

Part One

Introduction

Chapter 1

The Projects and Their Financing

1. This Report addresses questions concerning three IDA-financed projects in Uganda: namely, (1) the Power III Project, otherwise known as the Owen Falls Extension; the Supplemental Loan to the Power III Project; (2) the Power IV Project, which finances power generation Units 14 and 15, (the latter if economically viable); and (3) the Bujagali Hydropower Project.¹

1.1. The Power III Project (Owen Falls Extension)

2. In the mid-1980s, soon after IDA recommenced its involvement in Uganda, a severe deterioration of power infrastructure was identified as a serious obstacle to the revival of the commodity-producing sectors of the economy. In 1988, with IDA's assistance, the Government began work on the Power III Project. According to the Development Credit Agreement for the Project, its objectives were to: "*(a) assist the Borrower with the continued rehabilitation of the power system in Uganda; and (b) develop its hydroresources and expand the transmission and distribution system, to provide reliable, least-cost energy to Uganda's growing population.*"² The Project provided for: *a) "... dam strengthening, construction of a spillway, plant capacity expansion by at least 102MW, and civil works to accommodate a plant capacity of 170MW; b) rehabilitation and expansion of transmission and distribution on the national grid; and c) provision of technical assistance services mainly to the Uganda Electricity Board (UEB) and the Ministry of Energy.*"³ IDA provided a credit of SDR 86,900,000 (about US\$125 million) for this work. The projects included the installation of three units (11, 12 and 13) and provided capacity for two additional units in the future.

1.2. Supplemental Credit to the Power III Project

3. In January 2000, IDA provided a Supplemental Credit in the amount of SDR 24,000,000 (about US\$33 million) for the Power III Project (Credit 2268-UG). The objective of the Supplemental Credit was to finance project cost over-runs, and undertake urgent remedial works identified by a Panel of Experts to enhance the safety of the Owen Falls Dam. In addition, it provided technical assistance services related to the reform of UEB and the concessioning of distribution and generation assets.

¹ See Maps 1,2, 3 and 4 attached to this Report.

² Development Credit Agreement, January 9, 1992, p.11, Schedule 2.

³ Ibid.

4. Power generation Units 11 (40MW) and 12 (40MW), financed by IDA with co-financing from Sweden, Norway⁴, Islamic Development Bank (ISDB) and African Development Fund (ADF) were commissioned in July 2000. Currently, the Swedish International Development Agency (SIDA) and the Norwegian Agency for Development Cooperation (NORAD) are financing Unit 13 (40MW).

1.3. Power IV Project

5. In July 2001, the Executive Directors approved a Credit of SDR 48,000,000 (about US\$62 million) for the Power IV Project (Credit 3545-UG). The main objectives of this Project, according to the PAD, were to meet electricity demand through the provision of Units 14 (40 MW) and 15 (50MW) to be installed at the existing Owen Falls Extension, and to strengthen the Government's capacity to manage the power sector reform and privatization process.⁵ IDA agreed that Unit 14 was the next least-cost option for power generation in Uganda. IDA's disbursement for Unit 15, however, was contingent on future confirmation of its economic viability.

1.4. The Bujagali Hydropower Project

6. According to Management, the Bujagali Hydropower Project was identified by the Government of Uganda (GoU) in early 90s as an option to meet Uganda's medium to long-term power generation requirements. Its objective is *"to promote growth through developing least-cost power generation for domestic use in an environmentally sustainable and efficient manner."*⁶ It is the first major power sector investment in Uganda to be undertaken entirely by the private sector. Thus, it is expected *"to mobilize private capital and promote private sector ownership and management of the power sector and its reform."*⁷
7. A US firm, the AES Corporation (AES), sponsors the Project, which is expected to cost about US\$582 million. AES's main business is development, construction and operation of power plants. AES owns or has an interest in 128 power plants in 27 countries. At the end of 2000, AES had assets of US\$31 billion, with an annual turnover of US\$6.7 billion.⁸
8. The Bujagali Project will be implemented by AESNP, a special purpose company formed by AES and incorporated as a private limited liability company under the laws of Uganda, specifically to develop, finance, build and operate the Bujagali Hydropower Project on a Build-Own-Operate-Transfer (BOOT) basis. AESNP will sell electricity to the Uganda Electricity Transmission Company Limited (UETC), a transmission company fully owned by the GoU, under a 30-year Power Purchase Agreement (PPA). AES owns 94 percent of AESNP, and Madhvani International SA holds the remaining 6 percent of the shares. It is

⁴ Sweden financed the project through the Swedish Agency for International Technical and Economic Cooperation in collaboration with Swedish International Development Agency (SIDA). Norway – through Norwegian Agency for Development Cooperation (NORAD).

⁵ PAD for the Fourth Power Project, Report No: 22318-UG, June 8, 2001, p.7

⁶ PAD for the Bujagali Hydropower Project, Report No: 22963-UG, November 14, 2001, (The Bujagali PAD), Annex 1, p.1

⁷ Ibid.

⁸ Management Response, Executive Summary, p.viii, §5.

envisaged that AESNP's shareholders will provide about US\$ 115 million of equity for the Project.

9. The Bujagali Project consists of a small reservoir, a powerhouse, a rock fill dam, spillway, a 100-km transmission line, substations, and other associated works.⁹ The powerhouse will be constructed to house five 50MW Kaplan turbine-generator units. Under the Bujagali Project, AESNP will install four generating units. UETC has the option to seek installation of the fifth 50MW unit. However, its installation will be subject to prior approval of the lenders and IDA. The dam at Bujagali will be an asphalt core rockfill dam with a net crest length of about 700 meters and a maximum height of about 30 meters. In addition, the Project includes the construction of about 100-km of the associated transmission lines, and construction of substations at Bujagali and Kawanda, as well as the extension of the substation at Mutundwe. The transmission system would be handed over to UETC for operation and maintenance.
10. AES asked IFC to provide direct financing and to arrange further private sector financing for it. In August 1997, the Government of Uganda requested an IDA Partial Risk Guarantee (PRG) to support a private sector hydropower project in Uganda and, in February and June 1999, it reaffirmed this request for the Bujagali Hydropower Project.
11. Because of the lack of access by Uganda to the international loan and capital markets, this Project is highly dependent on financing by bilateral and multilateral lenders. At the same time, IDA's financial assistance is based on the principle of "lender of last resort" and, therefore, AESNP was urged to take advantage of other sources of financing the Project. Pursuant to the Bujagali PAD, the Project's financial arrangements presently are as follows:
 - The Project's private sponsor is the AES Corporation with an equity investment of US\$115 million;
 - The syndicated commercial bank loan is guaranteed by the IDA Partial Risk Guarantee (PRG) in the amount up to US\$115 million;
 - IFC provides an A-loan, (a loan issued by IFC directly from its own resources), of up to US\$60 million;
 - An IFC B-loan, (a syndicated loan, where participating banks provide their own funds and take their own commercial risk, while IFC remains the lender of record), may be up to US\$40 million. This amount is not included in the financing plan. The first US\$20 million of such an IFC B Loan will be used to reduce the IFC A Loan exposure down to a minimum of US\$40 million. The remainder of the IFC B Loan (i.e., up to US\$20 million) will be used to reduce the exposure of the other lenders in a manner yet to be determined.
 - The African Development Bank (ADB) will provide a loan in the amount of US\$55 million.

⁹ See Maps 1 and 3.

- The Project is expected to receive export credits in the amount of US\$234 million from the export credit agencies of Norway (GIEK), Finland (Finnvera), and Switzerland (ERG). The Swedish export credit agency, EKN, was expected to contribute financing in an amount equivalent to US\$ 100 million, but it has withdrawn its support of the Project.
- An IFC risk management instrument may be provided to AESNP upon its request in the amount up to US\$10 million.
- An IDA PRG (up to US\$115 million) would provide coverage for debt service default if the GoU were to breach its contractual obligations under the Implementation and/or Government Guarantee agreements entered between the GoU and AESNP.
- The Government of Uganda has 16 years in which to repay any amounts disbursed under IDA PRG and IFA A and B loans.
- As noted above, the Project is expected to cost about US\$582 million.
- Apparently some of the financial arrangements described above have so far failed to materialize and the Inspection Panel understands that the World Bank Group's Multilateral Investment Guarantee Agency (MIGA) has received a definitive application for guarantee for the Bujagali Project.

12. The Bujagali Project was appraised on November 14, 2001, and the Board of the Executive Directors of the World Bank approved the IDA PRG on December 18, 2001.

Chapter 2

Inspection Panel Asked to Conduct Investigation

2.1. The Request for Inspection

13. On July 27, 2001, the Inspection Panel (the Panel) received a Request for Inspection (the Request) dated July 25, 2001 related to the Power III Project, the Power IV Project, and the Bujagali Hydropower Project (the Projects). On August 7, 2001, the Panel notified the Executive Directors and the President of the International Development Association (IDA) of receipt of the Request (meaning “Registration” under the Panel’s *Operating Procedures*).¹⁰
14. The Request was submitted by the National Association of Professional Environmentalists of Kampala (NAPE), Uganda Save Bujagali Crusade (SBC) and other local institutions and individuals (the Requesters). The Requesters claimed that failures and omissions of IDA in the design, appraisal, and implementation of the Projects have materially affected their rights and interests and were likely to jeopardize their future social, cultural, and environmental security.
15. The Requesters alleged that the Power III Project (Owen Falls Extension) and the construction of the Bujagali Hydropower Project have resulted, or may result, in social, economic and environmental harm to the local population.
16. The Requesters also claimed they have been harmed or were likely to be harmed as a result of failure to undertake an Environmental Assessment (EA) of the Power III Project; the lack of a cumulative environmental assessment related to the dams already built, under construction and in the final stages of design; inadequate involuntary resettlement (including compensation arrangements); inadequate consultation, participation and disclosure of information; and lack of economic and technical analysis, including lack of alternative economic analysis, especially in the case of the Power III Project.
17. The Requesters had specific concerns regarding the adequacy of the environmental assessment of the Power III Project, the lack of a post-construction Environmental Impact Assessment (EIA) for Owen Falls Dam and thus, an inadequate assessment of cumulative effects of the projects financed and to be financed by IDA.
18. The Request claimed that IDA did not conduct an adequate economic, financial, institutional and environmental appraisal of the Power III Project, and that mistakes in the design of the Project resulted in only 100MW being installed instead of 200MW, thus hastening the proposal to build the Bujagali Hydropower Project.

¹⁰ See The Inspection Panel, *Operating Procedures*, August 1994, ¶ 17.

19. The Requesters alleged that resettlement activity for the, at that time proposed, Bujagali Hydropower Project had commenced without IDA's supervision or involvement, and in the absence of a resettlement plan approved by IDA.
20. The Request also questioned the economic and technical analysis, including the alternative economic analysis, of the Bujagali Hydropower Project and contended that the Project is not the least-cost option for generating power in Uganda. It also considered that the Bujagali Hydropower Project would have significant negative cumulative impacts on the environment and on fisheries and tourism. Noting that tourism is Uganda's second largest foreign exchange earner after coffee, the Request claimed that construction of Bujagali dam "*will inundate the falls, which is a major tourist attraction; the camp sites on the banks of the river, and eliminate substantial revenues that accrue from tourism activities like White Water Rafting along the Nile*"; adding that "*we know that this loss has been underestimated in the Bujagali EIA.*"¹¹ In addition, the Requesters claimed that the proposed dam could threaten a rare fish.
21. The Requesters contended that the Bujagali Hydropower Project was the cause of the newly raised, and proposed increases in, electricity tariffs to levels that cannot be afforded by the citizens of Uganda, thereby causing further economic harm. The Request considered that "*the project's cost implications need to be made public, and independently reviewed. Without such steps, we feel the Bujagali Dam could lead to serious harm to all Ugandans, as we believe costs of power will rise steeply.... thus slowing economic growth for the country as a whole.*"¹² Without the information on the economic assumptions underlying the Bujagali Project, "*citizens are unable to fully assess the project's impacts on our economy, our electricity tariffs and our overall energy future.*"¹³
22. The Requesters also claimed that there has been a lack of disclosure of information and consultation regarding the project and state that the PPA pertaining to the Bujagali Hydropower Project, as well as its economic analysis, have not been released to the public.
23. The Requesters stated that they have tried but failed to clarify and resolve their concerns with Bank officials.
24. Finally, according to the Request, "*a claim with the Compliance Advisor Ombudsman (CAO) of IFC*"¹⁴ was filed with respect to IFC's participation in the Bujagali Project, and that the claim was still under investigation at the time the Request was submitted to the Panel.
25. In its Notice of Registration, the Panel noted that the Requesters claims could constitute violations of, inter alia, the following Bank Policies and Procedures:

OD/OP/BP 4.01 on Environmental Assessment¹⁵
 OP/BP 4.04 on Natural Habitats

¹¹ Request, p.4.

¹² Id, p.3.

¹³ Id, p.4.

¹⁴ Id, p.5.

¹⁵ and/or OMS 2.36 as indicated in the Response.

OD 4.15 on Poverty Reduction
 OD 4.20 on Indigenous Peoples
 OD 4.30 on Involuntary Resettlement
 OP 4.37 on the Safety of Dams
 OPN 11.03 on Management of Cultural Property in Bank-Financed Projects
 OP 10.04 on Economic Evaluation of Investment Operations
 OD 10.70 on Project Monitoring and Evaluation
 OD 13.05 on Project Supervision
 BP 17.50 on Disclosure of Operational Information

2.2. The Management Response

26. On September 13, 2001, the Panel received Management's Response to the Request for Inspection.
27. In its Response, Management stated that "*IDA has been involved in the power sector in Uganda for over 20 years through development of several projects, beginning with emergency repairs to the Owen Falls Dam in the early 1980,*"¹⁶ and it described in some detail IDA's involvement in the sector and, more specifically, its financing of the projects referred to in the Request.
28. Management noted that several current Bank policies and procedures were not applicable when the Power III Project was appraised in 1990. Concerning the Requesters' allegations regarding the inadequacy of environmental assessment of the Power III Project, the lack of a post-construction Environmental Impact Assessment (EIA) for Owen Falls Dam and, thus, an inadequate assessment of cumulative effects, Management believed "*that directives, policies and procedures prevailing at the time the Power III Project was prepared were adhered to.*"¹⁷ Management agreed, however, that "*no formal EIA process of the type contained in the 1989 OD 4.00 was conducted for the Power III Project.*"¹⁸ Further, "*because the 1988 IEPS for the Power III Project pre-dates by approximately a year and a half the October 15, 1989 date of OD 4.00's applicability,*" Management's considered that "*IDA met the requirements of OMS 2.36. This OMS did not require an EA. The analysis conducted for the Power III Project adhered to the principles (OMS 2.36, para. 9) of the Bank's guidelines to address environmental concerns.*"¹⁹
29. With regard to the appraisal of the Power III Project, Management's considered that "*the appraisal of the Power III Project was robust and conducted in compliance with the relevant guidelines and policies in effect at the time.*"²⁰ It claimed that Project benefits have been in line with appraisal estimates and that the Project will have 120MW installed by the end of 2002, with a projected total of 160MW installed by end 2003.

¹⁶ Management Response, p.5, ¶ 13.

¹⁷ Id, ¶ 13.

¹⁸ Management Response p.20 ¶ 58.

¹⁹ Id, ¶ 57.

²⁰ Management Response, Executive Summary, p. ix, ¶ 14.

30. Concerning the Bujagali Project, Management submitted that “adequate measures have been taken to follow IDA directives, policies and procedures,” and recognizes that “this process will need to be continued through Board presentation and supervision of the proposed Bujagali Hydropower Project.”²¹ It added that an EIA for the Bujagali Hydropower Project has been conducted by the Project’s private sector sponsor “in close consultation with IFC and IDA,” and that “independent analyses of cumulative effects were prepared and incorporated in the March 2001 EIA for the proposed Bujagali Hydropower Project.” It noted that the “seven volume EIA was disclosed in Uganda and deposited in the InfoShop on April 30, 2001.”²²
31. Contrary to the Requesters’ allegations, Management claimed that it “has ascertained that both IFC and IDA staff have reviewed the Resettlement and Community Development Action Plan (RCDAP) prepared by the private project sponsor to ensure that it responds to the requirements of Operational Directive (OD) 4.30.” The RCDAP is available in the InfoShop and in Uganda, as part of the project’s seven volumes EIA. According to Management, the private project sponsor began the resettlement activity at the Bujagali site in April 2001, was well aware that it is being done at his own financial risk.
32. With regard to the technical and economic analysis of the Bujagali Project, Management claimed that its “review of the extensive analysis of Uganda’s least-cost power master plan” has confirmed the Government’s assessment that, when environmental and social impacts are factored into account, the Bujagali Hydropower Project is the next least-cost generation option for Uganda after the Owen Falls Extension. Management added that an “assessment of generation alternatives has identified three potential power projects – Bujagali, Kalagala, and Karuma – and has examined possible cumulative effects of their development.” A study undertaken by the Government of Uganda, and two independent studies commissioned by IFC, have concluded that, “the Bujagali site - and in the future the Karuma site - could be developed as hydropower projects, provided the Kalagala site was not developed for hydropower. An agreement has been reached among the Government, IFC and IDA to develop Kalagala for tourism and other purposes.” This issue is addressed in Section 5.6. of this Report.
33. As to the Projects’ impact on the fisheries and tourism industries, Management stated that studies commissioned by the Project sponsor “have determined that the fish species found in the project area are also found both upstream and downstream. Additional fish sampling has been undertaken to confirm the findings in the EIA.” Management agreed, however “with the statement that the construction of the proposed Bujagali Hydropower Project will inundate Bujagali Falls” and stated that “the March 2001 EIA (pp. 147-159) presents the analysis of the social, environmental and cost parameters that was undertaken to evaluate the potential for avoiding inundation of Bujagali Falls” and that it was “determined that there was no feasible configuration that would avoid inundation of Bujagali Falls.” Management added that the Project’s potential impacts on tourism have always been a concern but it noted that “an agreement is in place to develop a downstream site at Kalagala

²¹ Management Response, Executive Summary, p. ix, ¶ 12.

²² Ibid.

for purposes other than hydropower production, including tourism.”²³ This is discussed later in Section 5.6. on the Kalagala Offset.

34. Management denied any relation between the Bujagali Project and recent increases in electricity tariff rates. It stated that the “*May 2001 tariff increase was the first to be implemented in Uganda since 1993 and was made by the autonomous Ugandan Electricity Regulatory Authority (ERA).*” According to Management, “*a tariff increase was needed, independent of the proposed Bujagali Hydropower Project to ensure the financial viability of the power sector. The increase re-establishes a satisfactory financial basis for power sector operations, based on current cost structures, and will ensure that the power sector generates sufficient revenues to cover recurrent expenditures, debt service, working capital and investment needs.*” Management added that it “*would like to clarify that the Government put forward the Bujagali Dam project ahead of the Karuma Dam. This decision by the Government was based on the least-cost analysis of power expansion options, which determines from detailed calculations and simulations, the least-cost expansion plan for the power sector*” and that, contrary to what has been stated, two “*studies that support the conclusion that the Bujagali Hydropower plant is the least-cost generation alternative have been carried out and made publicly available.*”²⁴
35. With regards to disclosure of information and public consultation, Management claimed that consultations with affected people and stakeholders concerning the Bujagali Project began in 1997 and have continued to date, pursuant to the provisions of OP 4.01. Management also pointed out the results of the economic studies were not yet available for public discussion at the time the Request was submitted, since the results have yet to be discussed with the Government of Uganda for issuance to the public. It added that at a July 2001 Washington DC Forum (which also included Ugandan and international NGOs), “*IFC staff explained this situation to participants, made a presentation of the analytical process (objectives, approaches and key considerations), and made a commitment that the results of these analyses would be disclosed to the public well before consideration of the Project by the Board.*”²⁵ Management concluded that the “*Power Purchase Agreement (PPA) is an agreement between the Ugandan Government and the private project sponsor, and that should the concerned parties agree to disseminate it to the public, IDA would have no objection.*” Management also noted that “*the proposed Bujagali Hydropower Project has yet to be appraised and that when the economic analysis has been finalized, a summary will be made publicly available.*”²⁶

2.3. Eligibility of the Request

36. For purposes of determining the eligibility of the Request and the Requesters, the Panel reviewed the Request and Management’s Response. Panel Members Jim MacNeill (Leader) and Edward S. Ayensu²⁷ met IDA officials and consulted with the Executive Director

²³ Id, p. xi, ¶ 19.

²⁴ According to Management, both of these studies were made publicly available the meeting with local and international NGOs called “The June 2000 Washington, D.C. Forum.”

²⁵ Management Response, p.37, ¶ 114.

²⁶ Management Response, Executive Summary, p. xi, ¶ 20.

²⁷ The Panel members were assisted by the Panel’s Executive Secretary Mr. Eduardo Abbott.

representing Uganda and his staff in Washington prior to visiting Uganda. In Uganda they met with Government officials, some Members of Parliament and representatives of a number of NGOs, including NAPE, UWS, HURIPEC, CHEC, ECOVIC, and GREENWATCH, and academicians from the Makerere University. They visited the Owen Falls Dam and Extension, and the Bujagali Project areas, as well as the Kalagala Falls. During the field trip the Panel met with the Requesters, spiritual leaders, tourist operators and representatives of local institutions and individuals, including people from the Budondo resettlement area. They also met with officers of the UEB and AES/AESNP (the Project's private sponsor). The Panel's visit confirmed NAPE and SBC, as representative of people that claim that have or may be affected by the Projects.

37. On October 10, 2001, the Panel submitted its Report and Recommendation on the Request for Inspection to the Board of Executive Directors. The Panel concluded that the Request and the Requesters were eligible pursuant to the Resolution that established the Panel, and recommended an investigation of the matters alleged in the Request.

2.4. The Board's Decision

38. On October 26, 2001, the Board of Executive Directors authorized the Inspection Panel to conduct an investigation on the matters alleged in the Request. The Minutes of the Board Meeting state the following: *"The Executive Directors recorded their approval of the recommendation in paragraph 32 of the Report and Recommendation of the Inspection Panel entitled "Inspection Panel - Request for Inspection – Uganda: Third Power Project (Cr. 2268-UG) and the Proposed Bujagali Hydropower Project - Panel Report and Recommendation" (INSP/R2001-0005 dated October 17, 2001), namely, that the Inspection Panel would undertake an investigation into the matters alleged in the Request."*²⁸
39. In its Response, Management raised a question regarding the jurisdiction of the Panel in relation to PRG operations for private sector borrowers. Specifically, the Response states that *"IDA's involvement in the proposed Bujagali Hydropower Project would be through a PRG for a private sector project. This is the first IBRD/IDA operation of such a type to be referred to the Inspection Panel and it is not clear that the drafters of the resolution establishing the Panel intended it to have jurisdiction over private sector guarantee operations."* Management further noted that *"the applicability of the Inspection Panel Resolution to private sector operations is a matter for the Executive Directors, who have the power to interpret the Resolution in this regard."*²⁹
40. The Panel wishes to note that in July 1995 the Board approved Management's and the Panel's common understanding that the Panel has jurisdiction over all projects (broadly defined in the Bank practice), financed by the Bank and IDA regardless of the nature of the specific financial instrument used by such purposes, and that understanding was ratified in the 1996 Clarification of the Resolution.³⁰ Consistent with such understanding, the Panel has examined other operations aside from the traditional *"investment lending"* modality of the

²⁸ Minutes of the Board Meeting held on Dec.18, 2001

²⁹ Management Response, p.3, ¶ 7.

³⁰ 1996 Clarification of Certain Aspects of the Resolution, October 17, 1996.

Bank, such as structural adjustment and grant operations, without any objection from the Board. This approach appears to recognize the fact that, for potentially affected people, the choice and evolution of Bank instruments are not relevant, and that Bank (IDA/IBRD) financial involvement, in whatever form, is enough for the purposes of the Resolution.

41. Furthermore, OP 14.25 on Guarantees provides that “...any project benefiting from a Bank guarantee must comply with all applicable Bank policies, including those governing disclosure of information and the environmental, social, and international safeguards.”³¹
42. The Board’s decision to authorize an investigation in this case confirmed this long-standing understanding and the jurisdiction of the Panel over the IDA PRG in the Bujagali Project.

2.5. The Investigation Process

43. The three members of the Inspection Panel are: Edward S. Ayensu, Chairman,³² Jim MacNeill, Lead Inspector for this Investigation,³³ and Maartje van Putten.³⁴ Also, Professor

³¹ OP 14.25 on Guarantees.

³² **Edward S. Ayensu (Ph.D., London Univ., 1966)**, a Ghanaian national, appointed August 1998. He is President of the Pan-African Union for Science and Technology; Chairman of Edward S. Ayensu Associates Ltd.; Executive Chairman of Advanced Gracewell Communications Co. Ltd.; founding Chairman of the African Biosciences Network, and formerly the Secretary-General of the International Union of Biological Sciences; Chairman of the Ghana National Biodiversity Committee; member of the International Advisory Board on Global Scientific Communications, UNESCO; and member of the Board of Directors and International Vice-Chairman of the International Institute for Sustainable Development. Professor Ayensu is a fellow of various academies of arts and sciences. He has been Senior Advisor to the President of the African Development Bank and the Bank’s Director for Central Projects. Previously he has held posts in international scientific organizations, including Director and Senior Scientist at the Smithsonian Institution, Washington, D.C. Professor Ayensu was a Visiting Fellow of Wolfson College, Oxford University, and Distinguished Professor of the University of Ghana, and twice the recipient of the Ghana National Science Award. He has a doctorate degree in the biological sciences from the University of London, and has published many books and articles on science, technology and social and economic development of developing countries. Professor Ayensu was the recipient of the Outstanding Statesman Award in Ghana during the Millennium celebrations.

³³ **Jim MacNeill, O.C., D.Sc. (McGill), LL.D. (Sask.)**, a Canadian national, appointed August 1997. He is a policy advisor on the environment, energy, management, and sustainable development to international organizations, governments, and industry. He is Chairman Emeritus of the International Institute of Sustainable Development, and a member of the boards of the Woods Hole Research Center, the Wuppertal Institute on Climate and Energy Policy, and a member of the Jury of the Volvo Environmental Prize. He was Secretary General of the World Commission on the Environment and Development (the Brundtland Commission) and lead author of the Commission’s world-acclaimed report, “Our Common Future.” He served for seven years as Director of Environment for the Organization for Economic Cooperation and Development. Earlier, he was a Deputy Minister in the Government of Canada. Mr. MacNeill holds a graduate diploma in economics and political science from the University of Stockholm and bachelor degrees in science (math and physics) and mechanical engineering from Saskatchewan University. He is the author of many books and articles and the recipient of a number of awards, national and international, including the Order of Canada, his country’s highest honour.

³⁴ **Maartje van Putten (Diploma, Hoger Sociaal Pedagogisch Onderwijs, PVO 1983)**, a Dutch national, appointed October 1999. Until recently Ms. Van Putten was a member of the European Parliament. She has been a highly active member of the Committee on Development and Cooperation for the past 10 years. Ms. van Putten has produced many outstanding reports on the effects of the GATT/Uruguay Round on the developing countries, fair trade, development aid for Asia and Latin America, the EU program for tropical forests and European policies towards indigenous peoples. She has extensive exposure to developing countries, and is active with non-governmental organizations and extremely committed to the cause of development. Ms. van Putten has closely

Richard F. Fuggle,³⁵ University of Cape Town, was asked to provide advice on environment, dam, and habitat issues; Professor Daniel Bates,³⁶ City University of New York, was asked to provide advice on social issues, including indigenous peoples; Professor Peter Pearson,³⁷ T.H. Huxley School, Imperial College, was asked to advise on economic and financial issues, including economic risks and costs of the Project and its impact on tariff rates in Uganda; and Mr. Graham Hadley,³⁸ Senior Advisor to National Economic Research Associates (NERA),

worked with the WWF European Policy Office as a key political partner to promote better EU conservation and sustainable development policies. She was also a consistently active member of the ACP (African, Caribbean and Pacific Group)-European Union Joint Assembly. Ms. van Putten was a freelance multimedia journalist for most of her professional career, and was a Senior Fellow of the Evert Vermeer Foundation from 1981 to 1989. She is the author of many articles and books on globalization, international division of labor and on gender issues. Currently a member of the European Center of Development Policy Management in the Netherlands, Ms. van Putten is President of the Board of European Network of Street Children Worldwide (ENSCW). She holds a HBO (bachelor) degree in community development from Sociale Academy Amsterdam, and a Diploma, Hoger Sociaal Pedagogisch Onderwijs (PVO) Amsterdam.

³⁵ **Richard Fuggle (Ph.D., McGill Univ., 1971)** holds the Shell Chair of Environmental Studies at the University of Cape Town. He is Head of the Department of Environmental and Geographical Science and is Director of the Environmental Evaluation Unit. He has served as Visiting Professor to Universities in the United States, Canada, Australia, New Zealand and the United Kingdom and has visited the Peoples' Republic of China and the United States as a distinguished scholar. He is a Founder Member of the Academy of Science of South Africa and is a Registered Natural Scientist and Professional Member of the South African Institute of Ecologists and Environmental Scientists. He serves on the Board of Directors for the Network for Environment and Development in Africa and serves on the editorial boards of the Journal for Impact Assessment and Project Appraisal, the South African Journal of Environmental Law and Policy and the International Journal of Geography and Environmental Education. He has edited two books on environmental management in South Africa and has published over 100 academic papers on environmental topics. He led the teams which developed the South African Guidelines for Integrated Environmental Management. He has served on five Commissions of Enquiry related to Environmental Assessments. He has received many awards and distinctions for his contributions to the advancement of EIA.

³⁶ **Daniel Bates (Ph.D., Univ. of Michigan, 1971)** is a Professor of Anthropology at Hunter College and the Graduate Center of the City University of New York. He is also a Professor Emeritus and has served twice as a Chair of the Department of Anthropology at the same school. He is a Professor of Sociology at the Istanbul Bilgi University, Turkey. He serves as an Editor of an interdisciplinary journal Human Ecology. He has received many research awards and grants, including from the National Science Foundation, Fullbright, Wenner Gren, and others. He has consulted the Government of Turkey, Kenya, Iran, Egypt and Bulgaria. He has worked on development of the social anthropology within the Social Science Faculty at Istanbul Bilgi University. He has published several books and numerous articles on cultural anthropology, human adaptive strategies, and case studies in human ecology. He is a recognized and distinguished scholar in the field of anthropology and social science.

