</b>	<b>Key Action</b>	<b>Key Output</b>	<b>Responsible Parties and Duration to Complete</b>	<b>Remarks</b>
	7. RRP and revised RRP	Adaptation covenant		RRP incorporating key recommendations of the PAA Report  RRP with adaptation covenants		
Loan processing	8. Final RRP  9. Loan negotiation					
Loan implementation and supervision	10. Loan inception  11. Mid-term loan review	Safeguard compliance <sup>c</sup>	Review of PAA Report Recommended implementation in the context of the adaptation covenant	Revisions to loan//project incorporating adaptation		
Project completion and postevaluation	12. Project completion report  13. Post-evaluation report		Review of actual adaptation strategy effectiveness	Framework evaluation process developed		A framework for evaluation of effectiveness of adaptation process and measures required  Will be inputted into post-evaluation report

## Notes:

<sup>a</sup> Project Adaptation Assessments are analyses of present and future climate risks to the project and environment according to future scenario from a known baseline and the response measures to address these climate risks.

<sup>b</sup> Will include (i) summary of assessed risks, (ii) prioritization and cost-benefit analyses of adaptation options; (iii) Selected adaptation option; (iv) Institutional arrangements; (v) organizational requirements; (vi) identification of supporting policies in the PDMCs; and, (viii) Monitoring and evaluation mechanisms

<sup>c</sup> Initially, compliance for adaptation mainstreaming may prove to be difficult. Unlike the EIA system, the adaptation mainstreaming has no compliance framework. This should be emphasized as a current gap in ADB policy area.

## FORMAT FOR A COUNTRY STRATEGY AND PROGRAM CLIMATE PROFILE <sup>1</sup>

### A. Introduction

This section will outline the purpose of the document, the scope of the climate profiling, a brief description of any special techniques or methods used in the profiling activity, the sources of key information, and other relevant general information.

### B. Country Situation – General Information (up to 3 pages)

#### 1. Background

Give a brief description of the country (e.g., location, topography, geographical situation, natural features, etc.).

#### 2. Statistics

Table A2.1 Country Statistics<sup>2</sup>

Land Area (km <sup>2</sup> )	
Total Population	
GDP (US\$ millions)	
GDP per capita (US\$)	
GDP Annual Real Growth Rates (%)	
Projected Annual Growth Rate (%)	
Population Density (people/km <sup>2</sup> )	
Projected Annual Population Growth Rate (%)	
Projected Population Doubling/Time (in years)	
Population with Access to Safe Water (%)	
Population with Access to Sanitation (%)	
Freshwater Sources	
Actual Energy Sources	
Economy	
- Imports	
- Exports	

### C. Description of Country's Vulnerabilities

#### 3. Economic and Political Vulnerability <sup>3</sup>(up to 6 pages)

##### a. ADB Country Strategy

Based on Section I of the CSPU

##### b. Recent Political and Social Developments

Based upon Section II A and B of the CSPU

<sup>1</sup> The climate profile is based primarily upon information, analyses, and data found in a CSPU. V&A studies, risk assessments, and other climate variability information for the country will also be used in the Climate Profile.

<sup>2</sup> The statistics are found in existing CSPU and their tables.

<sup>3</sup> The vulnerability outline is based upon any significant change between the existing CSPU and the new draft CSPU, and is in the context of potentially increasing or decreasing country climate sensitivity.

### **c. Economic Assessment and Outlook**

Based upon Section II C of the CSPU and upon Country Economic Indicators found in CSPU tables

#### **4. Social Vulnerability** (up to 3 pages)

Based upon Progress on Millennium Development Goal and targets, as well as Country Poverty and Social Indicators found in the CSPU tables

#### **5. Environmental Vulnerability** (up to 3 pages)

Based upon Environment Indicators found in the CSPU tables and environment information found under Section III of the CSPU

### **D. Climate-related disasters or extreme events<sup>4</sup>** (up to 3 pages)

6. What recent climate-related disasters or extreme events have affected the social, economic, and environmental systems of the country? Quantification in terms of damage may be available from country or other resource material.