³⁷ **Peter Pearson (Ph.D., Univ. of Surrey, 1995)** is Reader in Energy & Environmental Economics and Director of the Environmental Policy and Management Research Group in the Department of Environmental Science and Technology at Imperial College of Science and Technology, London. He is a member of the Executive Committee of Imperial College Centre for Energy Policy and Technology. He has also held posts at the Universities of Glasgow and Surrey. In 1987-88 he was a Senior Visitor in Cambridge University Energy Research Group. From 1989-94, he headed Surrey University Energy Economics Centre (SEEC), and in 1993 held a UK Economic and Social Research Council Global Environmental Change Research Fellowship. He co-founded the Third World Energy Policy Study Group (1984-94) and was Secretary (1984-1991) of the Input-Output Research Association. He has been Vice President for Publications (1994-97) of the International Association for Energy Economics, Chair (1992, 2002) of the British Institute of Energy Economics and has served on the editorial boards of Energy Economics, Energy Policy and The Energy Journal. He is the author/co-author of more than 100 scholarly publications.

³⁸ **Graham Hadley, (M.A. Modern History, Cambridge, 1966, Advanced Management Program, Harvard Business School, 1991)** has been a Senior Advisor to National Economic Research Associates (NERA) since 1996, and a Member of the UK Competition Commission since March 2000. After a Civil Service career (final position: Under Secretary, Department of Energy), Mr Hadley joined the Electricity Industry in 1983. He played a key role in

was retained by the Panel to review the Power Purchase Agreement (PPA) between the GoU and AESNP. The Panel is grateful to its consultants for their advice and for the dedication, knowledge and wisdom they brought to their work, on which it has drawn heavily for this Report.

44. Panel Members Jim MacNeill (Lead Inspector) and Edward S. Ayensu, accompanied by Eduardo Abbott (Executive Secretary), consultants Daniel Bates and Richard Fuggle, (hereinafter referred to as the Team), made a field visit to Uganda between November 14 and 25, 2001.



Picture 1: Panel Team consulting Requesters in Kampala.

45. On several occasions during the inspection, the Panel consulted with the Executive Director for Uganda, Mr. Girmai Abraham, and the Alternate Executive Director, Mr. Richard H. Kajjuka, and their staff.

the restructuring and privatization of the industry in 1988-91, first as Board Secretary to the Central Electricity Generating Board, and subsequently (1990-95) as a Board Member and Director of National Power. At National Power his main role was as MD of international business development: from a zero base he established the company as one of the leading independent power producers, with assets in the US, Europe and Asia. At NERA he has advised International Financial Agencies, Governments, utilities and regulators internationally on utility sector reform, particularly on industrial restructuring, the introduction of private capital and investment strategy. He has also specialized in power purchasing and the use of power purchase agreements (PPAs) to manage risk. In this area his assignments have included: Expert Witness in a PPA contract arbitration dispute between a US power company and a Caribbean utility; advice to and training of Electricity Regulators in India and Sri Lanka on the policy framework for bulk power procurement; assistance to the Government of Mexico in developing model PPAs and the policy of competitive power solicitation. He has also advised developers and power purchasers on specific PPAs.

46. Between November 2001 and January 2002, the Panel interviewed most of the Bank and IFC staff and consultants associated with the projects for information on the history of the projects, the studies and the consultation process undertaken, the decision process and clearance procedures, compliance and other aspects.
47. Some individuals were interviewed both before and after the field visit to the Project area. The Panel requested the available Bank correspondence and reports about the Projects and appreciates staff efforts in making them available. It also assembled and examined both published and unpublished literature on the history and development of the region, resettlement and cultural values in the project area, and methods of social or environmental assessment. The Panel also met with NGOs, academics and others with information, insights and views on the Project before, during and after its visits to Uganda. The analysis, conclusions and findings in this Report, however, are the responsibility of the Panel alone.
48. During its field visit to Uganda, the Panel Team met with the government officials: Hon. Syda Bumba, Minister of Energy, Mr. Fred Kaliisa, Ministry of Energy, Mr. Aryamanya, Head of NEMA, Hon. Gerald Ssendaula, Minister of Finance, Planning and Economic Development, Mr. Emmanuel Nyirinkindi, Utility Reform Unit. The Team had several meetings with UEB personnel. The Team visited Basoga Parliament Chamber and met with Basoga Prime Minister, Basoga Minister of Culture and Basoga Minister of Public Works. The Team met with the representatives from NAPE at their Kampala offices, representatives of UTA, Law Faculty of the Makerere University, Nile River Explorers, Tourist Center, and Uganda Wildlife Authority. The Team also discussed the project with NEMA and AESNP. The Team made a trip to the villages in the site area where they met Nabamba Budhagali, the custodian of spirits, the Head of the Thembe Clan and his Chief Spirit Master Nfumbu, as well as other villagers on the West and East Bank of Nile. In the villages, people and representatives of NGOs and various sectors of the society met with the Team and once again raised concerns about compensation and resettlement, and the possible negative effects of dam on the environment and civil society.
49. These site visits in the Projects areas, as well as meetings with government officials and civil society involved in the Projects, were extremely important for assessing formal and substantive compliance with Bank policies and procedures.
50. The site visits also enabled the Team to witness the overall climate in which consultation with the affected people was conducted, and the range of local opinion toward many aspects of the Projects.

Part Two

**The Third Power Project
(Owen Falls Extension, with
Supplemental Credit)**

and

The Fourth Power Project

Chapter 3

Environmental Compliance

3.1. Applicable Environmental Assessment Policies: OMS 2.36, OD 4.00, OD 4.01, and OP/BP 4.01.

51. Environmental concerns first became an explicit part of World Bank Group activities in 1970. The Bank played an active role in promoting environmental assessment by becoming the first multilateral development agency to screen projects for their environmental consequences and to adopt environmental guidelines for the evaluation of future lending operations.
52. The Bank's first environmental policy statement was issued in May 1984. This was Operational Manual Statement (OMS) 2.36: Environmental Aspects of Bank Work. The introductory paragraph to Operational Manual Statement 2.36 indicates that this OMS *"outlines the Bank's policies and procedures pertaining to projects, technical assistance, and other aspects of work that may have environmental implications."* A footnote indicates that the statement relates to IBRD, IDA and IFC work.
53. OMS 2.36 remained in effect up to October 1989 when it was replaced by Operational Directive on Environmental Assessment (OD 4.00, Annex A). Paragraph 3 of OD 4.00 directs that, *"all projects which reach the IEPS (Initial Executive Project Summary) stage after October 15, 1989 are fully subject to this directive. Projects currently in advanced stages of preparation are not normally subject to this annex. For other projects already passed the IEPS stage, the task manager (TM) and Regional Environmental Director (RED) should, by December 31, 1989, review the status and recommend how to achieve the objectives of this annex within the existing time and resource constraints."*
54. Operational Directive 4.00 remained in effect up to October 1991, when OD 4.01 on Environmental Assessment replaced it. OD 4.01 incorporated the guidelines contained in OD 4.00, Annex A, dated October 31, 1989, but made some substantive changes to the requirements for environmental assessment. The directive was to be applied to all projects for which IEPSs were issued after October 1, 1991. Projects for which IEPSs have been issued before that date were subject to OD 4.00, Annex A, dated October 1989. For these new projects, however, the new provisions were to be applied where appropriate and feasible.
55. The current environmental assessment policy is OP/BP 4.01 issued in January 1999. In its introductory paragraph, it states that *"this OP and BP apply to all projects for which a PID is first issued after March 1, 1999."*

56. In 1999, the Bank issued the suite of documents, OP, BP, and GP 4.01 and directed that the Operational Policy (OP) and Bank Practice (BP) would apply to projects whose Project Initiation Document (PID) was issued later than March 1, 1999.³⁹

57. In light of the above, and from the dates of project processing, the policies that apply to the concerned projects on the Victoria Nile are shown in the following table.

Project	Effective approval date	Applicable environmental policy	Effective policy dates
Power III Project (Owen Falls Extension)	Initial EPS is not dated. From the review of the Project files, it was determined that Initial EPS was prepared before April 1988.	OD 4.00 ⁴⁰ Although OD 4.00 of Oct. 31, 1989 applies to all projects that reach IEPS stage after Oct. 15, 1989, and this project reached IEPS before April 1988, OD 4.00 should be applicable pursuant to its ¶ 3. ⁴¹ The project was not in advanced stages of preparation when OD 4.00 was issued.	October 15, 1989 October 1, 1991.
Supplemental Credit to Power III Project	From the review of Project files, it was determined that the Project was initiated on November 11, 1999.	OD 4.00 continues to be applicable.	October 15, 1989 October 1, 1991.
Power IV Project	Initial PID was issued on July 21, 2000.	OP 4.01 applies to all projects for which PID was issued after March 1, 1999.	March 1, 1999 onwards
The Bujagali Hydropower Project	The PID was issued on November 12, 2001.	OP 4.01 applies to all projects for which PID was issued after March 1, 1999. OP 4.04 on Natural Habitats.	March 1, 1999 onwards June 2001 onwards

³⁹ These documents were issued as part of a process started in 1992 to gradually replace the ODs and other policy statements and instruments by statements termed "Operational Policies" (OPs), "Bank Procedures" (BPs) and "Good Practices" (GPs). The note introducing these documents states that together these documents replace a suite of previous environmental assessment policies.

⁴⁰ The Panel does not concur with the view, expressed in paragraph 53 of Management's Response to the Request for Inspection, that OD 4.00 does not apply to the Power III Project. It is apparent that Power III was not in "an advanced stage of preparation" in October 1989, and is thus not excluded from the objectives of the OD. The provision "for other projects already passed the IEPS stage" that "the task manager (TM) and Regional Environment Division (RED) should, by December 31, 1989, review the status and recommend how to achieve the objectives of this annex within the existing time and resource constraints" are relevant.

⁴¹ See ¶ 53 of this Report.

3.2 The Power III Project's Environmental Assessment

58. In the Panel's view, as shown in the above table, the Power III Project should have been fully subject to the provisions of OD 4.00. Nevertheless, it concurs with Management's statement that: *"The analysis conducted for the Power III Project adhered to the principles (OMS 2.36, para. 9) of the Bank's guidelines to address environmental concerns and followed the steps recommended by OD 4.00 Annex B1: Environmental Policy for Dam and Reservoir Projects...."*⁴²
59. The practical implication of the foregoing is that procedurally the Power III Project was not formally assigned a project category for environmental appraisal (these were not a feature of OMS 2.36) and no consolidated Environmental Assessment report was produced. Nevertheless, from file documentation, it is evident that environmental and hydrological analyses were undertaken for the Uganda Electricity Board and reported to IDA.⁴³
60. At the time the Power III Project was being prepared and implemented, the Panel finds no record of the Project having been controversial, deemed to have serious environmental consequences, or of affected parties feeling aggrieved by a lack of involvement. It is commonly accepted that the Owen Falls Extension created no new dam, no land was inundated, no rapids or waterfalls were submerged, the Nile's downstream hydrology remained unchanged, and that no irreversible effects on flora or fauna occurred. The factors of concern at the time were: resettlement of "squatter" households illegally occupying municipal land that was required for the canal and construction works; relocation of a school and of a police station; and the question of spoil disposal. Documentary evidence indicates that IDA supervisory missions reported satisfactorily on the Uganda Electricity Board's planning and execution of both resettlement and spoil disposal. With regard to spoil, care was taken that Nile turbidity was not increased and the spoil was used mostly to upgrade the runway of the Jinja airport. Unused spoil was made into a re-vegetated spoil dump below the extension powerhouse. Little, if any, controversy appears to have attended these matters.
61. The environmental analysis of the Power III Project thus largely accords with the requirements of OD 4.00 despite the fact that it was not formally assigned an evaluation category under this OD. But the procedures envisaged for environmental evaluation by OD 4.00 were not complied with.
- 62. The Panel finds that the requirements of OD 4.00 for categorization and involvement of affected groups and for use of an environmental advisory panel were applicable to this Project and were not met. The Panel is satisfied, however, that the Power III Project (Owen Falls Extension) was analyzed, if not reported, as envisaged by OD 4.00 Annex B 1, and therefore, finds Management in partial compliance with this policy.**

⁴² Management Response, p.20, ¶ 57.

⁴³ These include: Acres International Limited *Proposed Extension to Owen falls Generating Station, Feasibility Study Report*, October 1990; Chapter 9, Environmental Considerations; Dr John J Cassidy, *Review of Hydrology for lake Victoria, Implications with regard to extension of the Owen Falls hydroelectric project*, January 1991.

3.3. The Power III Project Supplemental Credit

63. According to Management, three factors led to the need for a Supplemental Credit to complete the Power III Project. First, a review of the safety of the original Owen Falls dam indicated that the 1940's design of the dam was inadequate to meet present day safety standards.⁴⁴ Remedial work to bring the dam up to modern safety standards was thus required. Second, non-performance by the first contractor appointed to undertake the civil works for the Owen Falls Extension led to termination of the civil contract and a new contractor had to be appointed. Third, extreme weather conditions gave rise to unanticipated delays.
64. The purpose of the Supplemental Credit was to complete the implementation of the Project. Because both the objectives and the scope of the Project, as well as possible environmental impacts, remained unchanged from the time of appraisal of the main credit, no further environmental assessment was undertaken. This fact was established by the environmental assessment performed for the Power IV Project, which confirmed that the Power III Project gave rise to minimal environmental impacts.
- 65. The Panel concurs that no additional Environmental Assessment for the Supplemental Credit for the Power III Project (Owen Falls Extension) was required and that, therefore, Management was in compliance with OD 4.00 as regards this Credit.**

3.4. The Power IV Project

3.4.1. Categorization of the Power IV Project: Category “B”

66. The original Owen Falls hydropower facility was built between 1948 and 1954. It initially consisted of ten 15MW units, commissioned over time as required. The last was commissioned in 1968.
67. What is called Owen Falls 2 (or Power II Project) relates to the improvements and remedial maintenance to the original facility undertaken between 1989 and 1998. The dam and power station were rehabilitated and equipment was upgraded. New windings to the generators allowed each unit to be upgraded to generate 18MW.⁴⁵ The existing Transmission lines were also upgraded as part of the Power II Project.
68. In 1991, a second powerhouse was built on the east bank about one kilometer downstream from the original Owen Falls plant.⁴⁶ The Nile via a diversion canal feeds it. Called Owen Falls 3 (or the Power III Project, or the Owen Falls Extension) this development is designed to generate further power by utilizing the water that had been spilled through the sluice gates

⁴⁴ Undertaken as part of the dam safety review required for the Power III Project.

⁴⁵ However, the maximum output from the station was limited to 164MW because when all turbines are operated simultaneously at full capacity, tail-race water levels are raised, reducing head across the turbines, thus decreasing power output.

⁴⁶ See Map 2.

of the original Owen Falls dam. It also increases the efficiency of the original power station by reducing tailrace water levels. Initially, it was intended to install two 40MW generators. A study on the safety of the original Owen Falls dam, however, revealed the need for additional spillway capacity to handle extreme floods. In light of this, it was decided instead to increase the size of the diversion canal to the Owen Falls extension so that it would serve both as a headrace for the power station and as a spillway, in case of need. With this additional water, it was possible to generate additional power, beyond the intended 80MW. This led to a decision, during project implementation, to increase the size of powerhouse and make provision for two additional turbines and generators should they be required in the future. The Power III Project thus provided for the installation of two complete 40MW units (Units 11 and 12) as well as for the installation of a third turbine, but not a third generator (Unit 13). Civil works were also completed to provide for two further complete units, Units 14 and 15, the latter if economically viable.

69. What is called the Power IV Project provides an IDA credit to allow for the addition of a generator to the existing turbine at Unit 13, as well as to provide a further full unit (Unit 14). A decision on the installation of Unit 15 is dependent upon a later analysis of its economic viability and on a resolution of the ongoing debate surrounding the question of reliable estimates of long-term hydrological discharge from Lake Victoria.
70. **Thus, the Power IV Project relates almost entirely to the installation of electrical generating units at locations already prepared for them in the Owen Falls Extension Powerhouse. It does not require a new construction site and, consequently, no significant environmental effects were envisaged. The Project was, therefore, deemed to warrant a "B" category Environmental Impact Assessment. The Panel concurs and finds Management in compliance with OP/BP 4.01 in this respect.**

3.4.2. Environmental Assessment of the Power IV Project

71. In Section 3.4.1. assigning Power IV Project a category "B" assessment was discussed and found to be in compliance with OP 4.01. The environmental analysis prepared for the Uganda Electricity Board (UEB) places the Project in the context of the Power III Project and examines the environmental impacts from Power III as well as from Power IV. The analysis covers social impacts, cultural heritage, and dam safety. The EA report recommends that the UEB's institutional capacity to deal with environmental management should be strengthened through the appointment of an Environmental Officer with responsibility for ensuring that both the mitigation measures and an environmental monitoring plan pertaining to Power III and IV are implemented. Such an appointment has been made and the incumbent is giving effect to monitoring and mitigation.
72. The EA draws particular attention to two aspects of the Power IV Project that are deemed to be of major environmental significance. These are Lake Victoria hydrology; and, Water Hyacinth infestation. The Lake Victoria hydrological debate is addressed in Section 3.5 of this Report.

73. The problem of Water Hyacinth in Lake Victoria is receiving significant attention through the GEF financed Lake Victoria Environmental Management Project (LVEMP). In addition to this tri-nation initiative, specific control measures have also been implemented to ensure that floating mats of the water weed do not again endanger the hydroelectric turbines of the Owen Falls scheme as was the case in the mid 1990's. Booms have been deployed to intercept the floating weeds well away from the turbine intakes. Water hyacinth harvesting rafts are also available to gather the weed and to transport it to an off-loading point serviced by a specially constructed concrete road to enable large trucks to transport the waterweed for disposal away from water bodies. According to Management, monitoring of water hyacinth will be ongoing and emergency clearance instituted if required.
74. **In terms of the instruments used (i.e., environmental analysis, environmental management plans, environmental monitoring, and capacity enhancement), the Panel finds the Power IV Project, which is financing power generation Units 14 and 15 (the latter if economically viable), is in compliance with OP/BP 4.01.⁴⁷**

3.5. The Hydrology Debate and its Consequences

75. From an initial installation of 15MW in 1954, the Owen Falls hydroelectric complex grew to 150MW in 1968, 164MW in 1995, and on commissioning of the extension, to its current output of 260MW. A total output of 340MW is planned for late 2002. The desirability of installing one further generating unit to allow the Owen Falls complex to generate 380MW is under study.
76. As the Owen Falls complex draws water from the world's second largest fresh-water lake, it has a reservoir capacity that is virtually unlimited. Changing lake levels affect electrical generation efficiency because of changing head and not because water volume is insufficient. But, because of an agreement with Egypt, Uganda is not permitted to operate the complex using Lake Victoria as a reservoir to optimize power output.
77. The Nile flows through Sudan and Egypt after leaving Uganda, and these arid riparian countries have a direct interest in the amount of water that discharges from Lake Victoria into the Nile. Before the construction of the Owen Falls scheme, the rock barrier naturally controlled this discharge at Rippon Falls. Even before the ten original generating units of the Owen Falls scheme had been commissioned, the station was being starved of water because of this rock barrier at Rippon Falls. The Falls were consequently excavated to allow a free flow of water to the station. Since 1959, the Owen Falls scheme itself, and not the Rippon Falls rock barrier, has regulated water discharge into the Nile. In essence, the agreement between Uganda and Egypt requires that water flow down the Nile continue as though natural control still existed. This is the basis for the so-called "agreed curve" which relates required water discharge to lake level. In other words, the "agreed curve" ensures that flows in the Victoria Nile relate to Lake levels in the same way as they did before the construction

⁴⁷ The consultation and disclosure requirements of the environment-related documents of the projects are discussed in Chapter 9 of this Report.

of the Owen Falls complex. A water balance is computed every 10 days and water releases are adjusted to ensure appropriate discharge.

78. Many studies of Lake Victoria's hydrology and limnology have been undertaken. There is common accord that the main factors that control water levels in Lake Victoria are direct rainfall onto the lake surface (input) and evaporation from the lake surface (output). Runoff from tributary streams is a relatively small input to the lake's water balance and discharge down the Nile a relatively minor output. The "agreed curve" is thus not a significant factor in determining lake level.
79. During the period 1900 to 1960, the level of Lake Victoria was some 1.5 meters lower than it has been subsequent to 1964.⁴⁸ The lower lake level gave rise to a discharge of about $650 \text{ m}^3 \text{ sec}^{-1}$ whereas the post 1964 discharge has been close to $1200 \text{ m}^3 \text{ sec}^{-1}$. The reason for the rapid increase in lake level between 1960 and 1964 is thought to have been above average rainfall, but there is no consensus on this point.⁴⁹
80. Whether the period 1900 to present, or the period 1960 to present, is the most appropriate to use in calculating the maximum hydroelectric power capacity of the Victoria Nile is the nub of technical debate. World leaders in hydrology and hydropower engineering disagree on the matter. If the recent higher lake levels and water discharges are accepted as appropriate, then the Owen Falls complex as a whole can be considered to have a capacity of 380MW, of which only 260MW is being realized. But if the lower long-term average level and lower discharge is deemed appropriate, the Owen Falls complex must be regarded as being over-designed and incapable of full capacity – that is, unless Uganda is permitted to use Lake Victoria as a hydropower reservoir and to draw on its reserve capacity during periods of low water level. Whether or not Uganda should manage Lake Victoria in this way is, as indicated above, a political rather than a technical dispute.
81. In all documentation relating to the Owen Falls projects (i.e., Power II, Power III and Power IV), Management has drawn attention to the nature and seriousness of the hydrological debate. It is most unlikely that additional environmental studies or documentation would resolve the dispute. **Because of this uncertainty, a cautious and incremental approach to the extension of Owen Falls capacity has been adopted. The Panel concurs that this approach was and is appropriate.**

⁴⁸ Review of Hydrology for lake Victoria, Implications with regard to extension of the Owen Falls Hydroelectric Project, submitted to the World Bank by John J. Cassidy, January 16, 1991.

⁴⁹ The Institute of Hydrology of the United Kingdom studied the recorded outflows from Lake Victoria from 1901 to 2001 and concluded that the average flow in this period was 838 m³/s. Acres' review of the Bujagali Hydropower Project after citing the IOH finding concluded that the early record is unreliable and studied the records for the period of 1961 to 2001, where the average flow is 1164 m³/s. See paragraphs 218 and 235 of this Report for further discussion.

3.6. Sectoral Environmental Assessment and Cumulative Impacts Assessment

82. Although OMS 2.36 did not mandate the use of Regional or Sectoral Environmental Assessments, OD 4.00 of October 31, 1989 introduced them. The Panel notes that the Staff Appraisal Report (SAR) for the Power III Project called for, and made budgetary provision for, a Sectoral Environmental Assessment (SEA) of hydropower on the Victoria Nile. Annex 18 of the SAR gives the draft terms of reference for the proposed Sectoral Environmental Assessment of Hydropower Development in Uganda. Because the SEAs were only introduced by OD 4.00, this requirement in the SAR indicates that Management was giving effect in practice to the new OD in the Power III Project. Unfortunately, the SAR stipulation that a Sectoral EA be undertaken was not acted on. In fact, Management admits: "*... that the SEA was neither conducted nor funded under the Power III Project in the way envisioned in the SAR. Management recognizes that, with respect to the SEA, supervision was inadequate and the rationale for not pursuing a SEA earlier on in project implementation should have been discussed and documented.*"⁵⁰
83. The failure to perform a SEA for the Power III Project was a violation of the terms and conditions under which the Board approved the Credit. Indeed, Management's failure to ensure that the SEA envisaged by the SAR was carried out has led directly to many of the concerns related to the Bujagali Project. This is because, as the Bank itself has recognized,⁵¹ SEAs avoid the inherent limitations of project-specific EAs in addressing issues related to policy planning and institutional frameworks. By moving environmental assessment upstream in the planning process to a stage where major strategic decisions have not yet been made, SEAs offer better opportunities for analyzing existing policies, institutions, and development plans in terms of the environment and they allow for environmentally sound sector-wide investment strategies. A Power III Project SEA may, for example, have enabled an assessment of competing investment alternatives in the power sector, an analysis of the feasibility of demand-side management, and the environmental and social consequences of development of biomass, solar and wind energy for rural electrification.
84. Good professional practice in environmental impact assessment has in recent years stressed the need for project-specific cumulative effects analysis, but this thinking has not been incorporated in Bank directives. The most recent (1999) Environmental Assessment series OP/BP/GP 4.01 have no requirement for cumulative effects analysis and make mention of it only in the context of Sectoral and Regional EAs. This also is also true of earlier directives, OD 4.00 (1989) and OD 4.01 (1991).
85. Although each hydroproject on the Victoria Nile would require an individual project-specific EA, a series of hydro projects would give rise to cumulative effects which should be formally evaluated. Moreover, at the time that the environmental assessments for Power III and Power IV were being undertaken, it was common knowledge that other hydropower schemes

⁵⁰ Management Response, p.23, ¶ 67.

⁵¹ Sectoral Environmental Assessment, *Environmental Assessment Source Book Update*, Environment Department, World Bank, October 1993.

were being proposed and investigated by sponsors. It would thus have been prudent to have assessed the potentially cumulative effects of these schemes and their various possible combinations.

86. The Requesters claim, *inter alia*, "that lack of EIA for either the Owen Falls Dam or Owen Falls Extension projects also means that it is very difficult to assess the cumulative impacts of these two projects, plus the proposed Bujagali Hydropower Project." Management's Response to this claim is that cumulative effects were addressed in two studies undertaken in 2000,⁵² as well as in the March 2001 EIA for the Bujagali Hydropower proposal. The Panel confirms that the cumulative effects analyses referred to by Management have indeed been carried out as part of the preparation of the Bujagali Project,⁵³ but concurs with the Requesters that these studies did not form part of the Environmental Assessments for the Power III and Power IV Projects.
87. Since the Bank's safeguard policies or directives do not require a cumulative effects analysis, Management's actions in this respect are consistent with Bank's policy. As noted above, however, Management not only recommended in the SAR that a Sectoral Environmental Assessment of hydro power be undertaken, it also produced draft terms of reference for an SEA. These terms of references reflect Bank policy which provides the following rationale for undertaking an SEA: "*They are particularly suitable for reviewing ... (d) the cumulative impacts of many relatively small, similar investments which do not merit individual project-specific EAs.*"⁵⁴ Management has conceded that its failure to ensure that an SEA was carried out reflected inadequate supervision.⁵⁵
- 88. Thus, the Panel finds that Management is not in compliance with OD 13.05 on Project Supervision with respect to the Sectoral Environmental Assessment required under the Power III Project that would address cumulative effects.**

3.7. Safety of Dams (OP 4.37)

89. Although the Requesters made no claim of non-compliance with OD 4.37 in their original written Request for Inspection this subject was raised in subsequent discussions in the context of the investigation and is thus addressed by the Panel.
90. In all Bank projects related to the Owen Falls Dam and to the Owen Falls Extension Project (Power II, Power III, Power III supplemental credit, and Power IV), the provisions of the Safeguard Policies on Safety of Dams were addressed. Appropriate professionals were appointed for design and construction, an independent panel of experts was appointed and used to advise on the best way to bring old structures up to present day standards, operational and maintenance plans have been prepared, an emergency preparedness plan is in place, and periodic independent safety checks are being carried out.

⁵² Acres International, *Assessment of Generation Alternatives - Uganda*, May 2000 (Acres Assessment).
ESG International, *Victoria Nile Strategic Impact Assessment - Uganda*, January 2000.

⁵³ See footnote 53.

⁵⁴ OD 4.00, § 7.

⁵⁵ Management Response, p.23, ¶ 67.

91. The Panel finds that Management is in compliance with OP 4.37 on Safety of Dams.

Chapter 4

The Economic Analysis

4.1 Applicable Economic Evaluation Policies: OMS 2.20, OMS 2.21, OP 10.04, and OD 4.15.

92. The Bank's Policy on Economic Evaluation of Investment Operations (OP 10.04) states that: *"For every investment project, Bank staff conduct economic analysis to determine whether the project creates more net benefits to the economy than other mutually exclusive options for the use of the resources in question."*⁵⁶ The Policy then goes on to add a number of specific provisions.
93. Concerning **Criterion for Acceptability**, it states that *"[t]o be acceptable on economic grounds, a project must meet two conditions: (a) the expected present value of the project's net benefits must not be negative; and (b) the expected present value of the project's net benefits must be higher than or equal to the expected net present value of mutually exclusive project alternatives."*⁵⁷
94. As regards **Alternatives** the Policy states that *"[t]o ensure that the project maximizes expected net present value, subject to financial, institutional, and other constraints, the Bank and the borrower explore alternative, mutually exclusive, designs."*⁵⁸ Concerning **Sustainability**, the policy states that *"[t]o obtain a reasonable assurance that the project's benefits will materialize as expected and will be sustained throughout the life of the project, the Bank assesses the robustness of the project with respect to economic, financial, institutional, and environmental risks."*⁵⁹
95. **Risk** is also mentioned: *"[T]he Bank's economic evaluation considers the sources, magnitude, and effects of the risks associated with the project by taking into account the possible range in the values of the basic variables and assessing the robustness of the project's outcome with respect to changes in these values."*⁶⁰ **Externalities** are mentioned as following: *"[t]he economic evaluation of Bank-financed projects takes into account any domestic and cross-border externalities."*⁶¹

⁵⁶ OP 10.04 on Economic Evaluation of Investment Operations, September 1994, p.1, §1.

⁵⁷ It is also noted that standard practice has been to calculate the expected internal rate of economic return. Id, p.1, §2.

⁵⁸ Id, p.1, §3.

⁵⁹ Id, p.1, §5.

⁶⁰ Id, p.1, §6.

⁶¹ Id, p.1, §8.

96. The Policy requires that the economic analysis examine “...*the project's consistency with the Bank's poverty reduction strategy*”⁶² and it cross-references with the Bank’s Policy on Poverty Reduction (OD 4.15). Among other things, OD 4.15 on Poverty Reduction states that: “*Sustainable poverty reduction is the Bank's overarching objective. [T]here are many complementarities between poverty reduction and other operational priorities. Private sector development, for example, promotes growth and income-earning opportunities for the poor.*”⁶³ Further, the same policy states that “... *the measure of the Bank's poverty reduction effort is the totality of the Bank program in the context of country efforts. Within this programmatic framework, every project should be consistent with the poverty reduction strategy, but not every Bank-financed project need have a specific poverty-reducing component.*”⁶⁴
97. Before OP 10.04 was issued in September 1994, other policies applied. These included OMS 2.20, on Project Appraisal and OMS 2.21, on Economic Analysis of Projects. Management contends that they are applicable to the Power III Project and the relevant policies are discussed below.