### **E. Climate Sensitivity Analysis**

**7. Climate Sensitivity of the TA pipeline in CSPU<sup>5</sup>** A preliminary step in determining whether or not a project in the TA pipeline will be subjected to a climate risk and adaptation assessment is to identify the general climate sensitivity of the project. Such sensitivity may not be immediately apparent, particularly if the feasibility of a project does not appear to be directly dependent on weather or climate conditions. For example, a project may not appear to be directly sensitive to weather or climate, but it may be located in an unsuitable location and so be indirectly sensitive to climate/weather variables. A project may be directly affected by weather and climate (e.g. it is sensitive to heavy rainfall or flooding) or a project's sensitivity to weather and climate may also increase over time (the project's lifetime) as a result of climate change.

8. Determining project sensitivity to weather and climate includes: (i) identification of project components which are sensitive to current climate conditions and therefore likely to be affected by climate change; (ii) consideration of the consequences of climate/weather-induced impacts on the project (e.g. storm resulting in the escape of cultured fish from aquaculture operations or the release of hazardous materials from containment).

9. The initial sensitivity analysis table (Table A2.2 below) is to be completed for each project in the TA pipeline.

<sup>4</sup> This is a statement on any significant climate-related events that has occurred in the country (e.g. cyclone, flood, drought, storm surge, etc., which have not been reported yet in the present Climate Profile and which caused social, environmental and/or economic disruption. Information is available for example in the Pacific Studies Series, or in specific studies such as the World Bank, *Cities, Seas, and Storms – Adapting to Climate Change*, 2000.

<sup>5</sup> Sensitivity is based upon overall country vulnerability to natural disasters that have taken place previously, and to which potentially will be repeated.

**Table A2.2: Climate Sensitivity Analysis Matrix**

Project Title:			Remarks
I. Identify the key current weather and climate parameters that will directly or indirectly affect the critical project components. Examine the extent to which the critical project components <sup>1</sup> are sensitive to changes in the key weather and climate parameters.			
	<b>Estimated sensitivity analysis</b> (Tick off appropriate column)		
<b>Potential parameters</b>	<b>There is No sensitivity<sup>a</sup></b>	<b>Yes, there is sensitivity<sup>b</sup></b>	
1. Temperature			
2. Rainfall			
3. Evaporation			
4. Cloud cover,			
5. Wind Speed/Wind Gusts			
6. Droughts			
7. Severe Weather (storm)			
8. Others (specify):			
II. Determine if there are any major projected <sup>2</sup> climatic changes that could impact on the project.			
	<b>Estimated sensitivity analysis</b> (Tick off appropriate column)		Remarks
<b>Projected climatic changes / Potential impacts on Project</b>	<b>There is No sensitivity<sup>a</sup></b>	<b>Yes, there is sensitivity<sup>b</sup></b>	
Changes in temperature: Examples:			
1. Higher maximum temperatures, more hot days and heat waves over nearly all land areas.			
2. Shift in tourist destinations			
3. Increased risk of damage to a number of crops/decreased crop yields			
4. increased electric cooling demand and reduced energy supply reliability			
5. Increased summer drying and associated risk of drought can led to <ul style="list-style-type: none"> <li>increased damage to building foundations caused by ground shrinkage</li> <li>decreased water resource quantity and quality</li> </ul>			
6. Increased risk of forest fire			
7. Changes in rainfall (e.g. Increase in observed peak and flood flows that could			

<sup>1</sup> Could be any of the project processes, designs, facilities, infrastructure or resources.

<sup>2</sup> Available information on projected climatic changes for the region of the project may be obtained from: (i) regional climate change studies; (ii) IPCC scenarios, and; (iii) Global Climate Model (GCM) output closest to the project in space and time.



affect project infrastructure			
8. Increase soil erosion affecting project infrastructure/facilities			
9. Intensified drought associated with El Niño events <ul style="list-style-type: none"> <li>• Degradation of watershed areas such that there is a loss of downstream beneficial uses to the project;</li> <li>• Decreased stream flow and elevated water temperatures will cause changes in hydroelectric regime potentially affecting viability of operations and fisheries.</li> </ul>			
10. Evaporation <ul style="list-style-type: none"> <li>• Water supply and water quality affect water-based recreation</li> <li>• Permanent containment of tailing ponds requiring adequate supply as affected by extremes in rainfall)</li> </ul>			
11. Changes in cloud cover, sunshine duration <ul style="list-style-type: none"> <li>• Could affect design and operations of project such as a project proposed to run using solar panels)</li> </ul>			
12. Changes in wind speed/wind gusts <ul style="list-style-type: none"> <li>• Could affect design and operations of project such as project proposed to use wind turbines</li> </ul>			
13. Increased intensity of storms. (e.g., increased risk to human life and health; increased property and infrastructure losses			
14. Storm surges (e.g., could affect design and operations of project such as coastal infrastructure)			
15. Sea level <ul style="list-style-type: none"> <li>• Reduction of quantity or degradation of quality of water necessary to operate the project</li> <li>• Could make project out of operations or unserviceable</li> <li>• Integrity of bridge or port structure over design life of project due to inundation of low-lying areas near the structure</li> </ul>			