4.2. The Capacity of the Power III Project (Owen Falls Extension)

98. The Requesters allege that mistakes in the design of the project resulted in only 100MW being installed at Owen Falls Extension instead of 200MW, thus hastening the proposal to build the Bujagali Hydropower Project.⁶⁵ In its Response, Management indicates that the Owen Falls Extension has a potential capacity of 200MW, of which 120MW will be installed by 2002, with a further 40MW (Unit 14) to be commissioned in 2003. Disbursement for Unit 15 (50MW) is contingent upon economic viability.⁶⁶
99. The Panel accepts that Owen Falls Extension has a potential capacity of 200MW. It notes, however, that confusion arose because of changes in Project specifications and documentation. In fact, in its Response, Management describes how the specifications for the Power III Project evolved, and it acknowledges inconsistencies and shortcomings in the Bank’s own presentation. The SAR, dated May 29, 1991, described a 3x34MW facility but the Development Credit Agreement, dated January 9, 1992, referred to plant capacity expansion by at least 102MW (3x34MW) and civil works to accommodate a plant capacity of 170MW (5x34MW). At a November 1991 co-financiers meeting, however, installation of 200MW (5x40MW) was recommended.
100. Management acknowledges that: “*The SAR presented to the Board in June 1991 does not clearly explain the design changes that were already in process. Management regrets that the documentation presented to the Executive Directors was not revised to incorporate design modifications reflected in the Development Credit Agreement. ...The Development Credit Agreement for the Power III Project was amended after Board approval of the Power*

⁶² Id, p.1, §7.

⁶³ OD 4.15 on Poverty Reduction, December 1991, p.2, §6.

⁶⁴ Id, p.7, § 27.

⁶⁵ Request, pp.1-2.

⁶⁶ Management Response, Executive Summary, p.ix, §14.

*III Supplemental Credit in January 2000 to reflect the minor change in plant capacity from 170MW to 200MW.*⁶⁷ The Panel notes, however, that the Management Response does not explain why the May 29 1991 SAR failed to reflect the new thinking about a larger configuration. Nor does it explain why the January 1992 Development Credit Agreement did not reflect the 5x40MW configuration decision discussed in the November 1991 co-financiers meeting.

101. **The Panel accepts that Owen Falls Extension has a potential capacity of 200MW and finds that confusion arose because of changes in project specifications that were not adequately represented in the documentation. Management has acknowledged that “there was not full and frank disclosure of this situation”⁶⁸ to the Board of Executive Directors. In this sense, the Board documents for the Power III Project do not meet the requirements of OD 10.00.**

4.3. Economic Evaluation of Investment Operations

102. The Requesters claim that the Owen Falls Extension Project violates the Bank’s policy on Economic Evaluation of Investment Operations, OP 10.04. In its Response, Management observes that *“the Bank’s OP 10.04 on Economic Evaluation of Investment Operations, which was issued in September 1994, was not applicable to the Power III Project which was appraised in June/July 1990.”*⁶⁹

103. The Panel accepts that OP 10.04 was not applicable in June/July 1990, as Management claims. It would observe, however, that Management also indicates that effective appraisal must have continued through 1991, as the Project’s specifications continued to evolve.⁷⁰

104. Management states that: *“IDA’s evaluation of the Power III Project, Power III Supplemental Credit, and Power IV Project included thorough technical and economic assessments for each project in accordance with the operational policies in effect at each time (OMS 2.20, Project Appraisal, January 1984 and OMS 2.21, Economic Analysis of Projects, May 1980 for the Power III Project and OP 10.04 for the Power IV Project).”*⁷¹ Management further notes that OMS 2.20 requires IDA to consider key technical, economic, financial and commercial aspects in appraising power projects. They state that the economic aspects include least-cost analysis; identification, quantification and valuation of the costs and benefits of the project; and sensitivity and risk analysis.⁷² Management notes that OMS 2.21, OPN 2.01 and OPN 2.09 require IDA to consider the following areas in the economic analysis of projects: rationale for bank involvement; discussion of project alternatives; net present value (NPV) and/or the Economic rate of Return (ERR); sensitivity and risk analysis; and externalities.

⁶⁷ Management Response, p.28, ¶ 86, 87.

⁶⁸ Id, p.28, ¶ 86.

⁶⁹ Id, p.31, ¶ 95.

⁷⁰ See, for example, ¶ 95 of the Management Response, cited above.

⁷¹ Management Response, p.31, ¶ 96.

⁷² Management Response, Attachment 10: Uganda Power III Project, Power III Supplemental Credit and Power IV Project – Overview of Economic Analyses, § 5-6.

105. In its Response, Management states that: “A set of least-cost analyses, begun in 1995 and continuing through 2000, have confirmed that the Owen Falls Extension and proposed Bujagali Hydropower Project are the first and second power generation expansion options in Uganda’s least-cost generation plan to meet the country’s electricity demand.”⁷³ It reviews the economic analysis for the Power III Project in Attachment 10 of its Response, (although, unhelpfully, it fails to provide a list of the documents on which the SAR relied). It refers mainly to the analyses described and summarized in the Power III SAR, which were based on the installation of the 3x34MW facility,⁷⁴ not the ultimate 5x40MW configuration.
106. **In the Panel’s view, the economic analyses reported in the SAR, and outlined in the previous paragraph, were broadly in compliance with the provisions of OMS 2.20 and OMS 2.21.**
107. **As regards externalities, however, the Panel feels that there is an area of non-compliance in relation to OMS 2.21.** Management acknowledges that the economic appraisal of externalities was not carried out as it should have been because it excluded the estimated cost of resettlement and environmental mitigation measures from the calculation of the Project’s economic return. The Response argues that: “*Since these costs were insignificant in comparison with the capital investment costs, their inclusion would not have affected the project’s viability.*”⁷⁵ Nevertheless, **since the only way to confirm that the magnitudes of externality costs are significant or insignificant is to prepare and include the estimates, the Panel finds that required procedures were not observed in this case.**

4.4. The Power IV Project

108. Arguments advanced in May 1991 by the Bank’s consultants in favor of larger capacity at Owen Falls Extension included the suggestion that it would offer the possibility of deferring Bujagali, should that prove desirable: “*The on-line date for Bujagali can be deferred by 1 year for an increase from 102 to 120MW, 2 years for a capacity of 160MW and 3 years for a capacity of 200MW.*”⁷⁶
109. After Power III, SIDA and NORAD funded Unit 13; the Power IV Project funded Unit 14 and made disbursement for Unit 15, contingent on economic viability. The Power IV PAD says that in the 1997 study by Kennedy and Donkin for the Power III project: “*The least-cost plan recommended the installation of Unit 14 before Bujagali and Unit 15 after it. However, substantial power shortages have resulted from a combination of: High load growth; delays in completing the first phase of the Kiira power plant (3x40MW Units 11-13); and a delay in the date Bujagali will come on stream. The Government is considering an immediate further extension at Kiira (2x40MW Units 14 & 15) as a partial stop-gap*

⁷³ Management Response, p.25, ¶ 77

⁷⁴ This was described in paragraph 4.03 of the SAR. This was the configuration recommended in the Acres Feasibility Study Report of October 1990.

⁷⁵ Management Response, Attachment 10, § 16.

⁷⁶ Proposed Extension to Owen Falls Generating Station, Feasibility Study Report, Addendum on Provision of Spillway, Acres International, May 1991, p. 7-5.

*solution.”*⁷⁷ **The Panel finds that the economic appraisals of the Power III and Power IV projects do not provide evidence to suggest that the evaluations were pessimistic and/or disadvantaged the Owen Falls Extension projects relative to the proposed Bujagali Project, thereby advancing the latter.**

110. The Power IV PAD also discusses tariffs, suggesting that they would need to rise by a minimum of 40% by mid-2001, to ensure the financial sustainability of the electricity sector, assuming some restructuring of UEB's debt. It also suggested that tariffs would need to rise further in order not only to finance investment needs, meet debt service obligations and provide adequate returns to shareholders, but also to *“pay for the power purchase costs of the proposed Bujagali hydropower project and other IPPs.”*⁷⁸ It also noted that *“on June 1, 2001, Electricity Regulatory Authority (ERA) approved a 70 percent increase to tariffs”*.⁷⁹ The Executive Summary of the Management Response suggests that, *“a tariff increase was needed, independent of the proposed Bujagali Hydropower Project to ensure the viability of the power sector.”*⁸⁰ It is thus clear from the PAD and from internal Bank documents that raising tariffs was part of a strategy to ensure that projects such as Bujagali could recover their costs when needed, and that future tariff increases would be required in order to pay for Bujagali.

⁷⁷ The Power IV PAD, June 8, 1991, p.18.

⁷⁸ Id, p.31.

⁷⁹ Ibid.

⁸⁰ Management Response, Executive Summary, p.x, ¶ 18.

Part Three

The Bujagali Hydropower Project

Chapter 5

Environmental Compliance

5.1. Environmental Evaluation Category

111. OP 4.01 requires projects to be screened into categories for the purpose of determining the appropriate scope of the ensuing environmental assessment. Pursuant to paragraph 8 (a) of OP 4.01, Category "A" is applied to projects that are *"likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented."* The Bujagali Project was screened for a category "A" environmental evaluation. This categorization is not in dispute and is deemed appropriate for the project-specific assessment.

5.2. The Bujagali Environmental Impact Assessment Report

112. The OP/BP/GP series of safeguard policies relating to environmental assessment apply to all IBRD and IDA projects and the Requesters and Management so agree. The OP 4.01 was published in January 1999 and became operational on March 15, 1999. In spite of the fact that the environmental assessments for the Bujagali Project were started before compliance with OP 4.01 was required, the Project was assessed against the requirements of IDA OP 4.01.⁸¹

113. OP/BP 4.04 relating to Natural Habitats also applies to both IFC and IDA projects. But IFC and IDA have adopted slightly different versions of the safeguard policies. The IDA policy on Natural Habitats came into force on October 15, 1995; the IFC version in November 1998. All aspects of the Bujagali Project have been assessed in relation to IDA requirements. Again, this is not in dispute.

114. Technical investigations for the Bujagali Project were initiated in 1994, with Environmental Assessment commencing in 1997. AESNP appointed the firms of W S Atkins (UK) and EGS International (Canada) to undertake the environmental impact assessments required for the hydro sites and the transmission lines. Project records show that public meetings were held in Uganda between April and July 1997 as part of the scoping procedure required by the National Environmental Management Authority of Uganda (NEMA). The Scoping Report was submitted to NEMA for review and comment in July 1997. According to the records, NEMA circulated the Scoping Report to the stakeholders and the comments received were forwarded to AESNP.⁸² AESNP, on the advice of IFC and IDA, retained an independent Panel of Environmental and Social Experts in December 1997.

⁸¹ Section 2.2 and Table 7.2 of both the Bujagali Hydropower Facility EIA and the Bujagali Transmission System EIS acknowledge this compliance.

⁸² The National Environmental Management Authority of Uganda (NEMA), Review and Approval process of the Environmental Impact Assessment for the proposed Bujagali hydroelectric power project.

This panel was given the responsibility for general oversight of the EA. It was required to advise on the terms of reference for the EA consultants; key issues; methods to be used in the EA; the recommendations and findings of the EA; mitigation measures; implementation of the EA's recommendations; any other matters the panel deemed relevant. This panel visited the project sites, met with relevant parties, and produced an advisory report that led to modification of the TOR's for the environmental consultants.⁸³ The panel made six visits to Uganda and produced eight advisory reports to guide the EA process. These reports were submitted to AESNP who circulated them to IFC and other interested parties. They were also made public on the Internet.⁸⁴



Picture 2: Panel members with AESNP officials at Kalagala Falls

115. In March 1999, an Environmental Impact Statement (EIS) for the hydropower facility and a draft version of the EIS for the transmission system were submitted to NEMA, as well as to IFC and IDA. NEMA circulated copies of the EIS to relevant National Ministries, parastatal authorities, Local Council Chairmen, and District Environmental Officers, and followed other disclosure procedures. A final EA for the transmission line was submitted in December 1999 and approved by NEMA in July 2001. IFC/IDA reviewed the EA documents submitted to NEMA and requested that revisions be made. The requested revisions to the EA documentation were made and a suite of seven documents of the EA was completed in March 2001 and formally submitted to IFC/IDA in April 2001. The seven volume EIA was released in Uganda and in the World Bank InfoShop on April 30, 2001.

116. The Bujagali Environmental Assessment and the suite of seven documents that report the project-specific environmental impacts are, in the Panel's view, of high quality. The

⁸³ See paragraph 2.1 of the Second Report of the International Environmental and Social Panel of Experts, August 22, 1998.

⁸⁴ The full reports are available at www.bujagali.com

component studies (reported in two volumes of technical appendices) are comprehensive, generally of high quality and appropriate. All aspects of the Project appear to have been thoroughly addressed. The Independent Panel of Environmental and Social Experts has played an important role and the environmental consultants appear to have responded to all matters raised by the expert panel.

117. Project records show that throughout the EA process the views of project-affected groups and NGO's have been sought and taken into account. Disclosure of information pertaining to environmental matters has been thorough.⁸⁵
118. Environmental Management Plans to mitigate project impacts are provided and an "offset" mechanism is proposed to compensate for the loss of amenity and habitat. The nature and scope of this offset is discussed in Section 5.6. of this Report.
119. IFC and IDA staff have been active in guiding the assessment process and in ensuring that IFC and IDA requirements for project-specific EAs have been accommodated. The Ugandan National Environmental Management Authority has informed the Panel that its requirements have also been met.
120. In addition to the seven volume Bujagali EIA, several other environmentally related studies were undertaken. These studies include: *Victoria Nile Strategic Impact Assessment – Uganda*, ESG International, January 2000; *Revised Environmental assessment of Hydropower Development Alternatives on the Nile above Kalagala*, W S Atkins International, April 2000; *Assessment of Generation Alternatives – Uganda*, Acres International, May 2000; *Aquatic and Fisheries Survey of the Upper Nile*, Fisheries Resource Research Institute, December 2000; *Haplochromine Habitat Study*, WS Atkins International and Fisheries Resource Research Institute, October 2001.
121. From the foregoing **it is evident that extensive environmental studies have characterized the Bujagali EA process. The Panel finds that the EA procedures followed in the preparation of the Bujagali Project are in compliance with the requirements of OP/BP 4.01.**

5.3. Sectoral Environmental Assessment

122. Section 7 of the IDA/IBRD version of OP 4.01 states: "*When the project is likely to have sectoral or regional impacts, sectoral or regional EA is required*" (emphasis added). The IFC version of OP 4.01 does not contain this requirement.
123. From the Project documentation, it is clear that the sponsors justify the Bujagali Project as part of the electrical sector reform in Uganda. Moreover, project evaluation documents make it clear that the success of the Project is intimately linked to the progress of reform in this sector. Project evaluation documents state, for example, that:

⁸⁵ The details of the disclosure are discussed in Chapter 9 of this Report. Non-disclosure of the Power Purchase Agreement is contentious and important for assessing the economic viability of the Project. It is also discussed in Chapter 9 of this Report.

*"In February 1999 the Bank Group brought together key decision-makers within the Government, its advisers and AES to discuss the need for progress on implementing a comprehensive sector reform program as a basis to support the Bujagali Project."*⁸⁶

*"... the Government's request to hasten the implementation of Bujagali independent of sector reform should not be accommodated in light of the potentially large negative financial impact that the Project would impose on an unreformed power sector."*⁸⁷

*"Privatisation of the power sector, and more specifically privatisation of distribution facilities, is a fundamental necessity for the commercial viability of the proposed Project."*⁸⁸

*"The Project will support the power sector reform plan through the provision of a secure supply of least-cost bulk power ..."*⁸⁹

*"The proposed Project is a large and lumpy investment in a small power system ..."*⁹⁰

124. **Thus, since no Sectoral Environmental Assessment has been undertaken, the Panel finds that Management is not in compliance with paragraph 7 of IDA OP 4.01 in this respect.**

5.4. Cumulative Impacts of the Bujagali and Owen Falls Projects

125. Cumulative impact analysis is not required for Project Specific Environmental assessments by either IFC or IDA safeguards policies. Nevertheless IFC and IDA staff required that a study that would accord with Annex C of the *IFC Procedure for the Environmental and Social Review of Projects* should be undertaken.⁹¹ This annex states that assessments should consider: *"... the cumulative impacts of existing projects, the proposed project and anticipated future projects.... The assessments of cumulative impacts would take into account projects or potential developments that are realistically defined at the time the EA is undertaken, when they would directly impact on the project area."*

126. The cumulative effects analysis that has been undertaken is reported in section 7.4 of the WS Atkins and EGS International, 2001, Bujagali Hydropower Facility EIA. Details of the desktop methodology employed and of the various studies consulted to compile the cumulative impact assessment are provided in Appendix G2 of the EIA.

⁸⁶ Section VII Sector reform Program and Strategy, Project Concept Summary – Early review, January 3, 2000.

⁸⁷ Ibid.

⁸⁸ Section II.C. Sector Issues to be addressed by the Project, the Bujagali PAD, November 14, 2001.

⁸⁹ Ibid.

⁹⁰ Section V.E. Critical Risks, Project, the Bujagali PAD, November 14, 2001.

⁹¹ See paragraph 6 of Cumulative Impact Assessment Study Proposal (March 2000) attached to Appendix G.2. Cumulative Effects, of WS Atkins and EGS International, 2001, *Bujagali Hydropower Facility EIA*. Also ¶ 89 of Management's Response, p.29.

127. The authors of the EIA note correctly that current thinking is that cumulative effects can best be addressed through “Strategic Environmental Assessments” rather than individual EIAs, but they do not follow-up on the this statement. The fact that cumulative effects analysis would have been a major component of a Sectoral Environmental Assessment (see Sections 3.6. and 5.3. above) appears to have passed unnoticed and not to have alerted either the environmental consultants or the staff of IFC/IDA to the need for it as per paragraph 7 of IDA OP 4.01.⁹²
128. The cumulative effects analysis is the weakest component of the Bujagali Hydropower Facility EIA. It is entirely descriptive and despite the claim to have undertaken a “*review of recent practice and literature*” the reference list is limited entirely to consultants reports and shows no familiarity with published materials on the topic.⁹³
129. The fact that IFC and IDA Management were aware of the importance of cumulative effects is not disputed. In paragraph 89 of Management's Response to the Request for Inspection it is stated that: “*IFC and IDA, from the onset of the environmental and social review of the proposed Bujagali Hydropower Project, have been cognizant of the potential cumulative effects from existing, proposed and anticipated future hydropower station developments on the Victoria Nile in Uganda. IFC commissioned two independent studies using Trust Funds.*”
130. One of the studies commissioned by the IFC, *Assessment of Generation Alternatives – Uganda*, goes some way to meeting the requirements of a cumulative impact assessment. This study examined various reaches of the Victoria Nile.
- (i) The section upstream of Lake Kyoga to Lake Victoria, which includes the existing Owen Falls Dam and Owen Falls Extension, the proposed Bujagali Hydropower Project, and a further 11 kilometer reach downstream from the proposed Bujagali dam site.
 - (ii) The section downstream from the outlet of Lake Kyoga to the Murchison Falls National Park, which includes potential sites for three new projects (Murchison Falls, Ayago and Karuma), and one diversion proposal, (the Masindi project).
 - (iii) A third section, which includes a combination of the previous two, from Lake Victoria to the Murchison Falls National Park.

⁹² Paragraph 7 of OP 4.01 provides that “*Depending on the project, a range of instruments can be used to satisfy the Bank's EA requirement: environmental impact assessment (EIA), regional or sectoral EA, environmental audit, hazard or risk assessment, and environmental management plan EA applies one or more of these instruments, or elements of them, as appropriate. When the project is likely to have sectoral or regional impacts, sectoral or regional EA is required.*” (emphasis added). While paragraph 8 of Annex A of OP 4.01 states describes Sectoral EAs as follows: “*An instrument that examines environmental issues and impacts associated with a particular strategy, policy, plan, or program, or with a series of projects for a specific sector (e.g., power, transport, or agriculture); evaluates and compares the impacts against those of alternative options; assesses legal and institutional aspects relevant to the issues and impacts; and recommends broad measures to strengthen environmental management in the sector. Sectoral EA pays particular attention to potential cumulative impacts of multiple activities.*” (emphases added).

⁹³ For example, Canter and Sadler, 1997 *A tool kit for effective eia practice -- review of methods and perspectives on their application*, Chapter 5 Cumulative Impact Assessment, International Association for Impact Assessment.

131. The study concluded that the cumulative effects of more than one new project in the section upstream of Lake Kyoga to Lake Victoria would have major negative cumulative impacts to aesthetics, natural heritage (habitat) and tourism; the cumulative effects being particularly acute if Kalagala is developed for hydropower together with Bujagali, Owen Falls and Owen Falls Extension. Only one project in the section downstream from the outlet of Lake Kyoga to the Murchison Falls National Park (i.e., the Karuma project) would have moderate negative cumulative impacts. The other projects would have major cumulative impacts. Finally, with respect to the third section, the study concluded that the loss of eco-tourism (including whitewater rafting) earnings associated with the construction of the Bujagali, Kalagala, Ayago, Murchison Falls, and Masindi projects would have a major cumulative effect (although, in the case of Karuma, it would be moderate.)
132. These conclusions, particularly the first, are very pertinent to the Request for Inspection, as it indicates that serious cumulative effects will arise if all the potential sites for hydropower development between Kalagala and Lake Victoria are utilized.
133. The second study commissioned by the IFC, *Victoria Nile Strategic Impact Assessment – Uganda*, purports to "address the issue of cumulative effects." In fact, however, it does not do so. Indeed, the Terms of Reference for the study only incidentally suggest that a Cumulative Impact Assessment be undertaken. Paragraph 5 of the Terms of Reference states that "*The objective of this Rapid Strategic EIA assignment is to conduct a strategic assessment of the country's electricity development potential with particular focus on the Victoria Nile in the context of multiple use development of that river and its watershed. This assessment must identify the opportunity costs/multiple use potential of candidate development opportunities.*"
134. The study attempted to determine the criteria that Ugandan stakeholders deem important for assessing hydroelectric development proposals on the Victoria Nile and, to this end, used a modification of the "Limits of Acceptable Change" approach. While a study of this nature is not without merit, the 32 persons who are listed as having attended the two-day workshop are clearly not representative of Ugandan society. The group lacked balance in terms of gender, as well as sectoral and geographical representation. Civil society appears to have been represented by two NGO's. Only 20 of those present actually submitted the data sheets required for the ranking and weighting exercise (which was carried out by the consultants' study team and not by the participants themselves). Finally, the procedure used for assigning numerical values to ordinal data is mathematically unsound. It is thus difficult to accept the assertion made in section 6.3.4 of the *Victoria Nile Strategic Impact Assessment* that the criteria identified by the workshop reflect the priorities of the Ugandan people. It is equally difficult to accept Management's assertion, in paragraph 91 of the Response to the Request for Inspection, that this study "... presents criteria against which to assess the degree of change to the Victoria Nile acceptable to the Government of Uganda and how future developments on the river should optimally occur."
135. Despite these reservations, the Panel is able to support, from its own interviews with Ugandan NGO's and civil society, the statement made in Management's Response to the Request for Inspection, namely: "*One of the observations from the study was that there was a*

desire in Uganda to use the Victoria Nile for purposes other than for the generation of electricity."⁹⁴

136. **The Panel consequently concludes that the issue of cumulative effects, addressed by Management and raised by the Requesters, is of real significance and is deserving of greater attention. To be consistent with IDA policies, a further assessment of the cumulative effects of existing and potential hydropower developments on the Victoria Nile as a freestanding Sectoral Environmental Assessment, or as an important component of the Regional Management Plan for the Upper Nile Basin, may need to be undertaken.**
137. The Panel is concerned that Management's stated commitment to ensuring that a Cumulative Impact Assessment of the hydroelectric projects on the Victoria Nile was carried out was not brought to successful fruition. The Panel draws attention to the fact that several of the representations relating to the environment made to it during the course of its inspection are due to concern over cumulative impacts. Examples are: potential changes to the hydraulic operation of the river, and down-stream safety once three dams have been constructed; potential changes in aquatic ecology; potential loss of river bank habitats; cumulative effects on tourism potential.
138. **Because Cumulative Impact Assessment is not a requirement of a project-specific EA, a finding of non-compliance cannot be made. But as indicated in Sections 3.6. and 5.3. of this Report, the Panel finds that Management is not in compliance with the OP 4.01 requirement for a Sectoral Environmental Assessment, for which cumulative impact assessment would have been required.**

5.5. Environmental Impacts on Fisheries and Aquatic Systems

139. In their Request for Inspection, the Requesters challenged the impact analysis concerning the effects on Fisheries and Aquatic Ecosystems and the effects on Tourism, especially White-water Rafting.⁹⁵ Later, during Panel interviews, the Requesters raised concerns about aquatics, the Kalagala Offset and biodiversity.
140. Regarding aquatics, the Requesters contend that the aquatic ecosystem of the Victoria Nile has not been fully studied, and that the effect of the Bujagali dam on aquatic biodiversity, particularly rare fish species, has not been dealt with in the EIA. They also claimed that the effects of different flow regimes in the Nile, at times of high and low water in Lake Victoria, are not discussed in the EIA. Consequently, in their view, the natural habitat of the Victoria Nile has not been properly studied or safeguarded, and this constitutes a violation of OP 4.04. As for biodiversity, they contended that the Bujagali EIA does not examine the biodiversity present on the islands that will be flooded by the Project and that this is in contravention of OP 4.04.

⁹⁴ Management Response, p.16, ¶ 43.

⁹⁵ These analyses appear in the Bujagali Hydropower Facility EIA in sections 7.3.3.3 and 7.3.8 respectively. Technical appendices relating to Fisheries are C1 and C5. No technical appendix relating to tourism is provided.

141. During 2001, the Fisheries Resources Research Institute and Acres International undertook additional base-line studies of fish populations and river ecology in response to a condition set by NEMA and to suggestions that *Neochromis simotes* is only present in the Bujagali rapids and is endangered. They took place after the submission of the Bujagali Hydropower facility EIA but before Project Appraisal by IFC and IDA. A supplementary *Haplochromine Habitat Study* was released in October 2001. This study was based on more extensive fieldwork and sampling than was the original EIA. It also finds that Haplochromine species are more widely distributed than was previously thought and that their greatest diversity occurs not at Bujagali but further downstream in the vicinity of Kalagala. During the survey, six species of hitherto not described Haplochromine species were recovered from the Nile between Kalagala and Lake Kyoga. The study concludes that no Haplochromine or other species will be endangered by the construction of the Bujagali Hydropower facility.
142. It cannot be ruled out that variations in river ecology exist between times of high and low discharge from Lake Victoria, but this is deemed to be a point of academic rather than practical significance. The discharge of the Nile even when low is still very considerable and the character of the river is not greatly changed between high and low discharge rates.
143. **The Panel finds that the original fisheries study reported in the EIA was limited but that the subsequent studies that have been undertaken rectify this. Consequently, Management is now in compliance with the applicable provisions of OP 4.01.**

5.6. The Kalagala Offset Agreement

144. The Requesters claim that the Bujagali Project would have significant negative cumulative impacts on the environment and the areas' natural habitats. They contended, *inter alia*, that “*the construction of Bujagali dam will inundate the falls, which is a major tourist attraction; the camp sites on the banks of the river, and eliminate substantial revenues that accrue from tourism activities like White Water Rafting along Nile.*”⁹⁶ In general, they claim that the loss of the Bujagali falls has been underestimated in the EIA.
145. On this matter, Management “*agrees that the proposed project will impact tourism, but notes that an agreement is in place to develop a downstream site at Kalagala for purposes other than hydropower production, including tourism.*”⁹⁷ Management added that: “*the Kalagala Falls site will be preserved in its present state as per the agreement between the Government of Uganda, IFC and IDA as an environmental off-set. This area is of special interest for local tourism development.*”⁹⁸ Management further stated that this initiative is specifically designed to promote tourism in the upper Nile. The Response stated “*the Government of Uganda, IFC and IDA agreement on the Kalagala offset curtails future actions whereby a string of dams could be built on the Victoria Nile in Uganda, thereby setting aside habitat that could otherwise be inundated*”⁹⁹ and that “*the agreement between*

⁹⁶ Request for Inspection, p.4

⁹⁷ Executive Summary of Management Response, p. xi, ¶ 19.

⁹⁸ Management Response, p.46, ¶ 142.

⁹⁹ Id., p.43, ¶ 132.

*the Government of Uganda, IFC and IDA calls for a multi-stakeholder consultation process which will identify sustainable investment programs, including tourism, with appropriate mitigation measures at Kalagala”.*¹⁰⁰

146. The agreement referred to by Management is constituted by the exchange of letters included in Attachment 9 to Management Response and certain provisions in the Indemnity Agreement entered into between the Republic of Uganda and IDA. The aforementioned Attachment 9 includes a letter from the World Bank Country Manager for Uganda to the Minister of Energy and Mineral Development dated April 25, 2001. The letter spells out the policy requirement of the World Bank Group that *“as the implementation of the Bujagali project will inundate Bujagali Falls ...the Kalagala Falls must be conserved in perpetuity for its spiritual, natural habitat, environmental, tourism and cultural values...”* The letter attaches *“the agreement that the Government of Uganda and the World Bank Group have arrived as part of the mitigation measures required by the World Bank Group to proceed with the remainder of the due diligence with the intent to finance the Bujagali hydropower project.”* (emphasis added.) This agreement is entitled “Mitigation for Loss of Bujagali Falls: The Kalagala Offset” (hereinafter Mitigation for Loss agreement), and sets forth certain obligations of the Government of Uganda with regard to the Kalagala Offset.

147. According to OP 4.04 on Natural Habitats, the policy of the Bank is to support the protection, maintenance, and rehabilitation of natural habitats and their functions in the Bank’s work. The OP further states that in project design and implementation *“the Bank does not support projects involving the significant conversion of natural habitats unless there are no feasible alternatives for the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs.”*¹⁰¹ Further, it states that *“if the environmental assessment indicates that a project would significantly convert or degrade natural habitats, the project includes mitigation measures acceptable to the Bank. Such mitigation measures include, as appropriate, minimizing habitat loss (e.g., strategic habitat retention and post-development restoration) and establishing and maintaining an ecologically similar protected area.”*¹⁰² The Bank, however, *“may accept other forms of mitigation measures only when they are technically justified.”*¹⁰³

148. In the case of Bujagali Hydropower Project, the Bujagali Falls will be inundated completely. As a result, Management informed the GoU that *“as the implementation of the proposed Bujagali Hydropower project will inundate Bujagali Falls, the World Bank Group concluded that Kalagala Falls must be conserved in perpetuity for its spiritual, natural habitat, environmental, tourism and cultural values.”*¹⁰⁴ (emphasis added.)

149. During interviews with the Panel, Management and staff reiterated the importance of the Kalagala Offset. On numerous occasions, they confirmed that the Bujagali Project was not to

¹⁰⁰ Id., p.46, ¶ 142.

¹⁰¹ OP 4.04 on Natural Habitats, issued June 2001, §5.

¹⁰² Ibid.

¹⁰³ Ibid.

¹⁰⁴ Management Response, p.46, ¶ 141.

take place unless a valid environmental offset is created in accordance with OP 4.04 on Natural Habitats. Indeed, senior Management told the Panel that without the Kalagala Offset, they could not have proceeded with Bujagali. It was the sine qua non.

150. As just noted, the Management Response states that “*the Kalagala Falls site will be preserved in its present state as per the agreement between the Government of Uganda, IFC and IDA as an environmental off-set.*” It adds that “*the ... agreement on the Kalagala offset curtails future actions whereby a string of dams could be built on the Victoria Nile in Uganda, thereby setting aside habitat that could otherwise be inundated*”¹⁰⁵ (emphasis added.) The words seem unambiguous. If words like “*will be preserved in its present state,*” mean what they say, they preclude further development. It would thus seem safe to assume that the Kalagala Falls will be conserved in perpetuity for its spiritual, natural habitat, environmental, tourism and cultural values.
151. Close examination of the agreement, however, suggests that this is not necessarily so. The agreement addresses both Murchison Falls, in the Murchison National Park, and Kalagala Falls. Concerning Murchison Falls, the agreement is clear. It states simply that “*The Government will rule out the development of hydropower initiative at Murchison Falls.*” A true offset. In the case of Kalagala Falls, however, the agreement states that: “*The Government of Uganda undertakes that any future proposals which contemplate a hydropower development at Kalagala Falls will be conditional upon a satisfactory Environmental Impact Assessment being carried out which will meet the World Bank Safeguard Policies as complied with in the Bujagali Project. Government and the World Bank will jointly review and jointly clear such an Environmental Impact Assessment.*”¹⁰⁶ Clearly, this appears to recognize the possibility of development, albeit development subject to an EIA complying with World Bank Safeguard Policies. Moreover, the Panel noted that this possibility is recognized in a positive (*Uganda undertakes that any future ... development at Kalagala Falls will be conditional upon ...*), not a negative sense.¹⁰⁷ Panel interviews with the Government of Uganda confirmed that this was the intent.
152. After reviewing the aforementioned Kalagala Agreement and the Indemnity Agreement, the Panel thus had real questions about the validity and enforceability of the obligation of the GoU to conserve the Kalagala site as an environmental and cultural offset for its spiritual, natural habitats, environmental, tourism and cultural values. The Panel therefore requested a legal opinion from the Bank’s Legal Department pursuant to paragraph 15 of the Resolution that established the Inspection Panel. On March 5, 2002, Mr. Ko-Yung Tung, Vice President and General Counsel of IDA, issued a memorandum containing his “Legal Advice in Response to Request by Inspection Panel” (see the full Legal Opinion in Annex 1).¹⁰⁸

¹⁰⁵ Id., p.43, ¶ 132.

¹⁰⁶ Mitigation for Loss of Bujagali Falls: The Kalagala Offset, attachment to the Letter dated April 25, 2001.

¹⁰⁷ Ibid.

¹⁰⁸ In short, the Legal Opinion confirmed the Panel’s concerns regarding the validity, enforceability and binding nature of the Kalagala Offset agreement. Specifically, the Legal Opinion stated that the Indemnity Agreement not only does not contain a provision regarding conservation of Kalagala Falls in perpetuity, but “*to the contrary – like the Mitigation for Loss Agreement – contains a provision that expressly recognizes the possibility that Uganda may develop Kalagala Falls*”. Further, the Legal Opinion interprets the provisions of the Indemnity Agreement and finds the following: “*by providing in subsection (a) that any hydropower development activity at Kalagala Falls would be*

153. In accordance with the interpretation given in the Legal Opinion, the Panel finds that there is no obligation to preserve Kalagala Falls in perpetuity as an environmental offset in the Agreement on Kalagala Offset or the Indemnity Agreement. More importantly, in accordance with the same interpretation, the Panel finds that the GoU has assumed no obligation *whatsoever* to preserve the Kalagala Falls as an offset. Further, the Panel finds that the lack of a clear and binding obligation on behalf of the GoU to preserve the Kalagala site as an environmental offset in the Project's legal agreements is inconsistent with the Management Response and with Management's statements during Panel interviews.

154. Not only is there no obligation to preserve the Kalagala Falls as an offset, the Agreement contains a *direct expression* of potential development of the Kalagala site subject to the joint clearance of the EIA with IDA.¹⁰⁹ Also, the Agreement offers no alternative in the situation when there is no agreement between the GoU and IDA on the EA. Finally, there is no follow-up obligation of GoU to abide by the recommendations or findings of this EIA. Indeed, the only mitigation measure with regard to the Kalagala site set forth in the Indemnity Agreement is the aforementioned Section 3.08 (d) which provides that a "*Multi-stakeholder Task Force for the Kalagala-Itanda Offset will identify, review, implement and monitor environmental sustainable investment programs with appropriate mitigation measures at Kalagala Falls satisfactory to the Association*" for the term of the Indemnity Agreement.¹¹⁰

155. The Panel also reviewed the technical adequacy of the Kalagala offset provisions, as OP 4.04 calls for the establishment of the "*ecologically similar protected area.*" The Requesters brought to the Panel's attention the claim that the Bujagali EIA does not give attention to the biodiversity present in the islands that will be flooded by the Project. The Panel reviewed the Bujagali EIA and found that the analysis of terrestrial ecosystems performed in it is limited. The focus was on species listing and identification of areas to be inundated rather than on mapping plant communities and associations. From the EIA it is thus impossible to determine whether or not the Kalagala offset will indeed protect plant communities equivalent to, if not, identical to, those on the islands of Bujagali. Moreover, no separate EIA was performed for the Kalagala site in order to ensure that Bujagali site and Kalagala site are ecologically similar and the latter will be an adequate offset for the loss of the former.

subject to the completion of an EIA process in which the Association would have a joint decision-making role, the Indemnity Agreement makes clear that both parties recognized the possibility that Kalagala Falls could be developed under the Agreement. (emphasis added) *This provision thus directly controverts the argument that Uganda was committed under the Indemnity Agreement to conserve Kalagala Falls in perpetuity.*" The only obligation imposed by the Indemnity Agreement for the establishment and maintenance of Kalagala Offset on the GoU is in Section 3.08 (d), which reads as follows: "*an obligation regarding the Multi-stakeholder Task Force for the Kalagala-Itanda Offset, for the term of the Indemnity Agreement.*" See Annex 1 to this Report.

¹⁰⁹ It should be noted that the "joint clearance" provision in the Indemnity Agreement is inconsistent with OP 4.01 on Environmental Assessment, which indicates that the EA is the responsibility of the Borrower and that is for the Bank to review "*the EA to ensure its consistency with this policy*". See OP 4.01, §5.

¹¹⁰ Indemnity Agreement between GoU and IDA, 2002.



Picture 3: Kalagala Falls

156. Paragraphs 22 and 23 of the Legal Opinion contain some unsolicited comments concerning the need and scope of the “*mitigation measures*” required under OP 4.04. The Legal Opinion notes that nothing in OP/BP 4.04 indicates that offset areas or other measures must be maintained in perpetuity. To the Panel’s knowledge, however, protected areas are created as permanent and not as temporary measures. Also, the Legal Opinion suggests that there is broad flexibility for the Bank in determining the nature and scope of mitigation measures required in cases where a project significantly converts or degrades natural habitats.¹¹¹ OP 4.04, however, states explicitly that “*the Bank does not support projects involving the significant conversion of natural habitats unless there are no feasible alternatives for the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs.*”¹¹² If there is to be such a conversion, the project must include mitigation measures acceptable to the Bank, and “*such mitigation measures include, as appropriate, minimizing habitat loss (e.g., strategic habitat retention and post-development restoration) and establishing and maintaining an ecologically similar protected area.”¹¹³ (emphasis added.) The Bank may also “*accept other forms of mitigation measures only when they are technically justified.*”¹¹⁴ In the present case, however, there is no obligation to minimize habitat loss or to establish and maintain an ecologically similar protected area. Also, there are no studies or surveys that*

¹¹¹ The Legal Opinion adds that “*OP 4.04 also does not require an offset to be established as a legally protected area, although establishment of national parks through national legislation is often used to try to ensure long-term protection of an area.*” In fact, however, the OP and, especially in paragraph 1 (b) of Annex A, refers to the World Conservation Union’s – (IUCN) widely accepted definition of protected areas, i.e., “*existing protected areas and areas officially proposed by governments as protected areas.*” This definition provides for a “classification” depending on the proposed use of the area that can only have any practical meaning if preceded by proper legal protection.

¹¹² OP 4.04 on Natural Habitats, issued June 2001, §5.

¹¹³ Ibid.

¹¹⁴ Ibid.

support the acceptance of other forms of mitigation measures by IDA. According to the Legal Opinion, the only obligation imposed on the GoU calls for the multi-stakeholder participatory process. The latter does not constitute in and by itself an appropriate mitigation measure for the environmental loss caused by the Bujagali Hydropower Project.

157. The Panel finds, therefore, that the mitigation measures do not meet the requirements of OP 4.04, which states that “*such mitigation measures include, as appropriate, minimizing habitat loss (e.g., strategic habitat retention and post-development restoration) and establishing and maintaining an ecologically similar protected area.*”¹¹⁵ (emphasis added.)

158. **Based on foregoing, the Panel finds that Management is not in compliance with OP 4.04 because the Project entails a significant conversion of natural habitats and IDA has failed to ensure the establishment and maintenance of the appropriate and technically justified mitigation measures.**

5.7. Safety of Dams (OP 4.37)

159. During Panel interviews with IFC, IDA and AESNP, the appointment of three independent experts on dam safety to review all aspects of the Bujagali Hydropower facility was confirmed. This panel has reviewed the hydrological and geotechnical components of the Bujagali designs and it will be retained throughout the construction, filling and start-up phases of the Project.¹¹⁶ **Thus the Panel finds Management in compliance with OP 4.37 on Safety of Dams.**

¹¹⁵ Ibid.

¹¹⁶ OP 4.37 on Safety of Dams, §37. This information is reiterated in the Bujagali PAD, November 14, 2001.

Chapter 6

Economic and Financial Assessment

160. The Requesters question the economic and technical analysis of the Bujagali Project, including the analysis of alternatives, and contend that “*the Project is not the least-cost option for generating power in Uganda.*”¹¹⁷ They assert a lack of disclosure of information, and argue that “*the project’s cost implications need to be made public and independently reviewed.*”¹¹⁸ In its Response, Management claims that its “*review of the extensive analysis of Uganda’s least-cost power master plan has confirmed the Government’s assessment that, when environmental and social impacts are taken into account, the proposed Bujagali Project is the next least-cost generation option for Uganda after the Owen Falls Extension.*”¹¹⁹

161. The economic analysis was presented in the IFC’s 2001 Bujagali Project Summary of Economic Due Diligence (SEDD), as well as in the Bujagali PAD. Several key questions were examined including:

- “*What are the likely scenarios for electricity demand growth in Uganda?*
- *What is the least cost way of supplying the demand taking into account social and environmental factors and alternative uses for the Bujagali rapids?*
- *What is the anticipated economic rate of return to the Bujagali project?*
- *Will consumers and the economy be able to afford the power?”*¹²⁰

6.1. The 1998, 2000 and 2001 Load Forecasts

162. Forecasts of electricity demand are widely acknowledged to be uncertain. Since it was first prepared by Electricité de France (EdF) in 1998, the load forecast has undergone two major revisions, the *Update 2000* and the *Update January 2001*.¹²¹ *Update 2000* describes the three main steps in the forecasting process. In the first step, energy requirements by customer category have to be determined for the base year, 1999. However, “*the historical data for 1994 to 1999 show erratic fluctuations [...] to insure that the base year consumption estimate is as close as possible to its real value, trends were calculated by applying smoothing techniques to the raw data.*”¹²² In the second step, the growth of consumption is simulated over 2000-2020. Different methods are used for the residential sector and for the

¹¹⁷ Request, p.4.

¹¹⁸ Ibid.

¹¹⁹ Management Response, Executive Summary, p.x, §17.

¹²⁰ Summary of Economic Due Diligence of the Bujagali Hydropower Project (SEDD), IFC, October 12, 2001, p.2. Three analyses were commissioned to address these questions: *Macro-economic projections* (John Holsen, Washington DC, USA); *Uganda Load Forecast Review* (Electricité de France, Paris, France); and *Economic Review of the Bujagali Hydroelectric Project* (Acres International, Ontario, Canada), (Acres Report).

¹²¹ Electricité de France: *Uganda Load Forecast – Optimization Study*, September 1998; *Uganda Load Forecast Review (Update 2000)*, October 2000; *Uganda Load Forecast Review (Update January 2001 or Update 2001)*.

¹²² *Update 2000*, p.12

non-residential sectors. The impact of a single anticipated electricity tariff increase in the year 2000 that brings tariffs to cost-recovery levels is also estimated. The third step moves from end-user electricity requirements to generation requirements: *“The forecast of losses is added to that of end-user requirements, and forecast co-generation is removed in order to portray demand to be served from grid generation.”*¹²³

163. *Update 2000* was a major revision prepared at IDA’s request, following a valuable internal review. The *Update 2000* figures are, as the report notes, well below those of the 1998 report, but seem appropriate because *“the forecast in the 1998 report for the year 2000 is already about a third above the consumption now expected for this year.”*¹²⁴ The second revision, *Update January 2001*, introduced further modifications, following a series of discussions in Kampala with key stakeholders.¹²⁵ The purpose of the update was to modify the values initially selected for four hypotheses: the growth of industrial electricity consumption; the growth of new urban and rural connections, and reductions in technical and non-technical losses.
164. *Update January 2001* presented this argument about industrial electricity consumption: *“The unanimous judgment of the industrial leaders concerned is that the electricity shortage was an incitation not to invest and spurred some of them to set up elsewhere. Now the constraint has been removed [by extra power from the Owen Falls Extension] and a process of compensation is expected. Therefore, the year 2000 seems to be a turning point.”*¹²⁶ It is clear that, despite the downward trends in the growth rates over time, the 2001 Update growth rates of industrial product are everywhere significantly above those of the 2000 Update, not just in the first five years, when they are about 14% greater, but also in the remaining periods, in which they never go below 11% higher, reaching a maximum close to 27%. The Report comments that *“together, the above hypotheses represent a somewhat optimistic vision of the process of industrialization in Uganda over the next 20 years. Over the period 2000-2005, this represents an increase of approximately 44GWh per annum in electrical consumption (excluding losses).”*¹²⁷
165. *Update January 2001* notes that: *“Starting from the end of 2001, new connections in the urban environment will be handled by the new distribution company resulting from privatization.”*¹²⁸ It stresses that the new distribution operator will have to deal with high investment costs and the fact that many of the customers are insolvent, but points out that there are insufficient data to carry out a proper quantitative analysis: *“In 2000, it appears that new connections really took off. The figure increased from 4,200 connections in 1999 to 19,800 in 2000 (approximately 80% of these connections are urban). In theory, the value for the year 2000 should be smoothed with the values of the previous years. Nevertheless,*

¹²³ Id, pp. 12-13.

¹²⁴ Id, p.11

¹²⁵ *“Representatives of the Uganda Electricity Board (UEB), the World Bank Group, the chambers of commerce and industry, the Ugandan Ministry of energy, personalities in charge of foreign investments in Uganda, company directors among the foremost electric power consumers as well as representatives of AES Nile Power.”* Electricité de France : *Uganda Load Forecast Review (Update January 2001)*, p.1

¹²⁶ Ibid.

¹²⁷ *Update 2000*, p. 1

¹²⁸ Id, p. 3

*considering the specific nature of the year 2000, we have decided to preserve this change. Therefore, [...]: the initial value for the number of new urban connections for the year 2000 is now 15,000 (instead of 9,000 previously)".*¹²⁹ The 2001 Update notes later that, *"this is the most important parameter for forecasting residential energy requirements. Unfortunately, it is also one of the least predictable."*¹³⁰

166. In the Panel's view, the decision to rely only on the single year's data for the year 2000, which yields an increase of two-thirds on the average 1994-99 figure and nearly five times the 1999 figure for total new connections, is not properly justified, except for a brief reference to the 'specific nature' of the year 2000.

167. *Update January 2001* notes that in the Ugandan authorities' new rural electrification policy: *"Their target is to connect approximately 20,000 new consumers each year to the main network and 20,000 more outside the main network."*¹³¹ *We have adopted this target [instead of the previous figure of 1000 new consumers per year]. In the light of the very low individual consumption figures in rural areas, the impact of this modification on the final result is particularly small."*¹³² Update 2001 bears this out: rural household consumption does not reach 1 per cent of total residential consumption even by 2020, emphasizing the gulf between urban and rural per household consumption of electricity.¹³³ The Update 2001 also forecasts that the rate of electrification of the Ugandan population will rise to 9.7 % in 2010 (and to 24% in the urban environment) and 14.5% in 2020 (30% in the urban environment). By as early as 2005 the revised assumptions on connection rates make a substantial difference to the expected rate of electrification of the Ugandan population.¹³⁴ In view of the revisions to the residential and non-residential forecasts, it is instructive to note the conclusions to the Acres economic internal rate of return analysis in relation to its sensitivity to the rate of new connections: *"The greatest risk to the economic viability of the scheme would appear to be in the rate at which new customers can be connected to the system."*¹³⁵

168. *Update January 2001* notes that: *"The reduction in losses initially taken into account was particularly ambitious for an electrical network like Uganda's, even if we consider the effects of the forthcoming privatization. Accordingly, we have moderated this reduction."*¹³⁶ The effect of the changed assumptions on loss reduction is to reduce technical losses from a smoothed figure of about 20% of total demand in 1999 to 12% in 2010-2020 (instead of the 10% assumed in Update 2000), and non-technical losses from 12% in 1999 to 6% in 2008 (instead of the 4.5% in Update 2000), a significant moderation of the earlier optimism. The historical UEB series show significant increases in aggregate losses in 1998 (34.2%) and particularly 1999 (39.7%). Neither of the Updates presents any detailed analysis of how and

¹²⁹ *Update January 2001, Introduction*, p. 3

¹³⁰ *Id.*, p.4

¹³¹ See PAD for the Energy for Rural Transformation Project (Report No: 23195-UG), November 14, 2001, p. 166-167.

¹³² *Update January 2001, Introduction*, p. 4.

¹³³ See Table 49

¹³⁴ It will rise to 9.7 % in 2010 (24% in urban areas) and 14.5% in 2020 (30% in urban areas).

¹³⁵ Acres International, *Economic Review of the Bujagali Hydropower Project (The Acres Report)*, November 2001, p. 8-17. The Panel reviewed earlier draft of the Acres Report dated July 2001, as noted in the text of this Report.

¹³⁶ *Update January 2001, Introduction*, p. 4.

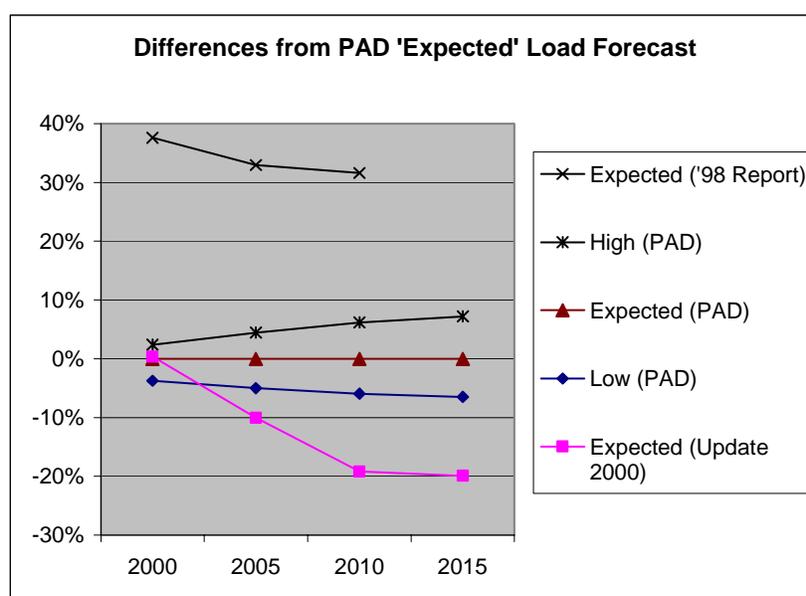
why the forecast loss reductions are to be achieved – except broadly through the process of network rehabilitation and privatization.

169. The anticipated reduction of non-technical losses is particularly striking – the assumption that non-technical monitoring, billing and collection will succeed in reducing losses to 6% of the energy required by consumers by 2008, seems very demanding of the eventually to be privatized distribution concessions. The privatization is now significantly behind schedule. In a reversal of earlier intentions, it was decided in November 2001 that the project would be recommended to the Board without conditions on this privatization, a decision that significantly increased the project's risks. The privatization timetable has now been re-scheduled twice and in January 2002 was postponed to June.
170. **In the Panel's view, given the importance of distribution sector performance for new connections and non-technical loss reduction, the institutional risk to sustainability through delayed distribution, privatization, and/or underperformance, should have been more thoroughly explored. Consequently, the Bank is not in full compliance with paragraph 5 of OP 10.04.**

6.2. Comparisons between the Update 2000 and 2001 Forecasts

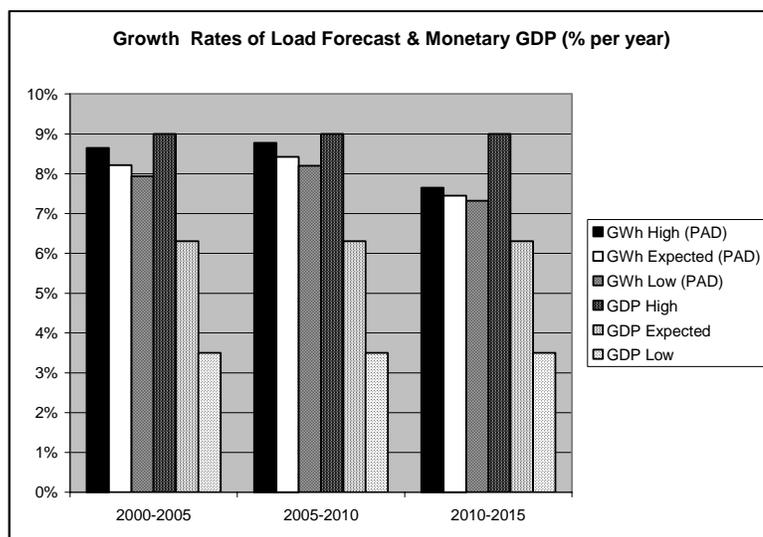
171. What numerical differences result from the modifications in the *Update January 2001*? Figure 1 shows data for five scenarios for total energy requirements (including losses and cogeneration). It records the percentage differences between the Bujagali PAD expected forecast and the other forecasts.

FIGURE 1: PERCENTAGE DIFFERENCES FROM BUJAGALI PAD 'EXPECTED' LOAD FORECAST SCENARIOS



172. Examining Figure 1, it is striking how far the 1998 Report's Expected scenario lies above all the Bujagali PAD scenarios and especially the *2000 Update's* Expected scenario. Moreover, by 2010 the latter lies 20% below the PAD Expected scenario. Figure 1 also shows that between 2000 and 2015 the energy requirements of the PAD High and Low scenarios lie in a band that does not exceed 7.2% more or 6.5% less than the requirements in the Expected scenario, a remarkably narrow range. How do these ranges compare with the ranges for the growth rates of Gross Domestic product (GDP)? Both ranges are shown, for five-year periods, in Figure 2. The Load forecast range lies within and is strikingly narrower than the range of real monetary GDP.

FIGURE 2: ANNUAL GROWTH RATES OF LOAD FORECASTS AND GDP



173. According to the Bujagali PAD: *“The demand forecast range between the low and the high [Load Forecast] cases is less than the maximum GDP growth range in the assumptions, because the low and high forecast boundaries were set to avoid making these cases very low probability extremes.”*¹³⁷ Regrettably, they do not then specify the probability criterion by which these boundaries were set, nor provide a fuller explanation for the relative narrowness of the Load forecast's range. This merits discussion, since GDP and its sectoral components play a key role in influencing demand, as the SEDD confirms.

174. *Update 2000* shows that that the modelers specified low and high forecast ranges from their Monte Carlo simulation exercise, such that there was an 80 per cent probability that the values would lie within that range and a 20 per cent probability that minimum and maximum values could be less or more respectively.¹³⁸ The combination of the demand relationships, of the variable and parameter ranges and their distributions, *“as conditioned by the modeler's specification of the assumptions,”* leads to the strikingly narrow bands for the 80 per cent

¹³⁷ The Bujagali PAD, Report 22963-UG, November 14, 2001, Annex 4: Project Economic Analysis, p.60, § 5.

¹³⁸ *Update 2000*, pp. 13-14, 28.

probable Low and High forecasts of energy requirements, shown in Figure 1.¹³⁹ This could imply that the ranges of the individual assumptions are insufficiently broad and/or that the model's structure is not fully sensitive to changes in income.

175. The acknowledged problems with the data, and the frequent use of proxy methods or parameter value estimates, suggest that the forecasts might be expected to be subject to fairly wide tolerances. The three substantial scenario revisions that resulted from the forecasting process itself, illustrated in Figure 1, provide instructive examples of wide differences between forecasts prepared over a four-year period. The *2000 Update*, stimulated by the Bank's critical internal review, sought to address a tendency in the previous forecast to err on the side of forecast optimism. It is less evident that the *2001 Update*, which acknowledges the influence of the views of interested stakeholders, was equally active in doing so. **In view of the 'high risk/high return' nature of the Project, and the central role of the load forecast – not least because, if the forecast fails significantly on the low side, all the dynamic issues of affordability come crowding in, while if it fails on the high side it represents significantly greater access to electricity and poverty reduction - it might have been anticipated that the process would take special care to address the dangers of a relatively narrow range between the high and low load forecasts. In the Panel's view, there is little evidence to suggest that it did so. In this sense, it did not fully comply with paragraph 6 of OP 10.04, which stresses that “the economic evaluation considers the sources, magnitude, and effects of the risks associated with the project by taking into account the possible range in the values of the basic variables and assessing the robustness of the project's outcome with respect to changes in these values.”**

6.3. Economic Rate of Return Analysis

172. The SEDD explains that the economic rate of return (ERR)¹⁴⁰ is the rate at which the present value of the project's incremental economic benefits is equal to the present value of its incremental economic costs, and says that the ERR should be at least equal to Uganda's opportunity cost of capital (i.e. in the range of 10% to 12% real). In the Acres Report, the EIRR is 23.7% for the Acres hydrology sequence, i.e. significantly above a 10-12% opportunity cost of capital: “A risk analysis indicated a 95% probability that the EIRR would exceed 18.4%. In the case of the IOH hydrology, the expected EIRR is 19.8% with a 95% probability that the value would exceed 14.7%.”¹⁴¹ These same EIRR values are also in the

¹³⁹ Update 2000 explains the Monte Carlo procedure: “The key input to this simulation is a probability weighted distribution of values for each uncertain assumption. The distribution is based on a selected minimum, maximum and “likeliest” value for each assumption, to which are assigned relative probabilities. [...] The likeliest, minimum and maximum values of an input variable for each year of the forecast period follow the projected overall trend for that variable. [...] the Monte Carlo program does 10,000 complete iterations of the whole forecast process. [...] The end result of each iteration is an annual demand forecast having a level and associated probability reflecting the combined interaction and probabilities of all the randomly selected assumption values for that iteration. [...] This technique of dealing with uncertainty is much preferred over an arbitrary selection of “low” and “high” cases around a “base” case. It shows a full range of probability-weighted outcomes from a universe of possible behavior of the underlying assumptions, as conditioned by the modeler's specification of the assumptions.” (Update 2000, pp. 13-14)

¹⁴⁰ Also known as the economic internal rate of return (EIRR), the term often used in the Acres Report

¹⁴¹ The Acres Report, Executive Summary, p. 12.

Bujagali PAD.¹⁴² However, the values in the SEDD are different: for the Acres hydrology, the expected value is more than one tenth lower; for IOH it is nearly one fifth lower, with a non-negligible 8% probability that the EIRR will fall below 12%.¹⁴³ The Bujagali PAD is dated November 14, 2001, and the SEDD is dated October 12, 2001. **In the Panel’s view, it is surprising that in neither document is it made clear which analysis is the most recent; it is also unsatisfactory, because of the substantial differences in the EIRR values and their distributions.**

173. The SEDD records the key variables subjected to risk analysis.¹⁴⁴ Apart from the Low and High ranges of the EdF demand forecast, which range from approximately plus or minus 7 per cent of the expected value, the other five variables (crude oil price, T & D investment, Bujagali non-EPC costs, other generation investment, and willingness to pay for new connections) are allowed to range from plus or minus at least 20 per cent of their mean values. The Acres Report comments on the risk analysis of the EIRR that: *“The greatest risk to the economic viability of the scheme would appear to be in the rate at which new customers can be connected to the system.”*¹⁴⁵ **In the Panel’s view, a wider range on the demand forecasts would have stretched the resulting range of estimated EIRR values that emerge from the Monte Carlo risk analysis. This would have more appropriately reflected the range of risks and rewards, facilitating risk mitigation, consistent with OP 10.04’s, paragraph 6 on risk.**

6.4. White Water Rafting

174. The Request for Inspection argued that the economic losses associated with the displacement of white water rafting activities and associated tourism that would result from the inundation of the Bujagali rapids had been underestimated in the EIA. In its Response, Management noted that the estimated losses had been included as a charge against the Project in the ERR calculation: *“Based on this analysis, the probability is extremely low that not developing the power supply at Bujagali in the interest of preserving white water rafting at this site is desirable economically.”*¹⁴⁶
175. The Bujagali PAD reports on estimates developed out of data from the Uganda Tourism Association (UTA).¹⁴⁷ The resulting estimated ‘net incremental economic value added’ loss that was charged to the costs of the Bujagali project grew from \$1.7 million in 2001 to more than \$10 million in 2020. From this was subtracted an estimate of replacement net value added that might arise from the development of alternative rafting activities at Kalagala, rising from \$0.8 million in 2001 to \$3.9 million in 2020. These assumptions and estimates constituted Case ‘A’. The SEDD says that these assumptions are *“very favorable”* to the

¹⁴² The Bujagali PAD, Annex 4, p.69.

¹⁴³ SEDD, p.32.

¹⁴⁴ See Table 7.1 in SEDD.

¹⁴⁵ The Acres Report, p.8-17.

¹⁴⁶ Management Response, p.44, ¶ 133.