<sup>a</sup> No sensitivity - minimal impacts on the project

<sup>b</sup> There is sensitivity: - a particular change in the parameter would require mitigative measures or depends on the weather or climate element

## F. Key Recommendations (up to 5 pages)

8. The recommendations resulting from the climate profile form two key sets of outputs.

- i. Statements in paragraph form of general country climate sensitivity<sup>1</sup>. The statements will be consistent with each of the Section Headings of the Climate Profile
- ii. A listing of projects from the TA pipeline each of which has been analyzed through the Climate Sensitivity Analyses Matrix (Table A2.2), and identify initial climate sensitivity. The table below can be used to summarize the initial sensitivity, and recommended actions for further detailed climate analysis.

**Table A2.3: List of Projects Classified According to Climate Sensitivity**

<b>Projects identified with <u>no</u> climate sensitivity</b>	<b>Projects identified <u>with</u> climate sensitivity</b>	<b>Recommended Action</b>
(name of TA) listed	(name of TA) listed	
Example: TAx, Finance and Governance Reform		No further action needed
	Example: TAx, New Roading Proposal around Muri Lagoon	Recommend that a Project Adaptation Brief is undertaken

## G. Sample Terms of Reference for a Climate Specialist Undertaking a Climate Profile

### 1. Background

A Climate Specialist is required for the development and preparation of a Country Strategy and Program Climate Profile (CSP-CP). The Climate Profile is a tool used by the Pacific Department in ADB for helping mainstream climate adaptation into country strategy and programming processes (CSP/CSPU). The objective of undertaking a Climate Profile is to ensure that climate change and variability risks are considered when formulating CSP/CSPU within the Pacific Department.

### 2. Scope of Work

The Climate Profile provides information and analyses as a basis for consultations among Pacific Department Staff during CSP/CSPU preparations. The Climate Profile also provides a preliminary climate sensitivity classification of the project pipeline within a CSP/CSPU, as a basis for facilitating adaptation assessment and implementation at the project level.

<sup>1</sup> A narrative of sensitivity based upon judgments on the previous sections, i.e., statements in paragraph form on the political, economic, social and environment sectors of a country **in the context of natural disasters and climate impact**.

### 3. Outputs

The key output from undertaking a Climate Profile is a country level assessment of initial climate risk and sensitivity, the results of which will be used as input and contribution to CSP/CSPU development. Additionally, the Climate Profile will also list a preliminary climate sensitivity classification of the project pipeline in a CSP/CSPU as input and linkage to PPTA preparations.

### 4. Terms of Reference

A sample of key activities by a Climate Specialist would be:

- i. Prepare a draft Country Strategy and Program Climate Profile using the Climate Profile template as guidance, and utilizing information and analyses from the existing CSP/CSPU, as well as other supporting relevant country climate and other environmental information
- ii. Within the Climate Profile prepare a climate sensitivity analysis matrix, guided by the CP template, of climate sensitive projects highlighted in the existing CSP/CSPU
- iii. As a result of undertaking a Climate Profile, evaluate the information and prepare statements (in paragraph form) of general climate sensitivity, as well as recommending (through a listing) those projects in the CSP/CSPU pipeline having climate risk potential.
- iv. Undertake consultations with Pacific Department staff on the results of the Climate Profile in order to facilitate an enhanced preparation of the new CSP/CSPU

### 5. Time Frame

Outline a time frame for the following:

- i. Time required for a Climate Specialist to undertake the preparation of a Climate Profile (up to 7 days)
- ii. Time required by a Climate Specialist to undertake consultations over Climate Profile results and outcomes (up to 3 days)

### 6. Qualifications

- i. The Climate Specialist should have a good knowledge of climate risk, and climate adaptation, as well as good knowledge of ADB CSP/CSPU processes and procedures

## **APPENDIX 3 - Format for a Project Adaptation Brief** (up to 10 pages max)

### **A. Introduction**

This section will include the purpose of the document, the relationship with the Country Strategy and Program Climate Profile (CSP-CP) and description of any special techniques or methods used in the project adaptation brief, and other relevant information.