¹⁴⁷ Including about 6000 rafters per year now, yielding gross direct and indirect income of about \$4.2 million per year, and expected growth to a capacity figure of about 60,000 rafters per year.

economic profile of rafting at Bujagali but indicates that a further analysis was carried out, employing a somewhat different method.

176. Without Bujagali, the SEDD judged that the next-best (cheapest) generation scenario would be more costly, and this needed to be set against costs associated with losing white water rafting. Two other cases were tested, as well as Case A: *“The NPV of power is \$505 million with Bujagali in 2006 and Karuma much later on. As the UTA urges development of Karuma instead of Bujagali, the least cost non-Bujagali scenario with Karuma is \$600 million, creating a net economic disbenefit for power supply of \$95 million.”* The key finding is that, *“there are no plausible sets of assumptions in which it would be economically worthwhile to reserve this resource for rafting and develop power supply from alternative technologies or hydro sites.”*¹⁴⁸ However, because there is so little explanation of the assumptions and findings, the results are difficult to interpret and appraise. **Since the loss of white water rafting is part of the costs of the Project, and since this is an issue around which much controversy centers, in the Panel’s view, the SEDD should have presented the underlying assumptions (particularly those involved in the Monte Carlo analysis) and the findings in a more transparent fashion. Consequently, full compliance with paragraph 8 of OP 10.04, which requires that “the economic evaluation of the Bank-financed projects take into account any domestic and cross-border externalities,” has not been demonstrated.**

6.5. Tariffs and Affordability

177. The SEDD notes that the main purpose of projecting future end-user tariff requirements is to complete the affordability analysis, and: *“If the tariffs needed to recover the costs of system investments and operations (on a commercial basis) are commensurate with the affordability assumptions that underlie the demand forecast, the demand forecast is considered to be realistic from the perspective of tariff requirements – i.e. the electricity is “affordable” at those levels of demand.”*¹⁴⁹ Unfortunately, however, an understanding of recent electricity consumption behavior *“is difficult to establish for Uganda because until this July the tariff was not adjusted since 1993/94. Meanwhile, real income has been increasing steadily and there has been substantial accumulated domestic price inflation and currency devaluation, [...]”*
178. In the load forecast, EdF estimated the impact of an assumed one-off set of tariff increases implemented in the year 2000. The assumptions employed yielded a weighted average price increase of 63%, and implied a nominal tariff of 10.4 US cents per kWh in 1999 (instead of 6.4). These prices increase (and ranges on either side of the expected value¹⁵⁰ were applied in the Monte Carlo analysis. The SEDD concludes: *“Hence, as long as the tariff required in the future does not exceed real prices (i.e. in dollars of 2001) say in the*

¹⁴⁸ *“The incremental value-added of rafting is much less than the penalty of non-Bujagali system expansion scenarios.”* SEDD, p.31.

¹⁴⁹ SEDD, pp.5-6.

¹⁵⁰ As in SEDD, Table 3.1.

*range of 9.5 to 10.5 US cents per kWh, all else equal the demand forecast should be achievable.”*¹⁵¹

179. The SEDD points out that the EdF work was completed before the Uganda Electricity Regulatory Authority (ERA) announced a new tariff structure, effective on June 1, 2001. This implied an average increase of 74%, and was structured differently from EdF’s assumptions. This raises some questions about whether the EdF tariff analysis accurately represents the range of affordability, given that its price elasticities were based on proxy values and assumptions.¹⁵²
180. The Government announced in August 2001 that it would pass on to some of the benefits of a restructuring plan, approved by donors, for UEB’s outstanding debt onlent by the Government to UEB.¹⁵³ There is considerable popular and political opposition to the new tariff structure.¹⁵⁴ The Acres Report explains that because of unresolved issues to do with sector reform and debt restructuring, there is uncertainty in the financial projections and indicated tariff requirements.¹⁵⁵ The SEDD comments that: *“there are uncertainties about the treatment of UEB’s existing debt, and the terms and conditions of private participation in distribution and generation, apart from the Bujagali project for which the PPA terms are set. The earning and treatment of export revenues would also affect domestic tariff requirements.”*¹⁵⁶
181. In the financial modeling of the affordability analysis, two scenarios are evaluated for existing debt: *“(1) no consolidation; (2) all loans prior to Power III and overdue debt service are consolidated by converting a large portion of this debt to Government equity and servicing the remaining debt over a 15 year period at 7% interest.”*¹⁵⁷ The SEDD explains that five cases were evaluated for the period 2001 to 2012. The Bujagali PAD,¹⁵⁸ on the other hand, says that three cases were examined. The Acres Report reports on four cases, and the Report’s counterfactual case does not include debt consolidation. Thus it is not clear how many cases were examined, when and by whom. Neither the Bujagali PAD nor the SEDD provide a table or graph showing the annual estimated tariff values for the various cases they describe. The PAD presents figures for projected tariffs for 2001-2011 but since these were prepared after taking into account the cases from the financial model and a variety of

¹⁵¹ SEDD, p.35.

¹⁵² Also, the demand forecasts are prepared in an unconventional sequence in which losses are estimated after residential and non-residential consumption. Non-payment for electricity used is a significant part of commercial, non-technical losses, which the distribution privatization is intended to reduce: previous non-payers would now face the new tariff; their consumption would respond to this price increase and be less than it would have been under the old tariff. Because of the sequential structure of the forecast, it appears that this effect may not have been allowed for – if so, it would be a source of under-estimation of the downward response of demand to the new tariff structure.

¹⁵³ *“This has enabled the Government to reduce the effective ERA-published retail tariff excluding VAT) from about US\$0.94 per kWh to about US \$0.086 for 2001, and to about US\$0.078 in 2002.”*, The Bujagali PAD, p. 6.

¹⁵⁴ *“Parliament and the Government yesterday failed to agree on the new electricity tariffs, forcing a new round of negotiations between the executive and the legislature over the matter,”* *The New Vision*, Kampala, February 27, 2002.

¹⁵⁵ The Acres Report, p.9-1.

¹⁵⁶ Export revenues from the sale of ‘secondary’ energy are forecast to accrue at \$0.04 per kWh, SEDD, p. 35.

¹⁵⁷ Id, p.36.

¹⁵⁸ The Bujagali PAD, p.71.

mechanisms to smooth out projected price spikes resulting from the Bujagali project, they provide limited information about the estimated retail tariffs originally required because of Bujagali. In the Panel's view, such a lack of transparency is inappropriate, when both documents clearly acknowledge the key significance of the estimated tariff levels for the economic and affordability analysis of the Bujagali project.

182. Chapter 9 of the Acres Report contains a graph of its four cases, which illustrates that Bujagali is a big, lumpy investment. In their base case, without debt restructuring, the tariff rises above 14 cents per kWh and is significantly above 10.5 cents per kWh for three years or so. As the Bujagali PAD acknowledges, a tariff spike would be expected where a project is commissioned that is large relative to the size of the power system, and which takes some years to achieve its full capacity utilization. Both the PAD and the SEDD reiterate that tariffs should be considered "problematic" relative to the quantities projected in the demand forecast once the average tariff exceeds about US 10.5 cents/kWh. The PAD does not explain the results in any detail. The SEDD says that: "*The years 2006 to 2008 show tariffs in the range of one to two cents per kWh above this benchmark, with Bujagali building up its capacity utilization. Debt consolidation mitigates this impact.*" The SEDD concludes that: "*The outcome of this analysis is that commercially viable end-user tariffs including Bujagali are achievable and consistent with the demand forecast. Future average tariff requirements could, of course, vary from these projections depending on future decisions about the details of debt restructuring, tariff leveling mechanisms and the structure of Bujagali PPA payments.*"¹⁵⁹
183. **In the Panel's view, what the analysis suggests is that even if all the underlying assumptions hold (the achievability of the load forecast, including the price responsiveness of consumers, the success of the distribution privatization, the exports available and sold, etc.) there is still a potentially serious affordability problem that could be addressed through financial arrangements that include debt restructuring, and tariff leveling mechanisms.¹⁶⁰ The analysis does not address the net economic costs and benefits of these devices, although it would be appropriate to do so since they might add to the net costs of the Project.**
184. An additional dimension, which is not discussed in the SEDD's affordability analysis summary, but which could have a potentially major impact on affordability, concerns the possible effects of a deterioration (or an appreciation) in the US\$/US\$ exchange rate. Indeed, the Bujagali PAD acknowledges this risk in Section V.B. "*Economic Appraisal and Project Risk Analysis,*" where, it says; "*excessive inflation and devaluation will stress the ability of the regulatory authorities to maintain tariffs at necessary levels.*"¹⁶¹ **In the Panel's view, because excessive inflation and devaluation represents a significant risk to the**

¹⁵⁹ SEDD, p.37.

¹⁶⁰ The Bujagali PAD in Table 7, p. 28, sets out a projected tariff structure for 2001-2011: nominal tariffs would rise to US\$0.12 cents/kWh by 2012, while real tariffs would be stabilized at \$0.093 from 2003-2012. This takes into account the proposed transfer of the projected benefits of the reduced debt service obligations resulting from restructuring the sector's debt, in the form of 2001 and 2002 tariff rebates and a sinking fund, to level out the tariff increases that would otherwise be needed in 2006-2007.

¹⁶¹ The Bujagali PAD, Section V, p.43.

affordability of the Project, it should have formed part of the risk analysis and/or discussion relating to affordability in Annex 4 of the PAD.¹⁶²

6.6. The Power Purchase Agreement and Executed Agreements

185. Issues relating to the Power Purchase Agreement (PPA) and its associated agreements, were raised by the Request for Inspection in relation to *“the economic risks to Uganda.”* The Panel therefore decided to review the Executed Agreements of December 1999: Implementation Agreement (IA), Power Purchase Agreement (PPA), Parent Company Support Agreement (PCSA), made available to it by Management. The issues concern matters covered by OP 10.04, in relation to Sustainability (paragraph 5), Risk (paragraph 6) and Poverty (paragraph 7). The following analysis focuses on what are likely to be the key sustainability and risk issues for the principal project stakeholders.

6.6.1. Specific Issues

186. **Transmission:** At some points, the PPA appears not to recognize sufficiently the role of UETC or the risks it may face, given that on commercial operation, the line becomes part of the UEB system and the company ceases to have responsibility or liability for it.¹⁶³

187. **Parent Company Support:** Section 4 and Section 8 of the PCSA clearly limit the obligations of AESNP’s parent, AES, only to the matters specified and only up to the date of commencement of commercial operations. This is no doubt desirable for AES in establishing limited recourse status for the Project. However, lack of parent company support in the operational phase could significantly increase risks for other stakeholders.

188. **Capacity Charges:** Penalties on AESNP for low availability appear to be of a constantly proportionate nature. This has the merit of simplicity but does not necessarily reflect accurately the pattern of cost of substitution by the purchaser. Normally, very low availability (say below 50%) which is also sustained (say for at least 6 months) has a more than proportionately serious impact on the purchaser. International best practice (IBP) would be to set a performance threshold below which penalties would proportionately escalate, or a default mechanism would be invoked. Sustained under-performance by the plant should result in better compensation for the purchaser.

189. **These concerns related to transmission, parent company support and capacity charges are of secondary importance as compared with the strategic risks considered below. Nevertheless the Panel believes that their treatment in the Executed Agreements alone, if not rectified elsewhere, could increase risk for the power purchaser and their guarantors.**

¹⁶² This risk is also discussed further in the discussion of the PPA in the following Section.

¹⁶³ PPA, section 2.8.

6.6.2. Strategic Risks

190. Apart from a cast-iron guarantee by IDA to AESNP of a full return on equity, it is hard to see what more could have been done in the Executed Agreements to mitigate strategic/political risk for investors and lenders - which is not to say that significant political risks to them do not remain.
191. The strategic risks to the purchaser and their guarantors, over the duration of the project, arise firstly from demand shortfall and secondly from non-affordability of the Project. In either event, the Project could leave the purchaser with very substantial stranded costs against the PPA obligations. Both risks are described and assessed in the Bujagali PAD; however, the Panel comments below on aspects of the affordability risk that arise particularly from the PPA.

6.6.3. Affordability

192. The capacity costs of Bujagali are \$582m, which implies costs of \$2910/kW for a 200MW project. A study by PB Power, in 1998¹⁶⁴ set out relative costs/kW of different types of plant internationally. It finds, for example, that the capital cost of typical or average new hydro plant is 3.33 times its gas equivalent and 2 times its coal equivalent, with oil close to coal. A recent confidential study of over 20 leading Independent Power Producer (IPP) companies in 2000 showed their portfolios (nearly all new plant constructed in the last 5 years) have average costs in 1999 prices mainly in the range \$400-\$800/kw, with a mean of about \$600/kw. Most IPP capacity is thermal, but if a factor of 3 is applied to this figure to obtain the hydro equivalent - \$1800/kw - Bujagali, even subtracting the associated transmission cost, looks relatively high cost by comparison.¹⁶⁵
193. The Bujagali PAD suggests that under Acres' hydrology, the nominal Bujagali generation tariff ranges from US cents 6.6 – 7.6 per kWh, to which, for the end consumer, must be added distribution charges.¹⁶⁶ The PAD says that retail tariffs become “problematic” at 9.5-10.5 cents, and as we have seen, the SEDD says that 2006 to 2008 show tariffs in the range of one to two cents per kWh above this benchmark.¹⁶⁷ However, the PPA shows the average maximum annual capacity charge over years 1-12 (period of debt repayment) as about \$100m.¹⁶⁸ The PAD indicates annual production of about 1000-1500 GWh, depending on hydrology.¹⁶⁹ This gives a unit price in the higher range of 7-10c - to which, again, distribution charges must be added.

¹⁶⁴ *FT Power Generation Technologies - Evaluating the cost of electricity*, London: Financial Times Energy.

¹⁶⁵ The World Energy Assessment says that for hydro: “The present installed system cost ranges from \$1,000–1,500 a kilowatt for the most favorable sites. In practice cost figures of \$3,000 a kilowatt and higher are also found.” World Energy Assessment (2001): *Energy and The Challenge of Sustainability*, p. 252.

¹⁶⁶ The Bujagali PAD p.23, Fig. 2 and Table 3, p. 24

¹⁶⁷ *Id.*, p.70-71.

¹⁶⁸ See Annex D to PPA, Schedule 1, Table 4.

¹⁶⁹ The Bujagali PAD, p.30.

194. Denomination of the PPA payments effectively in US dollars increases the affordability risk. A mild depreciation of the US\$ of 10% p.a. against the dollar would double the price to Ugandan consumers in 7 years, to the equivalent of 13-15 cents wholesale, or up to 20 cents on lower output - surely unaffordable. Indonesia provides the best recent example of IPP projects becoming priced above locally affordable rates because of currency devaluation. Painful renegotiation of contracts, alleged breach of contract and legal action has followed, at great cost to the IPPs concerned, dislocation to the electricity sector, and a sharp drop in investor confidence.
195. In Uganda, non-affordability of Bujagali could have two consequences: it could drive down forecast collection rates (which, in any case, may be vulnerably high), and/or it could drive industrial and commercial - perhaps even domestic - consumers to turn to small off-grid plants, probably diesel, which could be partly or mainly paid for in local currency. In this event, stranded costs could in the extreme start to include other elements of the power system as well as Bujagali. This risk of collapsing demand is additional to the risk that demand may, regardless of tariffs, grow at less than the base rate.

6.6.4. Benefits

196. The downside just described is of course only one set of scenarios. Even if this is a high cost project by international standards, it may still be the lowest cost option for Uganda. And if the base case assumptions are met, Uganda will have acquired a new long term, reliable and robust power source which will enable it to meet expanding demand and new connections for many years in the future without the need for further investment in generation. This in turn would establish an excellent structure and precedent for the introduction of more private capital into the power sector, so freeing public funds for other urgent social and economic needs. Additionally, the price drops dramatically after debt repayment, so consumers could enjoy the benefit of low tariffs in the second and third decades of the Project.
197. **The question for the Panel, however, in relation to the Request for Inspection is whether the Executed Agreements are satisfactory in their response to the strategic risks - which in the end may be risks for all stakeholders, including the people of Uganda, or whether more could have been done to mitigate them whilst preserving the potential benefits.** Paragraph 5 of OP 10.04, on Sustainability states that, “[T]o obtain a reasonable assurance that the project's benefits will materialize as expected and will be sustained throughout the life of the project, the Bank assesses the robustness of the project with respect to economic, financial, institutional, and environmental risks.” Concerning the analysis of risk, paragraph 6 of the same OD emphasizes that, “The main purpose of this analysis is to identify the scope for improving project design, increase the project's expected value, and reduce the risk of failure.” **In the Panel's view, the strategic risks just examined in relation to the PPA suggest the value of additional risk mitigation measures beyond those already provided for.**

6.6.5. Strategic Risk Mitigation: Two Illustrative Measures

198. Two illustrative types of measure which could be (or might have been) applicable to Bujagali are:
199. A provision to terminate for commercial rather than default reasons: This would need to include a trigger event, which when reached, perhaps after a minimum period of contract duration, would allow either party to initiate a renegotiation process. In this case, the trigger might be defined with reference to a specified average price over a year of the maximum capacity payment measured in US\$. If a renegotiated price (still in US dollars) could not be agreed between the parties, a buy out price would be determined under the auspices of an independent accountant with equal weight given to the residual value of the PPA (drawing on existing PPA provisions for methodology), and to the market value in Uganda of marginal power supplies, with reference to nominated indicators.
200. A provision to treat low demand, specified in national unit sales over a year with reference to mutually accepted published statistics, as a special category of force majeure. This also could lead to an agreed or arbitrated buy-out, or another form of termination, or a renegotiation of terms according to specified procedures. This would be simpler to add to the present PPA than factoring in a link with energy sent out from the plant as a determinant of monthly payments - which would have been the more obvious approach *ab initio*.

6.6.6. Conclusion to the Review of the PPA and Associated Agreements

201. Such provisions are not simple, and their structure could be different from that suggested, which is intended to be illustrative. But there are a few international precedents, and there may be more in future, as purchasers try to reconcile prospective market liberalization with the continuing need for term contracts. The effect of provisions of this kind could be to provide flexibility and a mutually acceptable methodology for sharing stranded costs in a worse case scenario. **By the reduction of uncertainty for both sides, the total of these costs should be minimized and the prospect that the Project would be able to deliver its benefits would be increased, in line with the approach to risk mitigation and sustainability recommended in OP 10.04. As it is, the Panel concurs with the PAD that this is a high risk/high reward project for Uganda, with the rider that the risks may come early and the rewards late.**
202. **In summary, the Executed Agreements generally address and allocate risks appropriately and the provisions generally reflect good international practice. Specific questions arise in respect of treatment in the Agreements of responsibility for transmission and UETC's role; the scope of Parent Company responsibility; and particular aspects of the capacity payment. At a strategic level, serious risks remain for the purchaser and their guarantors, arising from demand shortfall and/or non-affordability. It is possible that further provision to mitigate those risks could have been – and might still be - made in the Agreements.**

6.7. The Economic Appraisal and Project Risks

203. Section V of the Bujagali PAD reviews the Project risks in the context of the economic appraisal. In particular, it is notes that: *“GDP growth should average about 6.3 percent per year to provide sufficient disposable income for electricity consumption to meet the demand forecast, and adequate foreign exchange to meet the PPA obligations. The macro-economic projections clearly show that Uganda has a very large resource gap, and that it will require large infusions of external resources for many years to achieve this GDP growth. This means that Uganda will need to sustain an economic policy mix and investment climate conducive to private investment and increased donor support.”*¹⁷⁰
204. The Uganda Ministry of Finance reiterates the need for macroeconomic prudence: *“In 1999/2000, economic activity slowed down with real GDP growth declining to 5.0 percent and inflation rose to 6.3 percent, mainly due to the increase in food prices resulting from the effect of the drought. The economic growth is expected to pick up in 2000/2001, with GDP projected to grow by 6 percent. [...] Uganda faced a sharper than anticipated deterioration in its external terms of trade due to increasing international oil prices and declining world coffee prices. [...] the medium term targets of 7 percent real GDP growth and 5 percent annual inflation remain achievable, if Government continues with its prudent macroeconomic management. Nonetheless, recent developments highlight the vulnerability of the economy to external shocks and the need to diversify production.”*¹⁷¹
205. The PAD records how a GDP scenario was modeled that showed slippage in export performance, factor income, foreign direct investment and supplementary balance of payment support (‘gapfill’) relative to the base case, leading to GDP growth of 3.7% in the total economy and 4.5% in the monetary sectors. This produces only a moderate impact on the ratio of Bujagali PPA payments to total foreign exchange resources because some large sources of foreign exchange (including current private transfers, current transfers to government and net concessional medium and long term loans) were assumed to be independent of the slippage variables. It is not explained why these assumptions were justified. It is noted, though, that a 20 per cent annual reduction in these factors would raise the PPA payment to foreign exchange ratio – and as the ratio rises, so does the macroeconomic challenge.
206. The PAD also confirms that with such a large proportion of system cost being fixed, if demand growth were below the base case, even higher tariffs would be needed to meet the sector’s financing criteria – and that it is not clear that much higher tariffs could be charged.¹⁷² A sector financial sensitivity analysis of the low demand case, along with the assumption that none of the fixed generation costs change over the next ten years, confirms that the sector’s net cash flow deteriorates badly relative to the base case. It is also pointed out in the PAD how institutional risks to either the price or the quantity of electricity

¹⁷⁰ The Bujagali PAD, pp.41-42.

¹⁷¹ *Poverty Reduction Strategy Paper (PRSP) Progress Report 2001*, Uganda Ministry of Finance, Planning and Economic Development

¹⁷² A statement that sits curiously with the low price elasticities in the EdF tariff response estimates.

consumed and collected could impact on the assumption in the base case financial projections that only 5 per cent of sales do not get collected each year: *“In particular, if the regulatory institutions failed to deliver timely nominal tariff increases in response to inflation and currency devaluation, or if the privatization were not successful enough to assure the necessary connection rates of new customers and adequate billings and collections, sector financial performance would be at risk.”* As the section on the PPA has suggested, eventually the possibility of a substitution away from electricity from this source towards now relatively more competitive alternatives could arise, which might then lead to dynamic problems of cost recovery and even stranded assets as total revenue fell.¹⁷³

207. Paragraph E of Section V of the PAD discusses the Project’s critical risks, stating that this is a high risk-high return project for Uganda. **In the Panel’s view, however, if the Project is a high risk-high return Project, as described in Section V.E. of the PAD, it is inconsistent that the Risk/Risk Mitigation table on page 46 of the Bujagali PAD should fail to describe any of the risks as ‘high’, instead listing them all as ‘substantial’ or ‘moderate.’**¹⁷⁴

208. The PAD says *“The high risk aspect stems mainly from potential macro-economic and power sector performance failure, impacting on the ease of meeting the capacity payments from the country’s foreign exchange holdings, or on the financial equilibrium of the power sector.”* In relation to the latter, the PAD notes the critical importance of a successful early privatization of the distribution system. Despite its key role in delivering the high rewards noted above, the privatization of the distribution sector was not made a condition of the Bank’s support for the project, reversing earlier declared intentions to do so in order to mitigate risk exposure. The already delayed privatization program has recently experienced further delays. News reports at the end of January 2002 suggested that the delays, said to be until June 2002,¹⁷⁵ were connected with problems in sustaining the higher tariff levels announced in May 2001.¹⁷⁶

209. The PAD also observes that *“similarly, financial impacts on the power sector could also occur if lower rates of annual GDP growth (say 4.5 percent rather than 6.3 percent) impaired electricity demand growth relative to the base case projection. Because much more of Uganda’s foreign exchange resources come from transfers and capital flows than from exports of goods and services, serious macro-economic performance problems and loss of external confidence in the country’s economic management would reduce foreign exchange*

¹⁷³ These are potential problems of which the Bank is well aware. See, for example, Bacon, R.W. and J. Besant-Jones (2001), ‘Global electric power reform, privatization, and liberalization of the electric power industry in developing countries’, *Annu. Rev. Energy Environ.*, 26:331–59; and Albouy, Y and R. Bousa (1998), ‘The Impact of IPPs in Developing Countries—Out of the Crisis and into the Future,’ *Public Policy for the Private Sector, Note No. 162*, December, The World Bank.

¹⁷⁴ The Table in para. 46 of the PAD distinguishes 4 classes of risk rating: H - High Risk, S - Substantial Risk, M - Modest Risk, N - Negligible or Low Risk. Of the 7 risks listed in the Table, there are 4 risks listed as S and 3 as M, and the "Overall Risk Rating" is listed as S. There is no H rating assigned to any component.

¹⁷⁵ ‘Power Deals Delayed,’ *New Vision* (Kampala), January 31, 2002, Posted to the web January 31, 2002, <http://allafrica.com/stories/200201310165.html>

¹⁷⁶ ‘UEB: Prequalified Bidders Shun Govt Over Tariffs,’ *The EastAfrican on the Web*, January 28, 2002: <http://www.nationaudio.com/News/EastAfrican/current/Regional/Regional34.html>.

availability below base case projections, increasing, perhaps considerably, the relative burden of the PPA payments.” On the other hand, “the high reward aspect is that [...] the combination of the proposed Project and a privatized, more efficient distribution sector will set a solid, cost-effective foundation for the future growth of electricity supply to the people of Uganda. This in itself is an essential ingredient of economic growth and poverty reduction.”¹⁷⁷

6.8. Overview of the Economic Analysis of the Bujagali Project

210. The economic and financial appraisal contains much analysis that has been carried out with considerable technical skill. The questions that have arisen relate mainly to whether the analysis and its presentation have been carried far enough, and whether the appraisal gave sufficient consideration to the Project alternatives and downside risks of the Project and their mitigation.
211. On presentation, the SEDD, although achieving much in summarizing the results of many substantial, complex documents, does not always succeed in conveying transparently the essence of the analysis in areas that are clearly controversial. **In the Panel’s view, such a lack of transparency is inappropriate when dealing with areas of high sensitivity: to reach an informed judgment, concerned stakeholders need to be able to appreciate both the complexity of the appraisal problem and the sophistication with which the Bank has addressed it. In addition, the SEDD does not always make clear the documentary origin of the analysis that it summarizing.**
212. The analysis occasionally conveys an impression of being rushed or unfinished. There are, e.g., the three different sets of tariff affordability cases described - but not reconciled - in the PAD, the Acres Report and the SEDD. There are significant but unexplained differences between the sets of EIRR estimates reported in the PAD and the SEDD. There is no detailed appraisal of the impacts of delays or shortcomings in the privatization of the distribution system. This leads to apparently unrecognized and/or unexplained differences in the analysis, which in the Panel’s view should have been avoided. It also raises questions about the completeness of the analysis.
213. Several key areas have raised questions. The first is the ranges of the load forecast. Neither the SEDD nor the load forecast Updates explain properly why the ranges of the forecast are narrow, while international experience, the uncertainty in the data, and the potential for problems of both affordability, and distribution sector performance, all suggest that fairly wide tolerances might be expected. This narrowness raises concerns about whether the risks and the sustainability of the rewards of the Bujagali Project have been sufficiently explored. **In the Panel’s view an analysis of the sensitivity of the key findings of the due diligence to a widening of the load forecast ranges would have been and could still be appropriate and valuable, and was needed in order fully to satisfy the requirements of paragraph 6 (Risk) of OP 10.04. This is not least because it might help in identifying key areas in which risk mitigation activities might be undertaken, refined or enhanced.**

¹⁷⁷ The Bujagali PAD, p.45.

214. A second area of concern, which is not discussed in the SEDD's affordability analysis summary, but which could have a potentially major impact on affordability, concerns the possible effects of a deterioration (or an appreciation) in the USH/US\$ exchange rate. Indeed, the Bujagali PAD acknowledges this risk in Section V.B. "*Economic Appraisal and Project Risk Analysis*," where, it says; "*excessive inflation and devaluation will stress the ability of the regulatory authorities to maintain tariffs at necessary levels.*" **In the Panel's view, because it represents a significant risk to the affordability of the Project, it should have formed part of the risk analysis and/or discussion relating to affordability in Annex 4 of the PAD.**
215. A third area of concern relates to the privatization and performance of the distribution concession. It is clear that the performance of the distribution sector is likely to play a significant role in the ability of the Bujagali Project to deliver sustainable benefits which would make the Project consistent with the Bank's poverty reduction objectives, as set out in OD 4.15. The distribution sector is key to the connection of new consumers (and so to providing the benefits of access to electricity) and to collecting revenue (and hence to the ability of the power sector to finance its service provision, and to restrain tariff growth to compensate for non-payment). Because of this, the status and performance of the privatized distribution sector is an important element in the risk associated with the Project. Correspondingly, therefore, there are some difficult issues: tariffs have to be low enough to be affordable but sufficiently high and sustained to make it worthwhile for a private profit-making entity to commit to collecting them. **In the Panel's view, an indication of a thorough examination of the institutional risk of a delayed or under performing privatization of the distribution system, and its impact on the robustness of the Project's affordability is missing from the economic appraisal summarized in SEDD, although this was needed for full compliance with paragraphs 5 and 6 of OP 10.04. Such an appraisal would have given some indication of appropriate risk mitigation activity and might also have inspired greater confidence in the findings about the Project's affordability.**
216. Finally, a fourth area of concern relates to the Power Purchase Agreement. The Panel's review of the PPA identified two key strategic risks to UETC and the guarantors, relating to demand shortfall and non-affordability. In relation to affordability, it illustrated how a mild depreciation of the Uganda shilling of 10% per year against the US dollar could double the electricity tariff to Ugandan consumers over 7 years, raising major questions. A potential outcome of a serious affordability problem is that it drives down collection rates and/or encourages consumers to turn to smaller off-grid plant, paid for in local currency, thus raising the possibility of stranded costs. The Panel's PPA review, looking to the future, suggested two possible additional means of risk mitigation: a provision to terminate for commercial rather than default reasons; and a provision to treat low demand, specified in national unit sales over a year with respect to mutually accepted published statistics, as a special category of force majeure. The effect of this kind of provision, intended to address the reality that if Ugandan consumers cannot pay for the power, then in the end a rigid PPA will not survive, could be to provide flexibility and a mutually acceptable way of sharing (and reducing)

stranded costs in a worst case scenario. In a high-risk/high reward project in a poor country it is especially important to ensure that the rewards come early and the risks late.