### **B. Description of the Project**

This section will include the type of and need for project, location, size or magnitude or operation and proposed schedule for implementation. (Requires the project concept paper and other relevant information that describes the project situation, project conditions)

### **C. Description of the Project sensitivity to climate as well as level of current climate risks**

This section will include project sensitivity to current climate conditions and projected changes (summarized from Table A2.2 in the Climate Profile)

#### **1. Analyses and Evaluation of Risks with respect to current<sup>2</sup> climate risks experience.**

In the Climate Profile, a list of climate variables where the project is sensitive to is given. Further climate risk analyses will be done based on the specific project details (such as design, location and project environment) and other relevant information listed below.

**Table A3.1: Risk Level Matrix**

Hazards <sup>a</sup>	Description of Possible Damages	Probability or Likelihood of Occurrence <sup>b</sup>	Consequences <sup>c</sup>	Risk Level <sup>d</sup>

<sup>a</sup> Hazards are those threats resulting from specific climate variables that the project is sensitive to. For example, precipitation may produce flooding in the project area, or landslide or severe soil erosion that may affect project structure, process or design

<sup>b</sup> Probability or likelihood of occurrence, in qualitative terms, such as unlikely, probable and highly likely – based on some indicators such as frequency of historical occurrences.

<sup>c</sup> Consequences refers to the severity of impacts expressed in terms of low, medium and high.

<sup>d</sup> A combination of the likelihood and consequence could be a basis of the risk level (e.g., an unlikely event with low impact will be classified as low risk level; a highly likely event with high impact is classified as high risk. See an accompanying Technical Support Kit on Risk Analysis for further details).

<sup>2</sup> The term currently refers to short term climate (e.g. within 5 to 10 years) and long term

## D. Recommendations

This section outlines whether high or significant climate risks are evident and will need further detailed study as part of the project preparatory technical assistance preparations.

Level of Risk	Recommended Actions
High Risk	<ul style="list-style-type: none"> <li>• Draft TORs for required experts (to be led by a Climate Specialist) developed for the undertaking of a Project Adaptation Assessment as part of the PPTA activities;</li> <li>• Recommended specific activities to reduce level of current climate risk;</li> <li>• An initial list of adaptation strategies to address the climate risks</li> <li>• A list of references and resources available to assist in the project adaptation assessment</li> <li>• Final report</li> </ul>
Low Risk	Need for only a brief narrative (such as the project adaptation brief without any TOR's)

## E. Sample Terms of Reference for a Climate Specialist Undertaking a Project Adaptation Brief

### 1. Background

A Climate Specialist is required for the development and preparation of a Project Adaptation Brief (PAB). The PAB is a tool used by the Pacific Department in ADB for helping mainstream climate adaptation into project preparatory and technical assistance (PPTA) processes. The objective for undertaking a PAB is to ensure that climate change and variability risks are taken into account when preparing a project within the Pacific Department.

### 2. Scope of Work

The PAB provides climate risk information and analyses as a basis for determining the level of climate risk assessment which may be required during project preparation and feasibility (PPTA) phases in the Pacific Department. The PAB also identifies those projects which do not need to undergo further detailed climate risk analysis. The basis for undertaking a PAB is the Country Strategy and Program Climate Profile preliminary list of climate sensitive projects, identified from the CSP/CSPU TA pipeline and other project concept papers.

### 3. Outputs

The key output from undertaking a PAB is a project level assessment of climate risk, and identification of whether further detailed climate risk assessment is required. If a detailed climate risk assessment is required then PAB outputs will highlight a draft Terms of Reference recommended for implementation as part of the PPTA processing of the project, and any other

actions which may be required in this context. Additionally if a project is identified that does not have a high climate risk, then the PAB itself will be provided as input into the PPTA processing.