Chapter 7

Consideration of Alternatives

217. This chapter considers the assessment of alternatives to the Bujagali Hydropower Project. Requirements concerning the assessment of alternatives are set forth in two Bank policies: OP 4.01 on Environmental Assessment, and OP 10.04 on Economic Evaluation of Investment Operations.
218. According to the SEDD, following the preparation of the demand forecasts, *“The next step ... is to find the least-cost way of supplying this demand, taking into account what we know about all reasonable options available to Uganda for additional power generation capacity including the candidate project.”*¹⁷⁸ The SEDD also notes a key structural uncertainty: *“there is a non-resolvable disagreement between international experts about how to interpret and use historical hydrological data for the Uganda Nile,”* because of discontinuities in the recorded outflows from Lake Victoria during the 1960s.¹⁷⁹ Acres state that their *“interpretation has been that the early record is unreliable and should not be included in the analysis. Acres examines only the period 1961 to 2001. The average outflow from the Lake in this period is 1164 m³/s. The Institute of Hydrology (IOH) from the United Kingdom has also studied the record and concluded the full record, 1901 to 2001, is valid. The average outflow in this period is 838 m³/s. [...] this study has adopted the approach that the role and optimality of the Bujagali project be tested for both hydrologies.”*¹⁸⁰

7.1. Generation Options

219. In carrying out the least-cost evaluation of available options, the Acres Report first developed a ‘counterfactual’ scenario,¹⁸¹ i.e. an expansion plan that excluded Bujagali. It was then compared with a least-cost scenario which included Bujagali. This meant scoping the alternatives. Acres, however, noted that *“of those available, few are developed to a prefeasibility or feasibility level, whereas Bujagali is costed to the level required for financing and implementation.”*¹⁸²
220. In its July 2001 draft, Acres also noted that, during a visit to Uganda: *“When interviewed on the subject, all stakeholders in the sector indicated that they had not considered any alternative as a possible replacement for the 200MW Bujagali project. As a result, very few studies are presently available on the feasibility of other potential generation options that*

¹⁷⁸ SEDD, p.3.

¹⁷⁹ Id, p.15.

¹⁸⁰ The Acres Report, p. 5

¹⁸¹ A ‘counterfactual’ scenario is a plausible alternative scenario for the least-cost expansion of electricity supply, against which the ‘factual’ scenario (which includes Bujagali) can be compared, to estimate the differences between the two scenarios (e.g. in capital costs).

¹⁸² SEDD, p.16.

*could be developed as an alternative to Bujagali.*¹⁸³ The final version of this Report, dated November 2001, omits the first sentence and the first three words of the second sentence above.

221. **In the Panel’s view, this evidence that alternatives to Bujagali had not been considered (as opposed to having evaluated and rejected them), confirms the importance of IDA’s responsibility to scope and evaluate them thoroughly. This is clearly required by OP 10.04: “Consideration of alternatives is one of the most important of features of proper project analysis throughout the project cycle. To ensure that the project maximizes net present value, subject to financial, institutional, and other constraints, the Bank and the borrower explore alternative, mutually exclusive, designs.”**¹⁸⁴

7.1.1. Alternative Hydropower Sites on the Victoria Nile

222. The SEDD and the Acres Report discuss the large hydro options on the Victoria Nile. Apart from Bujagali, these options included Kalagala, Karuma, Ayago, Masindi and Murchison. They were compared with respect to their likely compliance with World Bank Group safeguard policies. Because of their proximity, Bujagali and Kalagala (a potential 315MW, \$680m project) were treated as mutually exclusive, to avoid severe cumulative local socio-economic and environmental impacts. Karuma is a potential 200MW, \$596m project downstream of Lake Kyoda, which had been studied for the 1997 Master Plan¹⁸⁵ and the proposed Norpak private power development. The SEDD concentrates on these two large hydro alternatives to Bujagali, while the Acres Report emphasizes that it also took into consideration as options Units 14 and 15 at the Owen Falls Extension (Kiira). Projects within the Murchison Falls National Park (Murchison, Ayago North, and Ayago South) were not considered viable generation alternatives in the planning horizon on environmental or commercial grounds.

223. The Bujagali Hydropower Facility EIA’s analysis of alternative hydropower sites is based on these earlier analyses. It concludes that: *“In summary the Kalagala scheme will provide a very large increase in power, but will have the greatest overall environmental and socio-economic impacts; Karuma is likely to have the least overall environmental impact but generates the lowest amount of power, whilst Bujagali will have a relatively low environmental impact whilst generating substantial amounts of power. Based on the foregoing analysis, the Bujagali site was confirmed to be the most desirable site on the Victoria Nile in Uganda for the next hydropower development.”*¹⁸⁶

7.1.2. Alternative Hydropower Configurations at Bujagali

224. The EIA analyzed nine different potential configurations for hydropower generation at Bujagali, including five different locations for a dam: Kyabirwa, Bujagali, Bayala (two

¹⁸³ The Acres Report, July 2001, Rev. Draft 3, p. 4-1.

¹⁸⁴ OP 10.04, § 3.

¹⁸⁵ Kennedy and Donkin et al., *Hydropower Development Master Plan*, November 1997. See also Map 4.

¹⁸⁶ WS Atkins and EGS International, 2001, *Bujagali Hydropower Facility EIA*, Section 4.2.2

options), and Busowoko.¹⁸⁷ In addition, a canal diversion option at Bujagali and four variations of Full Supply Level at Basowoko were analyzed. The analysis of configuration alternatives is undertaken systematically and the rationale is provided. It concludes that the Bujagali dam option (the preferred B1 option) is “*more favorable from an environmental perspective.*”¹⁸⁸

7.1.3. Alternative Power Generating Technologies

225. The EIA reviews four separate studies that were undertaken to examine electricity generation alternatives in Uganda. These studies were undertaken between 1997 and 1999. The generating alternatives that were considered are wind, geothermal, solar, small-scale hydro, co-generation, biomass, thermal, and large-scale hydro. Demand management was also addressed.

226. The Acres Report also reviews small and medium scale hydro in some detail, commenting that data limitations hindered a proper assessment, and concluding that such developments “*would not be cost effective as a possible alternative to the Bujagali project.*”¹⁸⁹ Of the medium-scale (i.e. at least 50MW) projects, only Muzizi appeared attractive when compared to larger hydro schemes or thermal alternatives. “*Having said this, the smaller hydro plants are able to follow load growth more closely than the larger plants. This characteristic is captured in the least cost analysis.*”¹⁹⁰

227. For thermal alternatives, Uganda relies on imported oil supply transported overland at considerable expense. Partly because the current cost of delivery set in Kenya was judged to be very high by international standards, the study used a significantly lower figure in the expansion plan scenarios.

228. The Acres Report also included the planned 33MW Kakira bagasse plant, likely to come on stream in 2004 or 2005, in the development of the least cost generation expansion scenario, because it was said to offer an attractive alternative to the conventional thermal options. However, although cogeneration projects are becoming increasingly popular internationally, the Report said that the substantial amounts of biomass residues “*are so dispersed geographically, and in quantities too small, to justify an investment in the development of an electricity plant in Uganda in the near future.*”¹⁹¹

229. The Acres Report suggests that while there may be local opportunities for using wind energy, “*there is insufficient information at the present time, on which to consider wind energy as a significant source of grid-based energy. Further investigation of the wind resource in Uganda would be valuable.*”¹⁹² As for solar power, the Report concludes that:

¹⁸⁷ Id, Section 4.2.3

¹⁸⁸ Ibid.

¹⁸⁹ The Acres Report, p. 4-26

¹⁹⁰ Id, p. 4-27.

¹⁹¹ Id, p. 4-37.

¹⁹² Id, p. 4-41

“it will not be competitive for grid-based generation. It will continue to be attractive for off-grid generation.”¹⁹³

230. The Acres Report did not treat wind and solar unfavorably in terms of the estimated costs of electricity cited in the study.¹⁹⁴ Nevertheless, given the reappraisal of non-hydro renewable resources that has taken place internationally in recent years,¹⁹⁵ the approach to the selection of the options in the Report, especially in its early versions, seems outdated, consigning the new renewables essentially to rural applications.¹⁹⁶ In the Panel’s view, since they have a potentially useful, cost-effective role to play in appropriate urban applications,¹⁹⁷ such an approach risks unnecessarily narrowing the range of alternatives considered.
231. The Acres Report observes that there are more than 450MW of unexploited geothermal potential in the Western Rift Valley area, according to both the 1999 ESMAP study¹⁹⁸ and the UEB. This potential and its proximity to the existing grid in the southern part of the country make it a promising alternative to hydropower, and they note that studies have been carried out by the Geological Survey Department, and that both government and private investors have expressed interest. However, field investigations to ascertain the productivity of the geothermal source have still to be carried out.
232. Although the May 2000 Acres Assessment¹⁹⁹ dismissed geothermal resources in one paragraph, the Acres Report includes a geothermal option in the generation expansion scenarios, with considerable caution expressed about uncertainty in the cost estimates. The Report estimated the earliest in-service date for a geothermal plant to be implemented in Uganda, concluding that: *“[...] geothermal power would not be available before 2009 or 2010 at the earliest [...]. As such, it could only compete with Bujagali if its commissioning date is considerably delayed. [...] it is recommended that this alternative be further investigated in the context of an overall master planning exercise.”²⁰⁰*

¹⁹³ Id, p.4-42.

¹⁹⁴ For comparison, see McVeigh, J., Burtraw, D., Joel Darmstadter, J. and Palmer, K (1999) *Winner, Loser, or Innocent Victim? Has Renewable Energy Performed As Expected?* Discussion Paper 99-28, Resources for the Future, Washington, DC and McGowan, J.G. and S.R. Connors (2000), *Annu. Rev. Energy Environ.*, 25:147-97.

¹⁹⁵ See Chapter 7: ‘Renewable Energy Technologies’, in *World Energy Assessment: Energy and The Challenge Of Sustainability*, or the rural energy Internet resource on the Bank’s own Website.

¹⁹⁶ For which their importance in Uganda has been acknowledged in the Government’s *Rural Electrification Strategy and Plan for 2001 to 2010*, summarised in the PAD for the Energy for Rural Transformation project, (Report No: 23195-UG), pp.166-167.

¹⁹⁷ For example, McVeigh et al. (1999) notes that, *“[...] the distributed nature of these generation resources can be used to ease congestion and loop-flow problems on an electricity grid, thereby adding to their value within an electric system.”*

¹⁹⁸ ESMAP, *Uganda Rural Electrification Study*, Report 221/99, September 1999.

¹⁹⁹ Acres International, *Assessment of Generation Alternatives – Uganda, 2000* (Acres Assessment).

²⁰⁰ The Acres Report, p. 4-39-40. Acres used estimated capital costs of \$2000/kW, including exploration drilling. Acres Report and SEDD (at p. 17) both assert that this is a conservative estimate of costs, given the lack of studies and the risks associated with geothermal development, although no supporting evidence is offered.

7.2. Least-Cost Scenarios Without Bujagali

233. In examining the least-cost expansion plan, Acres Report began by developing a counterfactual scenario without Bujagali. It then compared it with a least-cost scenario that included Bujagali. The with-Bujagali scenario is treated below following a brief discussion of the without-Bujagali counterfactual scenario.

234. “The main goal in planning the expansion of a power system is to minimize the long-term total system cost (capital plus operating costs) while satisfying the forecast load demand at economic levels of reliability.”²⁰¹ The measure of cost is the discounted present value of costs (NPV). As shown in Table 1, the SEDD draws together the Acres Report’s estimated discounted present values of the costs for the non-Bujagali options they evaluated²⁰² according to the IOH and Acres hydrologies.

Table 1: System Expansion Costs of Non-Bujagali Alternatives (\$ million PV)

<i>Expansion Plan Description</i>	<i>NPV @ 10% (IOH)</i>	<i>NPV @ 10% (Acres)</i>
Large thermal plants	806.8	651.0
Small thermal plants	821.4	n.c.(*)
Kakira + large thermal plants	779.0	619.1
Geothermal	660.8	510.0
Mini/medium hydro	798.9	632.3
Mini/medium hydro + Muzizi hydro	727.2	577.4
Karuma + Thermal	769.2	600.0
Kalagala + thermal	747.7	558.1
Kalagala + Karuma	748.9	562.0

(*) Not cost effective under IoH, therefore not reconsidered for Acres hydrology
Source: SEDD, Table 4.1, p. 18

235. The counterfactual scenario for the IOH hydrology is based on thermal generation units (large open-cycle and combined cycle gas turbines) complemented with the small private diesel units, Owen Falls Extension Units 14 and 15 in 2011 and 2015, respectively, and Kakira at its earliest time possible. The counterfactual for the Acres hydrology is based on thermal generation units (including the available private diesel units in the early years), complemented with Owen Falls Extension Unit 14 in 2020, and the implementation of Kakira at its earliest time possible. The Acres Report argues that, as well as having less uncertain costs than the geothermal and mini-hydro options, these scenarios have the advantage that they offer the capability of staging the units to better follow the load

²⁰¹ The Acres Report, p.6-4.

²⁰² Except for the estimates for the Owen Falls Extension Units 14 and 15 and the private diesel generating sets, which SEDD omits.

(therefore allowing for an assessment of the comparative cost associated with implementing large plant such as Bujagali in one go).²⁰³

236. Concerning the role of large hydro options in the counterfactual scenarios, the Acres Report says that: *“The development of the Kalagala and Karuma hydro plants as a replacement to the Bujagali project constitutes a valid alternative to the Bujagali project from an economic perspective. However, the problems envisaged with the Bujagali project with respect to its impact on the environment and the relatively large size compared to the system demand would be equally encountered with these alternatives. These concerns can only be addressed by comparing the hydro developments with another types of generation. The scenario that considers the development of other large hydro units is not suitable for that purpose.”*²⁰⁴
237. It is striking that in Table 1 the development of the geothermal potential is more than one fifth cheaper than the thermal alternatives and about one tenth cheaper than the large hydro alternatives (Karuma and Kalagala). The SEDD explains: *“While geothermal shows the lowest NPV under both hydrologies, it is not selected as the counterfactual because both its timing and underlying costing are speculative. The same is true for the mini/medium hydro scenarios; as well they are not least-cost. Because Karuma and Kalagala present the same kind of environmental and project size concerns as Bujagali, they are not instructive as counterfactuals. From the list above, the next least-cost, useful counterfactual is the scenario including Kakira (bagasse-fueled) followed by a suite of larger-scale thermal plants.”*²⁰⁵
238. The Acres Report also suggests that geothermal would not be suitable for use in the counterfactual scenario because, *“due to its long lead time, it cannot compete directly with the Bujagali project for capacity needed by 2006,”*²⁰⁶ and argues that, *“geothermal power would not be available before 2009 or 2010 at the earliest, assuming that exploration drilling would start this year, which is highly improbable.”* The Report says that construction would require 3 years prior to commissioning of the first unit, with the second unit coming on line a year later. However, the Panel notes that although the developer’s schedule is for Bujagali in 2006, the optimal timing that emerges from the least cost expansion plan is actually for 2007, while other authorities suggest that the Acres estimate of geothermal plant construction time is pessimistic.²⁰⁷
239. The Acres Report argues that: *“The development of the geothermal potential is highly speculative at this point [...]. The impact on the environment and economic cost of the*

²⁰³ The Acres Report p. 6-12, 6-22

²⁰⁴ The Acres Report, p. 6-12

²⁰⁵ SEDD, p.18.

²⁰⁶ The Acres Report, p.6-11.

²⁰⁷ *“Geothermal plants offer several advantages: they [...] have short construction periods (approximately one year for a 50-MWe plant), and are capable of providing base load, following or peaking capacity.”* Mock, J.E., Tester, J.W. and P.M. Wright (1997), ‘Geothermal Energy from the Earth: Its potential Impact as an Environmentally Sustainable Resource’, *Annu. Rev. Energy Environ.* 22:305-56. *“Moreover, construction of these plants is a relatively rapid procedure – as little as half a year for 0.5 to 10 megawatt units, and 1-2 years for clusters of plants with capacities of 250 megawatts or more.”* Energy and Geoscience Institute, University of Utah, *Geothermal Brochure*, <http://www.egi.utah.edu/geothermal/GeothermalBrochure.pdf>.

mitigation measures were also neglected in the present review.” Moreover, because of the uncertainties in the economic costs, “[...] *this scenario could mislead the stakeholders in reviewing the economics of the Bujagali project and should not be used as a counterfactual scenario at this stage.*”²⁰⁸ It is also argued that the “*latest information on this alternative indicates that the cost estimate may be optimistic [...].*”²⁰⁹ But because no details are given, it is not possible for the Panel or stakeholders to form their own views about its likely reliability compared with the original estimates. Given the large differences in the NPV values between the geothermal and the next lowest cost alternatives, this would have been helpful.

240. In fact, a set of documents on the Bank’s own Website do provide estimates of geothermal electricity costs (with ranges) in developing country situations.²¹⁰ While, in the final analysis, geothermal development costs are site specific, as a general guideline, the Website documents supply estimates of levelized unit costs of power: “*These costs are based upon projects constructed in developing countries and therefore indirect costs at the higher end of the scale have been chosen.*” For large plants (>30 MW) and a high quality resource, the unit cost is given as 2.5-5.0 US c/kWh, while for a medium quality resource it is 4.0-6.0 US c/kWh.²¹¹ The document discusses the risks involved in reconnaissance and exploration, reviews past experience in developing countries and drilling success rates in East Africa, and confirms the possibility of good quality geothermal resources in the Rift Valley.

241. The treatment of geothermal power generation in the development of the counterfactual scenarios seems curious. It is not explained in the SEDD why it was thought meaningful to include costed geothermal projects (or the mini/medium hydro plants) in the scoping exercise for the selection of the counterfactual scenarios at all, if their costs and timing were such that they would inevitably be too uncertain or far off for them to be acceptable elements in a counterfactual scenario. Once the estimates had been made and the potentially significant NPV differences identified, it would then have seemed appropriate to examine whether the uncertainties could be reduced (e.g. through a rapid scoping study). A more thorough investigation of the potential of geothermal energy might have enabled the reviewers to say with greater confidence whether or not it stood the chance of being a viable alternative, and if so in what circumstances. **The Panel finds that in its treatment of geothermal energy, Management has only partially complied with OP 10.04.**

242. There is also a longer run perspective. The Bank has been involved in the power sector in Uganda since the early 1980s,²¹² so there has been time to be aware of the potential energy resources and the knowledge gaps. For example, the 1999 ESMAP *Uganda Rural Electrification Study*²¹³ recommended that geothermal energy should be evaluated in the framework of the Uganda Power System’s expansion.²¹⁴ However, the 2001 Energy For Rural Transformation Project PAD confirms that: “*While it is widely accepted that Uganda*

²⁰⁸ The Acres Report, p. 6-11

²⁰⁹ Id, p.6-28.

²¹⁰ <http://www.worldbank.org/html/fpd/energy/geothermal/index.htm>

²¹¹ Based on a 10% discount rate and a 90% capacity factor.

²¹² Management Response, p.28.

²¹³ Report 221/99, September 1999

²¹⁴ 1999 ESMAP *Uganda Rural Electrification Study* p. 27

is well endowed with exploitable renewable resources, [...] the detailed resource assessment information required to prepare specific projects is not readily available.”²¹⁵ **In the Panel’s view, it is regrettable that the 1999 ESMAP recommendation was not followed. Had it been so, better information on costs and possible environmental and social impacts would have been assembled and available for use in the least cost expansion analysis, thus enabling a more thorough consideration of alternatives, consistent with OP 10.04.**

7.3. Least-Cost Scenarios with Bujagali

243. After the selection of the counterfactual scenarios, the with-Bujagali scenarios were developed through simulation exercises by inserting Bujagali in various places in the counterfactual sequence, to determine its ‘best’ position in the development plan: “Table 4.2 illustrates the very large advantage to commissioning 200MW of Bujagali in 2006 or 2007 (and Unit 5 @50 MW about 2011) relative to the whole range of non-Bujagali options, not including geothermal, the costs of which are very speculative. These results are not sensitive to the range of discount rates and fuel costs tested.”²¹⁶

244. A sensitivity analysis was carried out on the with-Bujagali least cost expansion scenarios. As part of this analysis, two decisions were tested for their sensitivity to their variation in two key variables, hydrology and load forecast. The cost-risk analysis showed there to be less cost-risk if: (a) planning for Bujagali were based on Acres Report’s higher flow hydrology; and (b) if Bujagali was completed by 2006 as opposed to delaying.²¹⁷

Table 4.2: System Expansion Costs – Bujagali Options (\$ million PV)

Expansion Plan Description	NPV @ 10% (IOH)	NPV @ 10% (Acres)
1. Bujagali 200MW 2007 + thermal	670.2	500.9
2. Bujagali 200MW 2007 + thermal + Karuma 2018/20	670.9	500.6
3. Bujagali 200MW 2006 + thermal	678.1	
4. Bujagali 200MW 2006 + thermal + Karuma 2020		521.2
5. Bujagali 250 (b) MW 2006 + thermal	(a)	506.9
6. Bujagali 200MW 2006 + 50 MW 2011 + thermal		499.3
7. Bujagali 200 MW 2007 + 50 MW 2011 + thermal		478.7
Compare range of Non-Bujagali Options(c)	727.2 to 821.4	558.1 -- 651.0
Bujagali 2006 advantage vs. counterfactual:	100.9	112.2

Source: Acres Report

a) Under IOH hydrology, and without firm exports, the project cost is minimized when the 5th unit of Bujagali is commissioned in 2014.

b) Bujagali is a 5-unit project consisting of 5x50MW units; the timing of Unit 5 is optional.

c) Comparisons exclude geothermal because of its highly speculative value.

d) In all cases thermal fuel is not taxed, consistent with standard procedure in economic analysis where the objective is to determine the most economic use of real resources.

²¹⁵ PAD for Energy for Rural Transformation Project, (Report No: 23195-UG), November 14, 2001, p.148.

²¹⁶ SEDD, p.19.

²¹⁷ The Acres Report, Executive Summary, p. 11.

245. This type of analysis is an important element in the evaluation of the least-cost expansion options and was carried out using standard techniques of decision analysis, in which different possibilities are weighted by different probabilities of occurrence. The Acres Report states that the results are not much influenced by these weightings. This lack of sensitivity is not surprising, given the relatively narrow range between the High and the Low load forecasts. **In the Panel’s view, a wider range on the load forecasts would have enabled a more robust examination of the risks and rewards associated with the Bujagali Project, with respect to both hydrologies and timing. The narrow range limits the ability of the analysis to satisfy fully the requirements of paragraph 6 of OP 10.04 in terms of “assessing the robustness of the project’s outcome” and helping to “identify the scope for improving project design, increase the project’s expected value, and reduce the risk of failure.”**
246. As for the Bujagali Environmental Impact Assessment Report, a qualitative comparative analysis was undertaken for all of the options.²¹⁸ A greater degree of quantified analysis would have added greater weight and certainty to the comparative assessments, but this is not required by OP/BP 4.01. The Panel thus finds Management in compliance with OP 4.01 as regards the evaluation of alternatives from an environmental perspective.

²¹⁸ WS Atkins and EGS International, 2001, *Bujagali Transmission Facility EIS*, Section 4.4

Chapter 8

Social Compliance

8.1. Applicable Policies: OD 4.30, OP/BP 4.01, and OPN 11.03

247. OD 4.30 on Involuntary Resettlement, issued in June of 1990, describes Bank policy and procedures on involuntary resettlement, as well as the conditions that borrowers are expected to meet in operations involving involuntary resettlement. The OD states that planning and financing resettlement components or free-standing projects constitute an integral part of preparation for projects that cause involuntary displacement.²¹⁹ Further, it requires any operation that involves land acquisition or is screened as a Category A or B project for environmental assessment purposes to be reviewed for potential resettlement requirements early in the project cycle.²²⁰ The Bujagali Hydropower Project was screened by the IFC and IDA teams as a Category A project in accordance with the provisions of OP 4.01 on Environmental Assessment.²²¹

248. The importance of the project's compliance with the OD 4.30 is crucial. The OD notes that *“development projects that displace people involuntarily generally give rise to severe economic, social, and environmental problems: production systems are dismantled; productive assets and income sources are lost; people are relocated to environments where their productive skills may be less applicable and the competition for resources greater; community structures and social networks are weakened; kin groups are dispersed; and cultural identity, traditional authority, and the potential for mutual help are diminished.”*²²² Appropriate measures need to be planned and implemented in order to avoid serious long-term hardship, impoverishment, and environmental damage.

249. The main objective of the Bank's resettlement policy is *“to ensure that the population displaced by a project receives benefits from it.”*²²³ Specifically, OD 4.30 spells out five policy objectives and further specifies that an adequate resettlement plan should contain eleven distinct provisions. The five policy objectives are:

- a) *“Involuntary resettlement should be avoided or minimized where feasible, exploring all viable alternative project designs. For example, realignment of roads or reductions in dam height may significantly reduce resettlement needs.*
- b) *Where displacement is unavoidable, resettlement plans should be developed. All involuntary resettlement should be conceived and executed as development programs, with resettlers provided sufficient investment resources and opportunities to share in project benefits. Displaced persons should be (i) compensated for their losses at full replacement cost prior to the actual move;*

²¹⁹ OD 4.30 on Involuntary Resettlement, June 1990, §1.

²²⁰ Ibid.

²²¹ See detailed discussion of the environmental evaluations category in Section 5.1. of this Report.

²²² OD 4.30 on Involuntary Resettlement, June 1990, §2.

²²³ Id, § 3.

(ii) assisted with the move and supported during the transition period in the resettlement site; and (iii) assisted in their efforts to improve their former living standards, income earning capacity, and production levels, or at least to restore them. Particular attention should be paid to the needs of the poorest groups to be resettled.

- (c) Community participation in planning and implementing resettlement should be encouraged. Appropriate patterns of social organization should be established, and existing social and cultural institutions of resettlers and their hosts should be supported and used to the greatest extent possible.
- (d) Resettlers should be integrated socially and economically into host communities so that adverse impacts on host communities are minimized. The best way of achieving this integration is for resettlement to be planned in areas benefiting from the project and through consultation with the future hosts.
- (e) Land, housing, infrastructure and other compensation should be provided to the adversely affected population, indigenous groups, ethnic minorities, and pastoralists who may have usufruct or customary rights to the land or other resources taken for the project. The absence of legal title to land by such groups should not be a bar to compensation.”²²⁴

250. In order to implement these objectives, the OD requires a detailed resettlement plan, timetable, and budget to be prepared for any large-scale population displacement. Resettlement plans must develop a strategy and packages with the goal of improving or at least restoring the economic base for those relocated. The content and level of detail of resettlement plans, which will vary with circumstances, especially the magnitude of resettlement, should provide, inter alia, for the following:

- (a) “ organizational responsibilities (para. 6);
- (b) community participation and integration with host populations (paras. 7-10);
- (c) socioeconomic survey (para. 11);
- (d) legal framework (para. 12);
- (e) alternative sites and selection (para. 13);
- (f) valuation of and compensation for lost assets (paras. 14-16);
- (g) land tenure, acquisition, and transfer (para. 17);
- (h) access to training, employment, and credit (para. 18);
- (i) shelter, infrastructure, and social services (para. 19);
- (j) environmental protection and management (para. 20); and
- (k) implementation schedule, monitoring, and evaluation (paras. 21-22).”²²⁵

251. The compliance of the proposed Project’s Resettlement and Community Development Action Plan (RCDAP) with the above-referred objectives and RCDAP content will be analyzed in some detail below. The Project’s Resettlement Action Plan and the Community Development Plan will be discussed as separate but interrelated entities. They can be treated in this manner because while the resettlement portion of the Project is well into implementation, the development component is just beginning. The Transmission Line

²²⁴ Ibid.

²²⁵ Id., §5.

component of the Bujagali Hydropower Project will be discussed briefly as most substantive issues relating to this project are also described for the main Bujagali Hydropower project.

8.2. Bujagali Resettlement Action Plan (RAP)

252. The combined Bujagali complex of powerhouse, embankment dams, spillways, transmission lines, access roads and reservoir as presently configured will occupy approximately 125 hectares and was originally expected to displace 101 family/households, a figure which now stands at 95. A further 113 h. will be used temporarily during the construction phase and subsequently be rehabilitated and returned to cultivation, the previous owners already having been compensated. The total number of project-affected households is put at 1288, or about 8700 project affected people (PAP).
253. According to OD 4.30 on Involuntary Resettlement, where population displacement is unavoidable, resettlement should be conceived of and executed as a development program.²²⁶ While the numbers of those relocated are small relative to most Category A dam projects²²⁷, dislocation is just as significant to those directly affected by it and calls into play the full force of OD 4.30.
254. In analyzing compliance, the Panel reviewed the RAP and concluded that that the five policy objectives mentioned above in paragraph 3 as required by OD 4.30 have been reflected in the RAP.
255. Although AESNP made detailed plans for compensation, in practice, as will be shown later, this very important matter has been addressed poorly in implementation, leading to enormous confusion amongst the affected people. The compensation/development package itself is basically that which would apply to any displaced population. The specific points raised in paras. 3(b) i, ii, and iii of OD 4.30²²⁸ are all addressed in the March 2001 version of the RAP prepared by AESNP. The RAP describes compensation for disadvantaged sectors of the population, and it offers options tailored to different economic configurations of affected individuals.
256. In the RAP, AESNP proposes to undertake a consultation process with the community on the subject of resettlement.²²⁹ The RAP calls for a process of local consultations and information dissemination through media announcements in local languages, it proposes to use outside experts to carry out social and cultural studies. AESNP also proposes baseline socioeconomic surveys. As noted below, the collection of good socioeconomic baseline data turned out to be the weakest aspect of this effort.

²²⁶ OD 4.30 para. 3b,

²²⁷ Picciotto, R., W. van Wicklin, and E. Rice (Eds.). 2001. *Involuntary Resettlement: Comparative Perspectives*. World Bank Series on Evaluation and Development Volume 2. Transaction Publishers, New Brunswick, NJ.

²²⁸ *“Displaced persons should be (i) compensated for their losses at full replacement cost prior to the actual move; (ii) assisted with the move and supported during the transition period in the resettlement site; and (iii) assisted in their efforts to improve their former living standards, income earning capacity, and production levels, or at least to restore them.”* Ibid.

²²⁹ OD 4.30 §3 (c).

257. On the West side of the Nile, the land used for most resettlement is physically located within the boundaries of one of the eight affected villages (Naminya) and thus most west-side resettlers have ended up in a very close proximity to their original homes and with a familiar “host” population – indeed some will remain in their original community. Host community members were consulted. The host community is to be provided specified project benefits under the Community Development Action Plan. Indeed, most of this has already occurred, such as school and clinic renovations, and installations of the water sources. As noted below, however, the situation on the East Side is very different.
258. The RAP addresses the nature of different forms of tenancy, the rights to compensation of renters/sharecroppers/licensees. There are no minorities involved; thus there is no evidence that the Bank’s policy on Indigenous People (OD 4.20, issued in September 1991) is applicable to this Project. All categories of assets appear to be specified for compensation.
259. As to the *specific provisions* of the plan, each of the items required by paragraph 5 of OD 4.30 will be examined briefly in turn.
- **Organizational Responsibilities:** AESNP teams are directly responsible for the entire process of compensation, resettlement, consultations, implementing, monitoring and organizing assistance to vulnerable people. As far as it can be determined, AESNP appears to have allocated adequate staff to deal with these matters, including community staff assigned to communicate with affected people on a day-to-day basis. These teams work in local languages, seem well trained, and appear to be comprised of socially responsible individuals working to high professional standards.
 - **Community Participation and Integration with Host Population:** The RAP proposes that the main steps of the consultative process should include consultation with traditional leaders or elders, cultural or religious leaders, spouses and others involved in the compensation process, as well as the vulnerable members of the community, where resettlement was to take place, and representatives of communities adjacent to the project affected area. The RAP also envisages that responsibility for self-maintenance would be transferred from AESNP staff to the resettlement community. As a statement of intentions, this meets the requirements of the policy.
 - **Socioeconomic Survey:** Socioeconomic data are clearly central to the preparation of any successful RAP or development plan. This is an area of significant weakness and it shows up early in the design and implementation of the RAP. The RAP makes reference to the collection and utilization of socioeconomic baseline data, specifically noting that the first socioeconomic survey was carried out in 1998 in conjunction with what turned out to be a badly flawed land valuation process.²³⁰ Throughout the RAP, socioeconomic data are presented in aggregated, tabular format but entirely without the specificity one would expect. While the importance of baseline socioeconomic survey is noted in the RAP *as part of the planning process*, very little of it is evident in the EIA in way that would be useful in establishing actual planning baselines. Socioeconomic data were collected as part of the land valuation process on a *transaction-directed* basis. There is

²³⁰ RAP, p.20.

no evidence of the utilization of a free-standing survey of affected households including, most importantly, those who were to be physically displaced.²³¹ There is reference to the 1998 survey but if this had been adequately done, there can be no justification for presenting the ethnic, religious, and income data in the manner in which they appear in the RAP; that is as based on n-dimensional samples of respondents. The “Participatory Rapid Appraisal on Income,” is a dubious exercise in collecting stereotypic income distribution.²³² This is a serious deficiency in the RAP. This defect may be why the valuation/compensation process has gone so poorly. **In brief, the Panel finds that the socio-economic survey requirement may have been met in the formal sense that surveys are mentioned and ultimately carried out, but there is no real evidence of their use or utility in planning. Thus, the requirements of OD 4.30 have been met in respect of process but not in respect of substance.**

- **Legal Framework:** The RAP spells out the nature of land tenancy and how land transfers are to be affected. The relationship between the GoU and the company with respect to land issues is clear. Land transferred to PAP is given as titled freehold; most of the land acquired by AESNP in this process was in customary tenancy. Although a private sponsor, it is clear that AESNP is operating with the scope and power of eminent domain in place. The RAP envisions most land transactions to take place on a “willing buyer-willing seller” basis; but the latent power of eminent domain is clearly spelled out.
- **Alternative Sites and Selection:** Resettlement is planned differently for populations residing on the West and East banks of the Nile. On the West Bank, resettlement is primarily to a new site where houses on one-acre plots are provided. The site chosen appears to meet all criteria as stated in OD 4.30, although the site layout appears to conform more to a western norm than to the resettlers home villages. East Bank resettlers have the option of moving to the West Bank resettlement village, although many told the Panel that to do so would require them to move a considerable distance from their native communities, families, friends and social networks and would divide local communities. AESNP expects most to remain on the East Bank. If they so choose, they may move into new houses constructed on land already owned by PAPs or on new plots purchased in consultation with each affected household. Such consultation takes place between the head of a household (a landowner) and a designated AESNP representative responsible for finding suitable sites. In short, the RAP envisions that each household will have a choice either among plots within the new village located on the West Side or from among alternative sites. Such sites would be found by AESNP staff and located as close to the original site as possible. Due to the physical constraints (topography, willing seller) the

²³¹ It is not organized in a manner that describes households or domestic units. The ethnic, religious, and income data appearing in the RAP are samples of respondents for which sample size and other essential information are not provided (see, for example, RAP p. 24 or p. 25).. What we find in the documentation are shopping lists of items, some of which resemble parodies of social data presentation. What are we to make of fig. 10 p 85 which presents a list of ailments or disabilities, for example, 162 lame legs, 26 sight problems and 6 humps? These are pseudo-data that are worthless as collected and presented; they are not in the slightest way related (or relatable) to households, villages, or individuals. Are these disabilities randomly distributed? Do the resettled households have more or less of them? Unfortunately this is symptomatic of the entire baseline effort. Pie charts are presented without reference to sample size, or who supplied the data; income distributions are likewise of little value.

²³² RAP, pp.36-37

last three households were to be settled 10-20 km remove. This may, of course, result in the division of local communities.

- ***Valuation and Compensation:*** The RAP lays out a detailed program for disclosure of compensation options, the basis for calculating crop values, crop damage due to survey, and land values. Land is compensated for at the rate of \$1853 per hectare, which is by AESNP estimates about 40% above market. There is no independent confirmation of this assertion, and it is disputed by some of the affected people. In any event, those involved concede that market rates are hard to establish. AESNP admits that the process of valuing crops was initially botched and, as the Panel witnessed, it has been a matter of heated contention ever since. AESNP claims that valuation is now based on GoU Land Commission values. The valuation criteria for the East and West Bank vary slightly but both establish values for perennials on a plant-by-plant basis. The program allows for a disturbance allowance of 15% of crop values, which is increased to 30% if the PAP has had less than six months prior notice of transfer. The process also anticipates the PAP's expectations of cash payment and establishes guidelines for encouraging land-for-land transactions where appropriate. The RAP spells out eligibility of affected households, distinguishes among different forms of impact and correspondingly different sorts of compensation. It also spells out how compensation or mitigation is to be paid to those who lose access to certain resources, including fishing. Under Ugandan law, loss of access to resources for tourism activities is not compensated.²³³
- ***Land Tenure, Acquisition and Transfer:*** The RAP sets out the proposed treatment of land tenure, acquisition, and transfer. It includes a description of the entire transfer process. It describes how each transaction should be based on prior consultation including all affected spouses, how the arrangements are witnessed and recorded, and how actual payments (where made as cash) are made into bank accounts opened as needed during final closing.
- ***Access to Training, Employment and Credits:*** As will be noted later, the somewhat unbalanced nature of the overall Resettlement and Community Development Action Plan (CDAP) is evident in the relative degree of specificity given to the RAP compared with the CDAP, (although each component has an approximately similar budget (RAP \$11.1 million over a one or two year period vis-à-vis \$10.3 million over a 35 year period). Thus, development objectives set forth in OD 4.30 appeared to have been at least addressed by RAP.
- ***Shelter:*** The RAP offers those to be resettled three basic options. One is a replacement house, brick-structured, with four small rooms and a free-standing brick pit latrine, each on a one-acre plot. A model house is located in Naminya Village. About 30 houses are currently in place and occupied. The village is laid out much as a western tract, with houses at some remove from one another unlike traditional settlements. Within the village, some closely related households were able to secure adjacent plots. As a second option, resettlers are offered the provision of materials required to build a house of the same model and the cash value of labor needed for construction. The third option is

²³³ For detailed discussion of tourism issue see Section 8.6. of this Report.

simply cash compensation for their previously owned house. Resettled households will be encouraged to build a kitchen using a model provided but this is not part of the housing package. Each model home in the village comes equipped with a 1000-liter “water harvester” or collection system utilizing the tin roof. The resettlement housing package seems superior to prior living arrangements.

- **Infrastructure:** Boreholes with hand pumps will replace free access to Nile water for the initial phase. In later stages, water will be on a pay-for-use basis, as preferred by the Ugandan authorities. Electricity lines and transformers will be brought to each affected community but distribution and hook ups will be the responsibility of the individual households. However, the Panel is unaware of any studies, which establish that poor users will be able to afford water and individual hook ups on this basis.
- **Social services:** Plans are included for building of one new school and remodeling and extending of the existing schools. One school has already been renovated at the outskirts of Naminya and others are to be renovated on the East and West Banks. The RAP envisages that a clinic should be remodeled and another built.
- **Implementation Schedule and Monitoring:** The RAP addresses the issues appropriate to paras. 21 and 22 of OD 4.30. Monitoring is on-going, with follow up visits in particular to the vulnerable and to those who chose building materials or cash to determine if they were used appropriately. There is a team established to maintain AESNP contact with affected households, especially those who are resettled. Procedures appear to be in place for regular review of the resettlement process. While the legal assistance offered the stakeholders is provided under contract by an independent NGO, as is the Witness Program (InterAid), field interviews showed that many stakeholders perceive these individuals as closely associated with AESNP.

260. **In conclusion, although the RAP component of the RCDAP as updated in the EIA of March 2001 may be regarded as formally in compliance with the provisions of OD 4.30, there are important requirements still to be met. This is particularly true of those that are related to valuations and payment for the crops, which continue to be disputed by a significant number of affected people.**

8.3. Bujagali Community Development Action Plan (CDAP)

261. The main objectives of the Community Development Action Plan are:²³⁴ (a) to provide opportunities for better incomes or living standards for Project Affected People and the affected area as a whole; (b) to improve quality of life in the affected area; and (c) to provide a safety mechanism for people who may have specific difficulties before, during, and after the displacement/resettlement/compensation process.

262. In developing the Community Development Action Plan, AESNP has adopted a two-phased approach: In Phase I, which covers the five year period of dam construction, AESNP

²³⁴ CDAP, p.119

allocates US\$3.7 million to what is termed “community development.” This sum incorporates US\$1.9 million of the compensation package’s so-called uplift, leaving US\$1.8 million for post-compensation development efforts. In Phase II, the 30-year operational period, AESNP pledges US\$250,000 annually to sustain new initiatives, as yet unplanned and unspecified, and to help develop additional projects. During Phase II, the plans’ area of concern could be expanded to include regional and national projects.²³⁵ If so, this would dilute the amount of funding available for local use. The projected Community Development budget in Phase II is US\$7.5 million (30 year x US\$250, 000). It must be noted, however, that the present value of US\$250,000 to be spent 10, 20, or 30 years from now could be a very small sum indeed.

263. AESNP states that its proposed role in Community Development is to support long-term sustainable development initiatives, not to generate them. It is therefore unclear where these initiatives will originate and who will determine what will be supported. It is also somewhat unsettling to find that the CDAP refers back to Section 4 of the main RAP report, which, as noted above, lacks useful specificity. The points emphasized are extremely general: that land is scarce, cash crops tend to be the preserve of men, new non-agricultural income sources are needed, and that new financial services are needed. Even this general strategy is not well defined.²³⁶
264. The CDAP points to several main areas of activity in Phase One. In respect of employment, AESNP intends to create a market in the vicinity of the contractor’s base in the dam area to sell food and basic goods to construction workers. The area will be served with drinking water, latrines, proper run-off water sanitation, and it will be made accessible to matatu mini-buses. In order to limit firewood consumption, the use of gas rather than wood will be promoted. It is hoped that this will occupy 50 women. A budget of US\$40,000 includes support for vocational courses to encourage dam employment and apprenticeship programs on the dam site. No sustainable economic activities seem to be envisaged for the “after construction” period.
265. The CDAP budgets US\$154,000 for **water-related activities**. The plan is to develop short-term water supply points for free distribution of water during the construction period when water supplies may be adversely affected by construction. Long-term sustainability in water supply, the CDAP notes, requires that the community must be prepared to pay for the cost of water; it must organize itself to deal with water issues; women’s involvement is critical; and spare parts and repair skills must be available to the community. It is noted that the GoU is currently implementing a policy of non-free water in rural areas.

²³⁵ According to CDAP, in Phase II the \$250, 000 pledged annually can be used anywhere in the country, not just in the affected areas. This is reasonable, as the transmission line cuts across the country for 100 km stretch and all Ugandans are stakeholders.

²³⁶ “... the construction of the dam will provide direct sources of employment; the job opportunities will be directed to the affected communities to the extent possible; measures will be taken to have indirect employment from the dam construction benefit the affected communities too; improvements in power and water supply are widely expected by the communities; better access to credit is regarded critical in the area for small-scale business development...” CDAP, p.121

266. As to **electricity**, the CDAP discusses the general problems involved in making electricity available as well as the problems of off-grid delivery. US\$300,000 is budgeted for this problem of which US\$220,000 is allocated for purchases of transformers, poles and cables for the eight affected villages. AESNP involvement is to be nominal and there is no provision for direct financing or credit for individual hook-ups.
267. **Fisheries** (as income source) are a part of the CDAP. In addition to the proposed access sites on the reservoir, the CDAP allocates US\$281,500 for development in this area, of which US\$120,000 is for three access sites on the reservoir and landing sites, US\$25,000 is for equipment, and US\$100,000 is for monitoring program.
268. As to **training and financial services**, the CDAP proposes to make PAPs aware of business opportunities and to offer training in a number of programs, including record keeping, savings and credit, smallholder associations, farming as a business. This last program has already been undertaken by a local NGO, ACDI-VOCA, and has graduated eight individuals trained as teachers for the same course. A total of US\$110,000 is budgeted for these programs, including a US\$50,000 line of credit with which to start up a micro-finance institution.²³⁷
269. Improved **educational** facilities were a major concern of PAPs. In this regard, the CDAP focuses on the construction or remodeling of five schools as well as some equipment. No provision is made for the staffing of the school. The budget is US\$420,000.
270. Concerning **tourism**, the CDAP allocates US\$170,00 for the construction of a visitors' center near the dam; a plan has yet to be developed. AESNP will not compensate local tourist operators or workers that will lose their source of employment as a result of the Project. AESNP has, however, offered financial support through loans to tourist operators. It is hard to estimate the net employment or net local income potential of this effort. **Thus, the Panel finds that this aspect of the CDAP is not in compliance with IDA OD 4.30, in particular, the provisions of its paragraph 15.**
271. As for **health centers**, the plan is to upgrade a clinic on the East Bank in Budondo; adding beds, equipment and a consignment of drugs. On the West Bank a new clinic will be constructed. A budget of US\$300,000 is allocated for both projects, with the bulk going to the new clinic.
272. A budget of US\$50,000 is earmarked for construction or remodeling of two community **resource centers**, one on the East bank, and one on the West. They are intended to facilitate community development by providing health information, library services, financial information, and classroom space for training exercises, phone, and fax and email facilities.
273. **The Panel finds that the CDAP does not meet the requirements of OD 4.30 because it is weak and sketchy in the extreme; it focuses almost entirely on short-term exercises; its targets are poorly laid out; and it makes no significant or systematic effort at achieving long-term poverty alleviation. It does not adequately address the issue it**

²³⁷ CDAP, p.114

raised initially in the CDAP regarding the development of safety mechanisms for people who experience difficulties after the compensation and resettlement process. Most of the resources are directed to short-term construction projects rather than institution building or social fundamentals. Further, the net present value of the resources to be contributed over a 35-year period seems very low. The CDAP is, therefore, not in compliance with IDA's policy on Involuntary Resettlement.

8.4. Process Compliance and Implementation

274. It appears that in the several years leading up to the WBG becoming directly involved and assuming oversight responsibilities, the hydropower project was formulated largely in economic terms and that the main concern of the sponsor, AESNP, was the acquisition of land. This is evident in the organization of their primary database in terms of land/structure transaction reports/files rather than household files. This approach, quite understandable in itself, means that while AESNP has good data on numerous socioeconomic variables describing the PAPs, they are not easily integrated with the land transfer data. Since the socioeconomic database is constructed in terms of land transactions, it does not clearly and sufficiently delineate those households that are physically dislocated from those who are otherwise affected.
275. Thus the socioeconomic profiling presented in the EIA, as well as much of the ethnicity data, appear to be based on samples of varying and sometimes specified sizes. The results of these samples are presented in aggregate formats without listing actual sample sizes or numbers of respondents answering particular questions. It is *not* the case that the human component was totally ignored but rather that the main task was perceived to be the keeping track of many thousands of individual land transactions, which were far more numerous than the households due to the complex nature of land ownership.
276. According to the RAP, baseline socioeconomic surveys and cadastral mapping should occur early on in order to enable mitigation and valuation plans to be customized according to actual household variability. While the organization of the resettlement scheme is straightforward, its implementation suffered in significant areas. Specifically, the initial land and valuation survey was carried out simultaneously with the baseline social survey and they were deeply flawed. While the baseline survey was augmented by subsequent efforts, the valuation process remains a major bone of contention between the sponsor and local stakeholders, a point to be taken up later.
277. In its final RAP, AESNP saw the process leading to implementation taking place in Stages. **Stage One** included both local consultations and information dissemination. In keeping with IDA and IFC requirements, AESNP developed a Public Consultation and Disclosure Plan.²³⁸ Since April 1997, according to its own reports and records, AESNP has consulted with over 7000 local stakeholders and residents in some 128 meetings organized in each of the eight villages that are primarily impacted. This is in addition to media coverage

²³⁸ Annex 9, RCDAP, p.103

and some 87 meetings with environmental and other NGOs. The Stage One process and local-level consultations appear to meet the formal requirements of OD 4.30.

278. **In Stage Two**, AESNP undertook to identify those directly involved by virtue of their residence in the land area required for the Project, or because they own, rent, or sharecrop plots in that area. Thus the boundary of the area required for the Project closely delineates the area occupied by the project affected people, but compensation, of course, also includes development support for specific institutions in adjacent communities – e.g., water sources, schools and clinics.
279. **In Stage Three**, AESNP undertook to establish the size of, and estimate the value of, the plots in the area, including assets, and to determine the nature and value of the crops on the plots. This exercise, undertaken in 1998, was badly flawed. It had to be completely redone in 2000. Prior to the last attempt at valuation, an intermediate survey of 25 hectares (8% of total land take) was carried out to determine the extent of the flaws of the first. Thus, some owners/tenants experienced three valuation exercises. The resulting widespread confusion and acrimony was quite apparent to the Panel when it interviewed locally affected people.
280. **Stage Four**, the conduct of the socioeconomic survey and the taking of ID photographs, appears to have been conceptualized as a distinct exercise. It was not carried out as such, however. Rather, it was undertaken in close conjunction with the two valuation surveys mentioned above. Given the need to treat resettlement as a community development program, it would have been better to have conducted the socioeconomic survey separately from the valuation work. Moreover, questionnaires used for the *final* socioeconomic survey are those prepared under the Ugandan Land Act of 1998²³⁹ and are not in accordance with the Bank's requirements.
281. It is very doubtful whether, in the minds of the project-affected people, the implementation of the RAP proceeded in the nicely demarcated stages seen by the AESNP planners. The various stages of the RAP were in fact implemented as part of a parallel process and with a partly overlapping time period. Furthermore, *resettlement* was merged with the overall scheme for compensating landowners and tenants regardless of their resettlement needs. In the resulting confusion, there is no doubt that the sponsor lost a portion of the goodwill it had developed in the previous months of careful preparation. It is thus appropriate to consider the adequacy of all stages of the RAP taken together.
282. Both the valuation and socioeconomic survey began in tandem in 1998. As noted, the first 1998 valuation was badly botched, to the point where it may have encouraged some fraud. In any event, it turned out that the aggregate area of the plots claimed for compensation exceeded the area of the land taken for the Project by 89 percent. Moreover, the aggregate of the amount claimed for crops far exceeded what was agriculturally

²³⁹ Annex 2, RCDAP, March 2001.

possible.²⁴⁰ Area residents claimed that bribery was prevalent during the two month long valuation process.

283. While plot sizes may have been overstated in the 1998 valuation, the main source of dispute about values involved crops. Crop values far exceeded land valuations. It was claimed that perennial crops were planted in order to increase claims for compensation.
284. At some point during the first stage consultation, possibly because each land owner was approached in relation to each of the possible multiple plots owned, some PAPs got the impression that it would be advantageous to subdivide plots among family members. Thus, land came to be registered in the names of wives and minor children. As implementation proceeded through survey and valuation, it became obvious that many more households would be at least nominally involved than anticipated. This had the positive by-product that many more plots of land were registered in the names of female household members than would otherwise be the case.
285. The socioeconomic survey accompanied this first 1998 valuation provided some useful data. It included a highly detailed map of all of the households, their residents, plots, houses and other structures and features. It also provided a basis against which the valuation could be measured. It found that 707 households were affected by the project - far less than indicated by the first valuers and less than the number actually receiving compensation in the final round. Given the state of the first survey, a second full survey was carried out in 2000. Again, the sponsor found the values for crops to be excessive. The GoU agreed. On April 9, 2001, the GoU announced that no payment should be made for young or small perennials. Further, AESNP and the Land Commission decided at this juncture to place a compensation cap of Ush 25.6 million per acre. Compensation has been paid on this basis since mid-2001. In July 2001, however, AESNP stated that 15% of the land needed, approximately 80 acres out of 542, remained in dispute over “young” crop valuation; 1279 PAPs on 866 plots had crop valuations exceeding the cap of Ush 25.6 million. AESNP data confirm that the rates paid are the highest land/crop values in Uganda, significantly higher than the Transmission Line valuations, even though the T-Line values are inclusive of seemingly higher priced land in and near Kampala. Further, speculation can be easily detected comparing compensation paid on the East and West banks.

²⁴⁰ The following is a summary description of the nature of the valuation problem as perceived by the International Environmental and Social Panel of Experts: “Following from the valuation exercise associated with the EIA investigations it has come to light that the exercise was flawed and several apparently fraudulent activities were undertaken. The EIA valuation report concluded that the land take amounted to 550 hectares and the total compensation for land, assets and crops amounted to Uganda shillings (Ush) 15 billion (approximately \$12 million). Of the Ush 15 billion, Ush 3 billion was for land compensation (approximately \$2.3 million). The surveyed and calculated land take is 291 hectares for the hydropower facility. Therefore the EIA hydropower project land take area estimated during the valuation process was exaggerated by 89% beyond the area actually surveyed and known to be needed by the land take for the dam. From: Uganda: AES/Nile Power Limited Bujagali Hydro-Electric Power Project. Fifth Report of the International Environmental and Social Panel of Experts. AES Corporation, Arlington, Virginia, AES Electric Ltd., Richmond, UK, AES/Nile Power Limited, Kampala, Uganda, February 26, 1999, p.5.

286. During the interview process, some NGOs made the point that consultations between individuals who possess enormous differences in power are skewed, and, therefore, may be perfunctory and one-sided. The fact that PAPs formed Committees of Land Owners in order to dispute valuations may indicate, however, that some of them were capable of asserting specific claims. Nonetheless, an evaluation of the consultative process remains somewhat difficult because the RAP, while rich in general descriptive material, is very weak in sorting out the primarily affected households from those that are involved simply through relatively minor land transactions. This reflects the fact that AESNP's prime concern was to purchase land or otherwise compensate people for the land it needed; i.e., a willing seller-willing buyer approach rather than that of a development project for the people affected by the Project.
287. The last **Stage, Five**, concerns information management. This should integrate into one database survey results, valuations, socioeconomic data, crop damage reports, and any disputes that may have arisen. As far as could be determined, however, there are several databases, not one.²⁴¹ This must be a concern because of the high risk that the institutional capacity in AESNP to maintain these various data bases may not be sustained over the coming years
288. The resettlement process was nearing the end of implementation at the time of the Panel's field visit. All of the households on the West Bank were by then completely resettled or nearing the final stages of completing their move. Most of those to be settled in the Naminya planned village were in their new homes; only one or two were still in the Project area. And all but three were in the process of moving. While East Bank residents had the option of moving into the planned village on the West Bank, only two or three have chosen to do so.



Picture 4: Naminya resettlement village

²⁴¹ The most readily accessible computer database seems to be that built up around land transactions.

289. On the East Bank, the resettlement process was virtually complete at the time of the site visit. Three households had not completed negotiating the terms of a land-for-land resettlement contract in which land, building supplies and labor will be provided by AESNP. They were still reviewing possible sites offered by AESNP. Representatives of these households had been in touch with the project monitors as well as the chief taskmaster for resettlement. All other households had finalized their arrangements although some formal closings were still pending.
290. In short, of 95 households to be resettled, 92 have been resettled. Of these, 25 took cash, 34 took AESNP provided house and land, and 36 took land, building materials, and labor compensation. While AESNP had originally expected to complete all the issuance of land titles by September 2001, as of late November titles were still being issued on the East Bank. Hence, at the time of the Team visit, West Bank has been completely taken care of with respect to settlement, while East Bank had three households awaiting settlement and a handful of others, who had agreed to settlement, but were waiting only for the formalities of a closing.

8.5. Compensation for Land and Crops

291. Many aspects of the compensation package have been already touched upon (e.g., see para 279). At the least it is a serious public relations problem in an otherwise well administered program. It seems inexplicable that the flawed valuation proceeded without on-going quality control. AESNP claims that they viewed the initial valuation as an exercise in *informal estimating* since the final determination of land and crop values had to be made by the Ugandan Land Commission. This was clearly not communicated to the PAPs in a manner that they understood. Many of them told the Panel that they believed it was the actual basis for compensation, and many planned accordingly.
292. During the course of the investigation, a number of questions arose that cannot be answered conclusively since pre-existing conditions cannot be re-established. For example: Were the small/young crops planted simply as speculation, or were they planted in the genuine expectation that they would come to maturation before the land was to be vacated? To what degree if at all have innocent PAPs been adversely affected by the compensation package which ended up setting payment caps to limit exposure to fraud. Can one estimate the number of PAPs who lost compensation because they succumbed to offers of cash by speculators who purchased part or all of their holdings? Can one estimate the number of PAPs who allowed speculators to pose as tenants thereby foregoing the crop compensation they would otherwise have had?



Picture 5: Consulting Project affected people on West Bank

293. The AES Nile Power Compensation and Resettlement Database for the 8th, 9th, and 16th of November provides useful information on the status of compensation which can be summarized as follows:

Hydropower site average land-take plot size:	West 0.42 acres	East 0.22 acres
Total land take:	West 406.1 acres	East 148.4 acres
Number of plots acquired:	West 968	East 663
Total transactions as of 11/16/2001:	1605	
Using the official FOREX exchange rate of	Ush 1600 = \$1:	
Average payment per plot	Ush 5,247,935 (\$3280)	
Average payment per acre	Ush 15,436,997 (\$9648)	
Average payment per crops	Ush 1,754,756 (\$1097)	
Average payment per acre/crops	Ush 13,769,757 (\$8608)	
Actual land/crop compensation paid to date	\$5,264,335.00	
Pending transactions	331	

294. AESNP contends that the average size of plots on the East Bank (.22 acres compared with .42 acres on the West Bank) and the relatively large number of plots (664 on 184 acres on the East Bank compared with 968 on 406 acres on the West Bank) reflects greater speculative activity on the East Bank. Unfortunately, the Panel was not able to validate this claim independently because the data provided by AESNP was aggregated for both sides of the Nile.

295. The transactions currently being implemented for the transmission line also yield some comparative figures:

Non-resident licensees or tenants	32% (about half the number generated at the power site, which is very atypical for the country)
Non-resident owners with crops and who will be paid cash	52% (64% at the hydropower project)
Relocated owners or tenants	15% (about seven times the ratio of dislocated owners to others in the hydropower project)
Average payment per acre for crops	Ush 1,255,862 (\$784.90)
Average payment per acre for land	Ush 2,382,241 (\$1489.00)

The numbers are based on 2,087 households/owner transactions and are far below the values at the power site.

296. The Bank's Involuntary Resettlement policy, OD 4.30, clearly states that land-based resettlement options should be provided to displaced persons where feasible. In the cases of both the power site and the transmission line, this would appear to have been adhered to the extent allowed given that Ugandan law allows for cash options. AESNP maintains that the new land seems at least equivalent to, and is located in reasonable proximity to, the land from which people will be displaced. Many project-affected people interviewed by the Panel did not share this assessment. In point of fact, the majority of all land transactions are cash for land since owners are non-residents and thus not eligible for a new house, etc.²⁴² Nine hundred and one non-resident landowners opted for cash while only 257 opted for land in kind.

297. As part of the inspection, the Team carried out interviews with individuals involved in new building construction along both main roads. Along a measured 3 km stretch on the East bank affected area, the Team counted 71 instances of brand new buildings or work in progress, using brick and cement materials. The amount and density of new construction seem to exceed many-fold the activities along the same road as one approached Jinja Town – an inversion of what would be expected i.e., that normally settlement pattern density increases as one approaches the city. The Panel inquired the purpose of the structure and source of money and whether they were from PAP. The overwhelming response was that the money invested was coming from PAPs. Most were building shops attached to houses. Some were building new homes with AESNP materials. Most were investing cash in multi-use buildings that typically house roadside shops in anticipation of increased traffic as well as to improve living conditions. On the West Bank a similar stretch of building activity very closely paralleled the project area and responses were similar. Directly or indirectly, the

²⁴² RAP, p. 58.

influx of cash in the project area seems to be having an impact on infrastructure and settlement pattern.

298. In the final analysis, however acrimonious the compensation process was and is the people who are most seriously impacted will be compensated, without known exception. Many vulnerable households, especially those headed by women, appear to have benefited. The houses to which those on the West Bank have been moved represent a clear improvement over their previous abode. It would appear that significant local investment has occurred using the cash injected into the Project area. The sponsor has put together an adequate organization, has trained staff in ways which benefit them for work elsewhere when this Project is completed. IDA social scientists have had a positive role in shaping facts on the ground.
299. While Project documentation makes fulsome reference to benefiting the affected people through development, uplifts, consultation, preservation of cultural values and the like, adequate cultural or social descriptions of the pre-Project community are lacking: e.g., data on basic elements of social organization, household structure, politics, population structure, and population dynamics. IDA policy now focuses on poverty reduction. The massive documentation provided in the EIA addresses this only very generally and tangentially.
300. **In the Panel's view, the initial implementation of the RAP had serious problems, especially in the determination of legitimate claimants and in the valuation of land and crops. In this sense, it is not in compliance with the requirements of OD 4.30. Nonetheless, the Panel concludes that, with few exceptions, most of the people resettled ended up not worse off, but better off than they were prior to their physical relocation and, in this sense, the main objective of OD 4.30 was achieved. At the same time, this does not preclude the possibility that some affected people may have been harmed.**

8.6. Compensation for Tourism

301. The Request for Inspection claims that *“The Bujagali dam will seriously retard the tourism industry, which is the second largest foreign exchange earner following coffee. Construction of Bujagali dam will inundate the falls, which is a major tourist attraction; the camp sites on the banks of the river, and eliminate substantial revenues that accrue from tourism activities like White Water Rafting along the Nile... and we know that this loss has been under estimated in the Bujagali EIA.”* The Request attaches a paper by the Uganda Tourism Association,²⁴³ describing the concerns of its members, and adds that *“the AESNP plan for resettlement and compensation submitted to the WB/IFC for consideration does not mention or consider resettlement and compensation of tourism-related business in the project-affected area.”*

²⁴³ Paper entitled *“Tourism sector standpoint on the AESNP proposed Bujagali Hydro Project”*, submitted by Wolfgang H. Thome, President of UTA, at the Washington, D.C. WB/IFC Open Forum in July 2001.