#### **4. Terms of Reference**

A sample of key activities by a Climate Specialist would be:

- ii. Prepare a draft Project Adaptation Brief (PAB) based upon the list of climate sensitive projects from the Country Strategy and Program Climate Profile or other project concepts. The PAB will be prepared using the template provided and will be no longer than 10 pages long.
- iii. Within the PAB prepare a climate risk analysis matrix, guided by the PAB template, the results of which will identify whether a high or low climate risk is assigned to the project.
- iv. If a high risk is identified then as a result of undertaking PAB draft terms of references will be prepared outlining the requirements for a detailed project adaptation assessment. The assessment will be carried out as part of the existing PPTA and feasibility process. Other actions may also be recommended in addition to the Assessment in order to effectively address and minimize the climate risks.
- v. If a low risk is identified during PAB, then no further additional actions may be required, and the PAB itself serves as an output narrative.

#### **5. Time Frame**

Outline a time frame for the time required for a Climate Specialist to undertake the preparation of a PAB (up to 10 days)

#### **6. Qualifications**

The Climate Specialist should have a good knowledge of climate risk, and climate adaptation, as well as good knowledge of ADB CSP/CSPU and PPTA processes and procedures

### **F. Sample Terms of Reference for a Climate Specialist Undertaking a Project Adaptation Assessment**

#### **1. Background**

Outline the project preparation proposal, general situation, and specific site/location situation. Describe the parameters and requirements of the feasibility, as well as other project preparation details.

#### **2. Scope of Work**

Detail the scope of work the TOR will cover and how the Climate Specialist will be part of an integrated team within the PPTA. Care should be given to ensure that the tasks undertaken by a climate specialist and those possibly by an environment specialist, although similar, are not

the same. Outline the coordination needs for the feasibility and how and where the project adaptation assessment will be undertaken, by whom, and time and other resource requirements. The TOR will require climate information and data, as well as use current IPCC Scenarios and if applicable or available regional scenarios.

### 3. Outputs

Detail the outputs required from the undertaking of the PAA and how these form input into the final TA report

### 4. Terms of Reference

A sample of key activities by a Climate Specialist would be:

- i. Coordinate with other team members the undertaking of a project adaptation assessment through a risk based approach. Since the team is expected to be multi-disciplinary, the Climate Specialist must ensure that there is an agreement in the definition of terms to avoid confusion<sup>3</sup>.
  - ii. Establish baseline information/data on the project / sector/ program<sup>4</sup>.
  - iii. Carry out a project risk and adaptation assessment to current climate conditions on the following key areas
    - a. the biophysical characteristics of the project
    - b. the economic characteristics of the project
    - c. the social and cultural characteristics of the project
  - iv. Evaluate and synthesize current measures and policies in place to address current climate risks
5. Assess and evaluate the resultant, and future, climate risks, using future climate, socio-economic and technological scenarios.
6. During the adaptation assessment component of the PAA:
- i. Propose adaptation measures including related policies / instruments for their implementation.
  - ii. Prioritize the measures after undertaking socio-economic evaluation, including outlining any precautionary measures required during the project life time
  - iii. Recommend adaptation measures which reflect least cost, least impact, and greatest overall benefit in the context of biophysical, social and cultural, and economic sectors

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<sup>3</sup> For example, mitigation to a climate change person would mean greenhouse gas emissions reduction or avoidance. To a disaster manager or EIA specialist, mitigation means doing something to lessen the impacts or effects of a hazards or a project component. To a risk specialist, mitigation would be called risk treatment instead.

<sup>4</sup> This activity could be coordinated with the project feasibility study team's or EIA team's baseline gathering.

7. Prepare a Report which outlines PAA activities and findings, prioritized adaptation measures and recommended instruments, policies or actions for their implementation.
8. In coordination with the Team Leader and team members contribute the results and recommendations as part of the Final TA Report.

## **5. Time Frame**

Outline a time frame for the following:

- i. Time required for a Climate Specialist to undertake the coordination, the PAA, and the Report
- ii. Time required by various team members to undertake the PAA, such as an economist, a design engineer, an educationalist, etc
- iii. Time need to undertake the PAA and its components

## **6. Qualifications**

- i. Detail the type of expertise and qualifications required for a Climate Specialist to coordinate and undertake a PAA, including the Report.
- ii. Detail the types of expertise required for undertaking a PAA according to the type of PPTA proposed. Assign the role and time needed for the expert to perform the role during the PAA.