302. In its Response, Management “agrees with the statement that the construction of the proposed Bujagali Hydropower Project will inundate Bujagali Falls”²⁴⁴ and explains that the Project’s potential impacts on tourism have always been a concern citing, as an example, a June 3, 1999 IFC review of the March 1999 EIS which stated: “... *the environmental and social criteria were weak and, from IFC’s perspective, a satisfactory EIA would need to at least review such studies and update/revise them as necessary. Given the importance attached today to free flowing, cascading rivers as an aesthetic resource (not to mention the potential World Bank Group policy on cultural property issue surrounding Bujagali Falls) and the emerging significance of this section of river for the international whitewater rafting community my guess is that the review of these previous studies will require updates and or revisions.* Management’s Response then states that “[T]he March 2001 EIA pays considerable attention to the project’s impacts on tourism, recreational activities and experiences. In particular, there will be impacts on whitewater rafting; general and eco-tourism; aesthetics and ecologically protected areas.”



Picture 6: Bujagali Falls

303. According to Management, the impact on tourism is addressed in the Community Development section²⁴⁵ of the RCDAP, where it states that tourism development and related economic development “are being addressed and are based on an on-going consultative process between AESNP and local residents, tourism operators, and community leaders.” For these purposes the RCDAP earmarks an initial sum of US\$170,000 for specific projects to develop and diversify tourism in the area, and the document elaborates that “in this sector AESNP has made the following commitments: establishment of the Jinja Tourism Development Association (JITDA) the objective of which is to build upon the area’s existing

²⁴⁴ Management explains that “the March 2001 EIA (pp. 147-159) presents the analysis of the social, environmental and cost parameters that was undertaken to evaluate the potential for avoiding inundation of Bujagali Falls. It was determined that there was no feasible configuration that would avoid inundation of Bujagali Falls.” Management Response, p. 44, ¶ 143.

²⁴⁵ RCDAP, pp.119-154.

*facilities and attractions and amalgamate the presently somewhat fragmented industry into one that is sustainable; a cultural center; a visitor center; and launching facilities for whitewater rafting.”*²⁴⁶

304. The region now has and will continue to have potential to support a tourist industry far greater than at present. The Project area would, of course, benefit from a far greater potential growth in tourism **without** the dam. In interviews with representatives of the Association of Uganda Tour Operators (AUTO) and the Nile Tourism Association (NTA) Jinja and some of their members, the Panel was told that a major area of concern to them was AESNP's refusal to discuss and effect compensation for member firms of AUTO and NTA and, in particular, for the most affected parties, i.e. rafting companies and Bujagali Speke's Camp, among others, and the people who work for them.²⁴⁷
305. A review of the RAP and the RCDAP, as well as interviews with Project staff and AESNP officials, confirms that these plans do not mention or even consider resettlement or compensation of people working in tourism activities in the Project-affected area who may lose their assets and primary source of income as a result of the Project.²⁴⁸ Furthermore, no socioeconomic survey has been carried out for these purposes. In fact, neither Management nor the Project documents refer to specific compensation or rehabilitation activities other than the small subsidies or loans that AESNP offers to those tourism firms who wish to relocate elsewhere on the Nile.²⁴⁹ In addition to those mentioned above, the Panel interviewed numbers of people who work for the rafting businesses or, like the swimmers, whose livelihood depends on the tourism activities. According to these interviews and Panel observations, any possible tourist development at Kalagala falls, more than 40 kilometers away from their current place of work will not compensate these Project affected people for the loss of their assets, current jobs and sources of income. In a communication to the Panel on March 11, 2002, Management confirmed that it had approved both the AESNP's RAP and RCDAP without requesting any amendments or additions.
306. A review of existing documentation on this issue reveals that the Bank has consistently taken the position that the compensation and rehabilitation called for under OD 4.30 extend not only to people physically displaced by projects, but, also to those who suffer other kinds of losses such as the dismantling of production systems, the loss of productive assets or

²⁴⁶ March 2001 EIA, pp. 359 – 367 and March 2001 RCDAP, Chapter 26.

²⁴⁷ All but one of the white water rafting businesses at the site are owned by expatriates who have leasehold rights to access the river upstream from the project area and use the river as a common resource. One Ugandan PAP who was interviewed -- a businessman owning a tourism company and 10 acres of land on the river near the dam -- said he was not concerned as much with the compensation package for the five acres he is losing as with being able to acquire comparable riverbank land on which to resume operations at or near the Kalagala Offset. This was being negotiated with AESNP.

²⁴⁸ AESNP officials stated that Ugandan law prevented them from including compensation for the kind losses that people involved in tourism activities would suffer as a result of the project. Under IDA policies, staff must identify and deal with any legal limitations to the compensation of project-affected people early in the project cycle. See Shihata, *The World Bank in a Changing World*, Selected Essays, Martinus Nijhoff, 1991, Chapter 5. See also, Legal Aspects of Involuntary Population Resettlement, by Ibrahim Shihata, in *Anthropological Approaches to Resettlement, Policy, Practice and Theory*, Michael Cernea and Scott Guggenheim, Eds. 1991, Chapter 3.

²⁴⁹ The aid is provided as some sort of assistance but not as payments or compensation for lost of real or potential business.

income sources, as well as any increased difficulties accessing, among other things, public services, customers and fishing and grazing.²⁵⁰ Paragraph 2 of OD 4.30, for example, describes the severe social, economic, cultural and environmental problems which people may face as a consequence of development projects, and paragraphs 11, 14 (c) and 15 address several factors that may disturb the resource base used by affected people: partial loss of assets that render households economically unviable, and loss of access to, among other things, public services, customers and fishing and grazing. The Panel agrees with this view of Bank policy and wonders why it was not applied in this case.

307. **In failing to ensure that compensation was paid, and/or rehabilitation was provided, to people who will lose their primary sources of income as a result of the Project's impacts on the tourist industry, the Panel finds that Management is not in compliance with OD 4.30.**²⁵¹

8.7. Cultural Property Management

308. Operational Policy Note (OPN) 11.03 on Cultural Property Management (CPM) is directly relevant to the Bujagali Project. The term "*cultural property*" was defined by the United Nations so as to include sites having archeological (prehistoric), palaeontological, historical, religious, and unique natural values.²⁵² Therefore, cultural property includes both what is left by previous human inhabitants (e.g., middens, shrines, and battlegrounds) and unique natural environmental features such as, for example, canyons and waterfalls.

309. In its very first paragraph, OPN 11.03 emphasizes the importance of compliance, stating that the loss of cultural properties in many places is rapid, irreversible and often unnecessary. IDA's objective is "*to assist in their preservation and to seek to avoid their elimination.*"²⁵³ IDA realizes this objective not only by declining to finance projects that damage important cultural property, but also by taking a more active role in protecting and enhancing cultural property in projects that it does finance. Departure from this policy can be justified only where the project's benefits are great and the loss unavoidable, minor or otherwise acceptable by the competent authorities.²⁵⁴ Moreover, IDA is obliged to follow this policy "*irrespective of whether the Bank is itself financing the part of the project that may affect cultural property*".²⁵⁵ Therefore, OPN 11.03 is fully applicable to the Bujagali Project, regardless of the fact that IDA's involvement is limited to a PRG.

²⁵⁰ This position has been articulated in Bank's internal memoranda. See also, Legal Aspects of Involuntary Population Resettlement, by Ibrahim Shihata, in *Anthropological Approached to Resettlement, Policy, Practice and Theory*, Michael Cernea and Scott Guggenheim, Eds. 1991. and, Ibrahim Shihata, *The World Bank in a Changing World, Selected Essays*, Martinus Nijhoff, 1991, pp.135-180, Chapter 5.

²⁵¹ It should be noted that the recently issued OP/BP 4.12 on Involuntary Resettlement, of December 2001, does not provide for compensation of this type of loss because the new policy "covers direct economic and social impacts" resulting "in relocation, loss of assets or income sources or means of livelihood, caused by involuntary taking of land or the involuntary restriction of access to legally designated parks and protected areas". (paragraph 3 of OP/BP 4.12)

²⁵² OPN 11.03 on Management of Cultural Property in Bank-financed Projects, September 1986, §1.

²⁵³ Ibid.

²⁵⁴ Id., §2.

²⁵⁵ Id., §2(d).

310. In preparing a project, IDA staff is expected to follow certain procedures defined in paragraph 3 of the OPN 11.03. It provides that “*when a project prima facie entails the risk of damaging cultural property (e.g., any project that includes large scale excavations, movement of earth, surficial environmental changes or demolition) the Bank staff must determine what is known about the cultural property aspects of the proposed project site.*”²⁵⁶ Furthermore, the Government needs to be informed about the policy and consultations need to be held with NGOs, universities and civil societies. If the presence of cultural property is in doubt, “*a brief reconnaissance survey should be undertaken in the field by a specialist.*”²⁵⁷
311. **Archaeology.** Current practice as well as IDA’s policy requires that all project-affected landholdings be inspected in order to identify their historic and prehistoric archaeological resources, evaluate their significance, and protect important resources.
312. At Bujagali Falls and areas along the transmission line, heavy vegetation cover precludes a useful systematic field survey prior to work on the construction phase.²⁵⁸ AESNP, according to its depositions, facilitated an official archaeological reconnaissance level survey in July 2001. The team covered the Project site and visited areas of possible interest at Namizi, Kikubamutwe, and Malindi villages; the Buloba quarry site; Kaybirwa, a landing site on the Nile River; Dumbbell Island, which will be used as a footing for the dam; and areas around the Bujagali Falls tourist site, which will be partially submerged. The survey concluded that no sites were found with a sizable concentration of cultural/archaeological materials. This would appear to comply with good professional practice in the first stage. But once ground cover is removed and surface soils disturbed a further systematic survey should be put in place. This need not hold up construction as very often CPM projects work in conjunction with construction.
313. AESNP representatives told the Panel that, once vegetation is cleared, it will continue with a full-scale archaeological survey of the inundated area, borrow areas, dam footprint, and construction areas. It would be appropriate for a consulting archaeologist to visit the site during construction on a regular basis to determine when another large-scale survey could be profitably carried out. It is also appropriate that the corporation earmark funds for conservation and analysis of any cultural materials. Also, a survey of the T-Line over a 100 km transept could be a valuable archaeological study in itself.
314. **Graves, Shrines and Spiritual Sites.** Such cultural properties, even where intangible, are under the purview of OPN 11.03. Apart from the Bujagali Falls, the sacred sites of the project area appear to be highly localized and their significance individuated. Thus mitigation, for the most part, can be (and has been) negotiated with the families most directly concerned. In this way household shrines or privately owned shrines built away from house sites (amasabo) can be disassembled, rebuilt and re-sanctified. There are also appropriate mechanisms for relocating the remains of known ancestors. Since many of the PAP have

²⁵⁶ Id., §3.

²⁵⁷ Ibid.

²⁵⁸ Zeidler, J.A. Archaeological Inventory Survey Standards and Cost-estimation Guidelines for the Department of Defense, 1995. USACERL Special Report 96/40, Vol.1.

themselves moved into the region from elsewhere within the last two generations, this apparently is a familiar undertaking. Local diviners speaking through their interpreters regularly carry out appropriate rituals.

315. AESNP has carried out adequate surveys of all graves, shrines, and sacred places in the project area and put proper procedures in place for their relocation. Compensation and fees for such ceremonies have been paid and no complaints in this regard were brought forward. None of the private shrines have wide significance nationally.
316. **Collective/Community Spirits.** The project will inundate islands in the Nile River and other physical features such as rocks or trees, which are associated with recognized spirit forces. There is disagreement on the significance of these Nile spirits for people residing outside of the region. The spirits, believers agree, are contacted by mediums or specialists who communicate with them in a trance state. The spirits can be propitiated, but again there is disagreement regarding exactly who should carry out the required rites.
317. The rites are of material significance to the protagonists for reasons beyond the fairly substantial sums of money involved. The rites situate the religious leaders politically and socially; perhaps even on a national level. The presence of the Bujagali spirit enhances the reputations of the local mediums, hence enhancing their income. There are two protagonists. The Nabamba Bujagali, often called the Living Bujagali, who resides near the Falls, and the muswezi (diviner), Lubaale Nfuudu, residing 7 km away. Each asserts his primacy in interpreting the spirits. While the protagonists have cooperated with each other in the past, and both have had extended consultations with AESNP and with GoU ministers, they are now in dispute over their roles in mediation with the Bujagali spirits. Religious disagreement is exacerbated here by the fact that they are operating within the range of media attention.
318. The Nabamba has what is essentially a self-selected position. At some point, he says forty years ago, he became aware of his spiritual calling as the embodiment of the Bujagali spirit, and subsequently had this claim recognized by a local following, even though he never completed the traditional course of study of a diviner or “muswezi.” The fact that he is not a muswezi has been raised by some of his detractors. He is registered with the Government as a “native doctor.” His residence cards for the districts date back to 1988. Lubaale Nfuudu occupies a somewhat more bureaucratically defined position. He, too, is a “native doctor” with what appears to be a very substantial practice. More importantly, he is the official diviner of the Ntembe clan, one of nine within the Busoga Kingdom, and the clan which traditionally “owns” the Bujagali cultural site. Most members of the Busoga ethnic group, which dominates the East Bank but traditionally owned both banks, seem to assert that the Bujagali is specifically a Busoga religious matter, and the Bujagali spirit appears to have little cultural meaning for most non-Busoga.
319. The Living Bujagali has often been featured in the national press since the dam project has gained considerable media attention. He terms his residence “a palace” and his entourage “ministers,” much like the traditional kings of Uganda. Members of his entourage, speaking in English, refer to him as “like a pope.” These facts are noted here

simply because it is impossible to separate the cultural issue of appeasing an important spiritual force from the human vehicles by which it might be achieved.



Picture 7: The Living Bujagali explains the significance of the spirits at Bujagali Falls

320. Both mediums have contacted the spirits on behalf of AESNP. Both have signed contracts with AESNP. Both have stated that if appropriate ceremonies were financed by AESNP and carried out by themselves, the spirits will accept project-induced changes to the spiritual landscape. AESNP has undertaken extensive consultations with local people, other religious leaders, and relevant government authorities in order to reach a consensus on this issue.

321. Unfortunately consensus building has encountered a communications problem. In August 1998 the Nabamba Bujagali consulted the spirit and conveyed the spirit's acceptance of the proposed landscape changes subject to further necessary ceremonies. One of these was successfully carried out in August 2001. In September 2001 the Nabamba, at AESNP's expense, convened a group of approximately 70 mediums from the western portion of the country, and the ensuing consultations did not indicate continued spiritual support. One problem was that the Nabamba's expenses for the consultations exceeded what he had been paid. In interviews he and members of his entourage, particularly his younger brother, indicated that another major problem rested with the activities of Lubaale Nfuudu, and that the Nabamba's primacy had to be recognized. Interestingly, a secular endorsement was specifically mentioned to support this position. The Minister for Energy is said to have referred to him as "*the Nabamba*," an honorific which she did not bestow on other diviners present at a meeting in her Kampala offices²⁵⁹. The Nabamba, when questioned recently in

²⁵⁹ Social Issues Meeting, Kampala, Nov. 21, 2001.

his human capacity, said that he personally supported the project. The muswezi, Lubaale Nfuudu, successfully communicated with the Bujagali spirit in mid-November 2001, also at AESNP's behest and reported that all was satisfactory.

322. Local people agree that the falls have cultural and spiritual meaning as well as aesthetic value. Local stakeholders and non-stakeholders, however, have not voiced any opposition to the appeasement and mitigation efforts taken to date. Generally speaking, when a place has strong spiritual or cultural affect, people find means of expressing their feelings, even in a police state, which Uganda decidedly is not. An open meeting held in Kampala on November 21, 2001, with the cultural significance of Bujagali Falls as the main agenda item drew eight attendees, two of them representing the Nabamba Bujagali. People have not raised cultural issues even though invited to do so.
323. **In short, while there are irresolvable issues related to cultural property management, it appears that the sponsor has acted responsibly in consulting local people, religious specialists and leaders, and has acted in good faith in attempting to mitigate the cultural consequences of losing the Bujagali falls. In dealing with spiritual forces one has to work with the human resources at hand. It is obvious that the sponsor has allocated considerable time and resources to the problem of community spirits. AESNP's Cultural Property Management Plan appears to meet applicable policies and its implementation to date is satisfactory even though not free of controversy. One would hope that as the Project goes forward, efforts would be made to include all religious leaders in consultation and take steps to minimize the very real possibility of disturbance to the local communities that might arise from excluding any faction.**

Part Four

Disclosure of Information

Chapter 9

Disclosure of Information

9.1. Applicable Policies: BP 17.50, OP 4.01

324. The timely disclosure of information about IDA-financed projects is crucial for the transparency of the institution and its work. It also provides a valuable opportunity for comment and discussion of the Bank's work with potentially affected people and civil society in general and for the improvement of these projects.

325. The disclosure policy applicable to the Projects discussed in this Report is set forth mainly in BP 17.50 on Disclosure of Operational Information issued in September 1993 as clarified by the Operational Memorandum on Disclosure of Factual Technical Documents, dated June 20, 1994.²⁶⁰ These instruments refer to the WB Policy on Disclosure of Information and provide for the disclosure of certain project documents, and establish certain constraints to their disclosure. In addition, OP 4.01 on Environmental Assessment establishes certain public consultation and disclosure requirements for all Category "A" and "B" projects proposed for IBRD or IDA financing. The Bujagali Project was classified as a Category "A" project, while the Power IV Project was classified as a Category "B" project.

9.2. Disclosure of Documents related to the Economics and Financing

326. The Requesters claim that at the stage of the Board approval of the project "*no information has been released on either the economic risks of the project to Uganda, or on the potential costs of the project's power.*"²⁶¹ In its Response, Management acknowledged that no such disclosure took place and restates its position taken at the Second International Forum on the proposed Bujagali Project held in Washington D.C. on July 17-18, 2001. Particularly, at that meeting "*the IFC economist apologized for not being able to provide definitive conclusions*"²⁶² on economic studies because "*the WBG review is ongoing.*" Further, Management stated at that time that once the economic analysis is prepared, "*senior management would be briefed, as would the primary benefactor for the project, namely the Government of Uganda, prior to making the information available to the general public.*"²⁶³ Meanwhile, "*IFC staff prepared a paper summarizing the results of all economic*

²⁶⁰ OM from Jan Wijnand, Acting Director, OPR, to "Staff Recipients of the Operational Manual", re: Disclosure of the Factual Technical Documents, dated June 20, 1994 (the OM on Disclosure).

²⁶¹ Request, p.3, § 3.

²⁶² Management Response, p.37, ¶ 115.

²⁶³ Ibid.

studies, which will be disclosed as soon as it has been discussed with the Government.”²⁶⁴ Moreover, Management stated that “*when this paper is ready, the intention is that it shall become a public document*”, adding that thereafter “*there will be opportunities for receipt of comments.*”²⁶⁵

327. Management then adds that “*studies that support the conclusion that the Bujagali Hydropower plant the least-cost generation alternative have been carried out and made publicly available,*”²⁶⁶ and that two reports – the “Assessment of Generation Alternatives”, prepared by Acres International in May 2000, and the “Victoria Nile Strategic Impact Assessment – Uganda”, prepared by ESG International in January 2000, – were made publicly available at the June 2000 Washington, D.C. Forum. In addition, during the investigation by the Panel, an IFC Report entitled “*Bujagali Project: Summary of Economic Due Diligence*” (SEDD) was prepared and released to the public in November 2001. This document summarizes “*the most recent least-cost analyses*”²⁶⁷ provided in the Acres Report “*Economic Review of the Bujagali Hydropower Project.*”²⁶⁸

328. The Requesters and civil society apparently had, therefore, a limited opportunity to analyze and comment on the document and its merits since the project was submitted to the Board in December 2001. However, in spite of specific requests for its release, the Acres Report, which was the basis for the SEDD, was not disclosed and remains confidential to this date.

329. An Operational Memorandum (OM) on Disclosure of June 1994 spells out the policy requirements as follows, “*the Disclosure Policy provides for the three types of project documentation to be disclosed prior to Board approval: (a) the Project Information Document (PID); (b) environment-related documents – environmental data sheets, assessments (EAs), and analyses – and (c) factual technical documents.*”²⁶⁹ The “*factual technical documents*” are defined as follows: “*project-related technical information gathered or received by the Bank from agencies or consultants associated with the project, the borrower, or the government of the country concerned.*”²⁷⁰ Further, the OM on Disclosure provides examples of factual technical documents that may be made available to the public:

- *prefeasibility studies;*
- *feasibility studies, including cost-benefit analyses;*
- *site and soil investigations;*
- *detailed design studies;*

²⁶⁴ Ibid.

²⁶⁵ Ibid.

²⁶⁶ Management Response, p.39, ¶ 120.

²⁶⁷ Ibid.

²⁶⁸ The SEDD, which is dated October 12, 2001, is claimed to be a summary of the Acres Report “Economic Review of the Bujagali Hydropower Project”. A Draft Report of the Acres Review was issued in July 2001 and the Final Report of the Acres Review was issued in November 2001. Several differences between the July and November Acres Reports are discussed in Chapter 6 of this Report.

²⁶⁹ OM: Disclosure of Factual Technical Documents, June 20, 1994,(The “OM on Disclosure”) §2.

²⁷⁰ Id, §3.

- *financial statements of executing agencies for past fiscal years;*
- *descriptive material on the institutional framework;*
- *technical studies underlying environmental impact analyses;*
- *project-related poverty analyses.*²⁷¹

330. The OM on Disclosure also explains that “*given the Bank's limited experience with the disclosure of factual technical documents, staff may consider this list as indicative.*”²⁷² Therefore, IDA emphasizes its “*presumption in favor of disclosure*” (emphasis added) and limits disclosure of the factual technical documents only if they: “*(a) involve confidential material or material that could compromise government/Bank interactions, or (b) are directly related to internal Bank decision making.*”²⁷³ The procedures for the release of the specific project-related documents “*depend on their source and nature (e.g., who owns them and whether they have already been made available to the public by the government concerned).*”²⁷⁴

331. In the Panel’s view, the Acres Report “*Economic Review of the Bujagali Hydropower Project,*” dated November 2001, falls within the definition of the “*factual technical documents*” of the OM. It was prepared by the Acres International consultancy firm for the benefit of IFC and IDA and should be regarded as a “*feasibility study, including cost-benefit analyses*”, which is listed in the OM as an example of the documents for a public disclosure. Furthermore, because Acres Report was prepared for IFC and IDA as the basis for their involvement in the financing of the Project, the restrictions on the “*confidential material that could compromise government/Bank interactions*” seem not to be applicable to it.

332. **In the Panel’s view, pursuant to BP 17.50 and the OM on Disclosure of Factual Technical Documents, the factual technical documents, as feasibility studies, including cost-benefit analyses, should be disclosed to the public, unless the restrictions set forth in the paragraph 3 of the OM on Disclosure would apply. The Panel did not receive any evidence that these restrictions were applicable to the Acres Report. The Panel finds that Management is not in compliance with IDA’s Disclosure Policy because of its refusal to release the Acres Report on Economic Review of the Bujagali Hydropower Project.**

333. Another issue in the Request is the disclosure of the PPA. Both the disclosure of the PPA and of the economic analysis outline project’s risks and costs and thus, their availability to the Ugandan public, is claimed, to be crucial in order to appreciate the viability of the Project and its effect on economy and well-being of Uganda. In this case, the Requesters claim that the PPA should be a public document because of IDA’s involvement in the Project in the form of Partial Risk Guarantee.

²⁷¹ Ibid.

²⁷² Ibid.

²⁷³ Ibid.

²⁷⁴ Id, §4.

334. The PPA is a contract between the GoU and AESNP, which sets forth parties' rights and obligations in the project. It also provides for the most important part of the legal agreement between the parties in this project, i.e. the allocation of the risks and their mitigation.
335. In its Response and during the interviews conducted by the Panel, Management made a recurring statement that the PPA is a proprietary agreement between the GoU and AESNP, and, as such, IFC and IDA are not at liberty to disclose it without the agreement of the signatories. Thus, Management states that it is not opposed to the disclosure of this document, but has no authority to do so. In addition, Management states that, in any event, the *“PPA was placed for full public discussion for about a year before the Committee on Natural Resources and Committee on Economics of the Parliament. The PPA was discussed in detail with numerous Ugandan NGOs, including NAPE, during this time, ”*²⁷⁵ and that, therefore, the Parliament of Uganda on behalf of the people of Uganda had an opportunity to analyze the document, provide comments, and raise any concerns relating to the PPA and the project.
336. During the field visits, the Panel received conflicting statements regarding the disclosure of the draft PPA to the Parliament. Government officials and representatives of AESNP claimed that copies of the PPA had been delivered to members of Parliament in sufficient numbers and well in advance of their discussion by Parliament. Several members of Parliament (MPs) states that in reality there was no opportunity for Parliament to fully assess the legality and economic impacts of the project, especially, in light of the provisions of the PPA. Some MPs went even further and claimed that the lack of appropriate disclosure to Parliament would be contrary to Ugandan Constitution and applicable legislation. In the Panel's view, IDA's policies are silent on the disclosure of contracts, to which IDA is not a party, even if they relate to the project that is being financed by IDA.
337. **It seems evident that, as claimed, full disclosure of the PPA is vital if the intent is to place the public in a position to analyze, understand, and participate in informed discussion about viability of the Project and its impact on the economy and well-being of Ugandans. It is also evident and the Panel finds that according to IDA's policy, there is no specific requirement to disclose contracts to which IDA is not a party. Therefore, in not requiring that the PPA be disclosed, Management's actions have been consistent with IDA's Disclosure Policy.**

9.3. Disclosure of Documents related to Environment

9.3.1. Power IV Project

338. The Power IV Project was screened in accordance with OP 4.01 and classified as Category B under the OP, because the potential impacts were considered to be limited. A Category B Final EA, dated August 2000, was prepared and disclosed at the InfoShop on October 1, 2000, prior to appraisal later that month. The EA contained a specific Environmental Monitoring Plan. Uganda's NEMA approved the EA and the Environmental

²⁷⁵ Management Response, p. 38, ¶ 116.

Monitoring Plan on October 20, 2000 In mid-January 2001, the EA was disclosed in Uganda at public libraries, institutional libraries, the Ministry of Energy and Mineral Development and Parliament. IDA acknowledged that in-country disclosure subsequent to appraisal was not in accordance with OP 4.01, but contended that this disclosure date allowed the EA to be available to the public for approximately five and half months prior to Board approval of the Power IV Project in early July 2001.²⁷⁶

339. The Panel confirmed the above facts in its investigation. Management has addressed the matter of disclosure.²⁷⁷ The EA was made freely available as required by OP 4.01, but in-country disclosure followed, instead of preceded, Project appraisal. This gave Ugandan NGO's and others, who had concerns about the Project, no opportunity to influence the appraisal. Five and a half months did, however, elapse between appraisal and Board approval and during this time the EA was freely available to all interested parties and representations could be made to Management or Board members.

340. The Panel regards the non-compliance with section 15 of OP 4.01 as more serious. The section reads:

"15. For all Category A and B projects proposed for IBRD or IDA financing, during the EA process, the borrower consults project-affected groups and local non-governmental organizations (NGOs) about the project's environmental aspects and takes their views into account. The borrower initiates such consultations as early as possible."

341. The Power IV Project Environmental Analysis is moot on the question of public consultation. Neither the methodology described nor the list of persons contacted suggest that serious effort was made to engage actively with project-affected groups or non-governmental organizations. Institutional consultation clearly took place but no evidence exists to suggest that civil society was engaged.

342. **The Panel therefore finds that the Power IV Project is not in compliance with OP 4.01 with respect to (i) public consultation and (ii) disclosure.**

9.3.2. Bujagali Hydropower Project

343. Environmental Assessment of the Bujagali project is discussed in detail in Chapter 5 of this Report. This section will provide the summary of the disclosure and consultations proceedings of the Bujagali EIA.

344. In March 1999 an Environmental Impact Statement (EIS) for the hydropower facility and a draft version of the EIS for the transmission system were submitted to the National Environmental Management Authority of Uganda (NEMA), as well as to IFC and IDA. NEMA circulated copies of the EIS to relevant National Ministries, para-statal authorities, Local Council Chairmen, and District Environmental Officers. They also deposited copies in public libraries in Kampala and Jinja, with the Jinja Municipal Council, the Kampala City

²⁷⁶ Management Response, p. 23, ¶ 70.

²⁷⁷ Ibid.

Council, the Uganda Wildlife Society, and in two Makerere University libraries. A public notice was placed in a National Newspaper on April 1, 1999 informing the public where the EIA was available for scrutiny. On May 13, 1999 a further public notice invited written public comment on the EIS. 21 days were allowed for comment. NEMA also required AESNP to publish an easily understandable summary of the Bujagali project as an insert in a local newspaper. This was done on May 21, 1999. NEMA further ensured that summaries of the issues raised in the Environmental Impact Statements (both positive and negative) were published in local newspapers. The issues statements were also translated and made available in two local languages, Luganda and Lusoga. The public hearings on the EIS were also announced via the press in Luganda and Lusoga. Over 700 persons attended the public hearings on the EIS held Jinja on August 6, 1999. NEMA allowed a further 30 days for comments following the public hearings and having considered submissions approved the hydro site EIA, subject to certain provisions, in November 1999.

345. Management stated that consultations on the project with civil society began in 1997. According to the review of project's files, the Panel have established there had been three major forums convened by the interested parties. On June 27, 2000 a meeting of some 60 people was convened by Africare in Washington D.C. This meeting was attended by Ugandan Government Representatives, Ugandan NGOs, AES and Consultants, IFC staff, IDA staff, a representative of the African Development Bank, the Independent Environmental and Social Expert Panel, and representatives of U.S. organizations. On June 12, 2001 a meeting was held in the Sunset Hotel, Jinja. Some 200 persons representing a wide range of Ugandan interests attended. The third meeting was convened in Washington D.C. by the World Bank Group on 17 and 18 July 2001. Some 90 persons drawn from the same groups as had attended the first Washington D.C. meeting attended. All of these meetings were professionally and independently facilitated and provided an opportunity for the stakeholders to raise their concerns and discuss the relevant issues.

346. **Therefore, the Panel finds that Management is in compliance with OP 4.01 and BP 17.50 on the issue of public disclosure and consultations with respect to the environmental matters on the Bujagali Hydropower Project.**