## **G. Sample Format for a Project Adaptation Assessment Report**

### **1. Introduction (2 pages)**

This section will include the purpose of the report, extent of the risk and adaptation assessment and brief description of any special techniques or methods used.

### **2. Description of the Project (up to 3 pages)**

This section will include the type of and need for project, location, size or magnitude or operation and proposed schedule for implementation.

### **3. Description of the CCV risks and other environmental impacts that will be enhanced due to CCV risks to the project and potential adaptation measures to reduce the risks (up to 10 pages)**

This section will include the bio-physical, ecological and socio-economic impacts of CCV risks to the project and environment and the appropriate adaptation measures to address the identified risks. A brief description of methodology to arrive at the prioritized adaptation measures will also be included.

### **4. Institutional Requirement and Monitoring Program (up to 10 pages)**

This section will describe the institutional capability (both hardware and software needs) for monitoring or surveillance program and submission of progress reports.

### **5. Findings and Recommendations (up to 10 pages)**

This section will include an evaluation of the screening process and recommendation will be provided whether significant CCV impacts exists needing further detailed study. If there is no need for further study, the PAR itself becomes final. In some instances, the report may need to be supplemented by a special study in view of some small significant impacts,

If further additional study is needed, then this section will include a brief terms of reference (TOR) for the needed follow-up adaptation assessment, including approximate descriptions of work tasks, professional skills required, time required, and estimated costs. The preparation of TOR follows the ADB's *Guidelines for the Recruitment of Consultants*.

### **6. Conclusions (5 pages)**

This section will briefly summarize the results of the V&A and other special studies, institutional and monitoring programs to assess / validate the effectiveness of the mainstreaming process, and the effect of the adaptation measures to the Project's performance.



## A BRIEF HISTORY OF THE UNFCCC AND THE KYOTO PROTOCOL

1. Climate change is considered one of the most serious threats to the global environment, with negative impacts expected on human health, food security, economic activity, water and other natural resources, and physical infrastructure. Global climate varies naturally, but scientists agree that rising concentrations of anthropogenically emitted greenhouse gases in the Earth's atmosphere are leading to a change in the climate. According to the Intergovernmental Panel on Climate Change (IPCC), the effects of climate change have already been observed, and a majority of scientists believe that precautionary and prompt action is necessary. The international political response to climate change began with the adoption of the UNFCCC in 1992. The UNFCCC sets out a framework for action aimed at stabilizing atmospheric concentrations of greenhouse gases to avoid "dangerous interference" with the climate system. Controlled gases include methane, nitrous oxide, and, in particular, carbon dioxide. The UNFCCC entered into force on 21 March 1994. It now has 188 Parties. The annual meetings of the Convention Parties called the Conference of the Parties (COP), is divided between two Subsidiary Groups, one a scientific and technical advisory group, the Subsidiary Body for Scientific and Technical Advice (SBSTA), the other, a policy and convention implementation group, the Subsidiary Body on Implementation (SBI).

**2. THE KYOTO PROTOCOL:** In 1995, the first meeting of the Conference of the Parties (COP-1) established the *Ad Hoc* Group on the Berlin Mandate, and charged it with reaching agreement on strengthening efforts to combat climate change. Following intense negotiations culminating at COP-3 in Kyoto, Japan, in December 1997, delegates agreed to a Protocol to the UNFCCC that commits developed countries and countries making the transition to a market economy (EITs) to achieve quantified emission reduction targets. These countries, known under the UNFCCC as Annex I Parties, agreed to reduce their overall emissions of six greenhouse gases by at least 5% below 1990 levels between 2008 and 2012 (the first commitment period), with specific targets varying from country to country. The Protocol also established three mechanisms to assist Annex I Parties in meeting their national targets cost-effectively – an emissions trading system, joint implementation (JI) of emissions-reduction projects between Annex I Parties, and a Clean Development Mechanism (CDM) that encourages projects in non-Annex I (developing country) Parties. At subsequent meetings, Parties negotiated most of the rules and operational details determining how countries will cut emissions and measure and assess emissions reductions. To enter into force, the Protocol must be ratified by 55 Parties to the UNFCCC, and by Annex I Parties representing at least 55% of the total carbon dioxide emissions for 1990. To date, 109 Parties have ratified the Protocol, including 31 Annex I Parties, representing 43.9% of the emissions.

**3. THE BUENOS AIRES PLAN OF ACTION:** In November 1998, Parties met at COP-4 in Buenos Aires, Argentina, and agreed a decision known as the Buenos Aires Plan of Action (BAPA). The BAPA set COP-6 as the deadline for reaching agreement on the operational details of the Protocol and on strengthening implementation of the UNFCCC. Issues to be addressed include rules relating to the mechanisms, a regime for assessing Parties' compliance, accounting methods for national emissions and emissions reductions, and rules on crediting countries for carbon sinks. Issues under the UNFCCC requiring resolution included questions of capacity building, the development and transfer of technology, and assistance to those developing countries particularly vulnerable to the adverse effects of climate change or to actions taken by industrialized countries to combat climate change.

**4. COP-6 PART I:** COP-6 and the resumed SB-13 were held in The Hague, the Netherlands, in November 2000. Positions on the key issues remained entrenched, with little indication of willingness to compromise. During the second week of negotiations, COP-6 President Jan Pronk (the Netherlands) attempted to facilitate negotiations on the many disputed political and technical issues by convening high-level informal plenary sessions. After almost 36 hours of intense talks in the final two days of COP-6, negotiators could not agree on a range of issues, particularly financial issues, complementarity in the use of the mechanisms, compliance and land use, land-use change and forestry (LULUCF). On Saturday afternoon, 25 November, President Pronk announced that delegates had failed to reach agreement. Delegates agreed to suspend COP-6 and resume negotiations in 2001.

**5. COP-6 PART II:** In March 2001, the US administration repudiated the Protocol, stating that it considered the Protocol to be "fatally flawed," as it would damage its economy and exempt developing countries from emission reduction targets. Parties reconvened at COP-6 Part II and SB-14, in July 2001, in Bonn, Germany. After protracted consultations, President Pronk presented his proposal for a draft political decision. Despite support from several Parties, disagreements surfaced over the nature of the compliance regime. After several days of consultations, ministers agreed to adopt President Pronk's political decision, with a revised section on compliance on 25 July 2001. The political decision – or "Bonn Agreements" – needed to be operationalized through COP decisions. These decisions were considered a "package," and since no agreement was reached on the mechanisms, compliance and LULUCF, all draft decisions were forwarded to COP-7.

**6. COP-7:** Delegates continued discussions on the Bonn Agreements at COP-7 and SB-15 in Marrakesh, Morocco, from 29 October to 10 November 2001. After lengthy negotiations, a package deal on LULUCF, mechanisms, Protocol Articles 5 (methodological issues), 7 (communication of information) and 8 (review of information), and input to the World Summit on Sustainable Development (WSSD) was proposed on 8 November. Although the deal was accepted by most regional groups, some Annex I Parties, including Australia, Canada, Japan, New Zealand, and the Russian Federation, did not join the consensus. They disputed, among other things, eligibility requirements and credit banking under the mechanisms. However, following extensive negotiations, the "Marrakesh Accords" were agreed, with key features including consideration of LULUCF Principles and limited banking of units generated by sinks under the CDM.

**7. SB-16:** Parties met at SB-16 in Bonn from 5-14 June 2002. Participants considered several issues previously left off the agenda due to the pressing BAPA negotiations. Views on the direction of the climate process differed, with some Parties looking back to recent debates and others looking ahead toward the next commitment period. Many hoped the Protocol could enter into force by the WSSD in August 2002. The EU and Japan announced their Protocol ratifications just prior to the WSSD.

**8. COP-8:** Delegates to COP-8 and SB-17 met from 23 October to 1 November 2002, in New Delhi, India. On the final day of COP-8, they adopted the *Delhi Declaration on Climate Change and Sustainable Development*. The Declaration reaffirms development and poverty eradication as overriding priorities in developing countries, and recognizes Parties' common but differentiated responsibilities and national development priorities and circumstances in the implementation of UNFCCC commitments. Parties at COP-8 considered institutional and procedural issues under the Protocol and adopted several decisions, including on the rules and procedures for the CDM.