

Independent Advisory Panel Members' Scope of Work and Curriculum Vitae

Project Number: 41924
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Document Stage: Final

Nam Ngiep 1 Hydropower Project (Lao People's Democratic Republic)

Prepared by EGAT International Co., Ltd. for the Asian Development Bank

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**Scope of Services and Curriculum Vitae of
Dr. Songwit Chuamsakul**

APPENDIX A

SCOPE OF SERVICES

A. Project Background

1. Nam Ngiep 1 (NNP1) involves the development, construction, and operation of a 292-MW hydropower project on the Nam Ngiep River in Lao PDR. Shareholders in the NNP1 consortium are Kansai Electric (45% stake), Electricity Generating Authority of Thailand (EGAT) (30%) and Government of Lao PDR (GOL) (25%). GOL's stake may be financed by a JBIC loan.
2. Key features of the project are a 162-meter high dam, with a 269MW power plant for exporting power to Thailand; a 20-meter high regulating dam downstream of the main dam, with a 20MW power plant to supply the domestic market in Lao PDR; a 130-km double-circuit 120kV line to a shared substation at Nabong (within Lao PDR) for export to Thailand; a 40-km single-circuit 115kV line to a substation at Paksan, Lao PDR, for connection to the Lao power grid; a 67-square kilometer reservoir (at full supply level), and a catchment area of 394 square kilometers. Based on the hydrological study performed for the Project, NNP1's average annual output is expected to be 1,393 GWh from the main power station and 106 GWh from the second power station.
3. NNP1 is structured as a 27-year BOT concession. About 95% of output will be sold to Thailand under a 27-year power purchase agreement with EGAT. For Lao PDR, the project will generate considerable export earnings and increase power supplies by 6%.
4. Following the procedures and requirements of ADB's Safeguard Policy Statement (2009)¹ the NNP1 project has been categorized as A/A/A on environmental/involuntary resettlement/indigenous people. ADB has also deemed NNP1 a "highly complex and sensitive" project. For such projects, ADB requires the borrower/client should engage an independent advisory panel (IAP) of experts during project preparation and implementation.

B. Issues

Summary of Indigenous People (IP) issues

5. The majority of displaced persons (DPs) are Hmongs (ethnic minority) who will be relocated to Houay Soap resettlement site. It is important to ensure that the socio-cultural impacts of the relocation of the Hmongs are mitigated and if the proposed development activities in the resettlement sites will be enough to enhance or at least restore their livelihood and improve their standard of living compared to their pre-project condition.

C. Rationale

¹ www.adb.org/documents/safeguard-policy-statement

6. The requirement for independent advisory panel (IAP) to monitor project preparation and implementation for highly complex and sensitive projects is stated in the ADB's Safeguard Policy Statement (2009). The IAP's primary objective is to provide independent review and guidance on the treatment of environmental and social issues associated with a project under preparation and implementation.

7. Engagement of an IAP can: (i) verify and report on compliance with ADB's and the host country's safeguard requirements, and (ii) increase the ability of the borrower/client to document, manage, and reduce risk exposure to environmental and social issues. The IAP also provides technical expertise to help the borrower/client to take timely actions to address complex and controversial issues, ensuring compliance with social and environmental commitments.

8. The overall role of an IAP is to provide (i) an objective, balanced, and impartial view on the overall project preparation and implementation processes, including identification of issues that concern social and environmental impacts and risks; and (ii) independent advice to facilitate decision making on complex and controversial issues to ensure the actions taken regarding such issues comply with the safeguard requirements.

9. IAP's purview is comprehensive; it extends to the setting, design, and plans for construction and operation. This includes review of all relevant environmental assessments, operational and construction plans, environmental management and monitoring plans, resettlement action plans, plans for Indigenous Peoples and associated reports on project progress and corrective actions. The IAP's findings and recommendations are submitted directly to ADB and the Sponsor.

D. Panel Requirements

10. The Project Sponsors will recruit four distinguished international specialists and recognized national or sub-regional leaders from business, legal community and/or major institutions to form the Independent Advisory Panel (IAP). These specialists will have the expertise in (i) biodiversity assessment; (ii) protected/conservation area management, (iii) social assessment on involuntary resettlement and (iv) Indigenous Peoples. The Chair of the panel will be selected by the Panel themselves. If selection for the chairmanship has been made, IAP should inform Sponsors, GOL and ADB.

11. The IAP will meet at least three times during the project design, pre-construction and construction phase and twice annually thereafter. The initial meeting will include an extensive field visit. Other visits to the project area will be arranged at the IAP's request. IAP members will be supplied with complete set of documents before field visits and will be briefed in Vientiane before the first field visit. The IAP would normally visits the greater project area and the project proponents for a week or two, until the members become familiar with the many different components of the project.

12. After each meeting the IAP provides the Sponsors, GOL and ADB with a signed copy of its findings and recommendations before departure. The ADB is required to disclose certain information to the public accordance with its Public Communications

Policy.² The IAP reports will be posted on ADB website except to the extent disclosure of such reports is not required under the Public Communications Policy. And also the report should be translated in Lao language for use by Government and public disclosure.

13. The budget for the IAP will allow for the recruitment of additional short-term experts³ to provide supplementary expertise and advice to the IAP, as required. This may include, as an example, a technical analysis of suitability of the resettlement site(s) by qualified agronomist, agro-forestry specialist, sociologist, and community planners.

14. The IAP will be responsible for the review and approval of the Environmental and Social Technical Assessment Consultants' Terms of Reference to carry out (i) baseline biodiversity and biodiversity offset design and (ii) resettlement site(s) assessment. The IAP may propose additional assessment/study as appropriate.

15. The IAP will review technical reports, provide further direction on additional studies to be undertaken (if any) and closely work with the E&S Technical Assessment Consultants during the conduct of the assessment providing advice on survey design and international good practice associated with the issues such as the design and implementation of biodiversity offsets and resettlement planning and implementation.

E. Scope/Terms of Reference for Panel Members on Social

16. For social issues, ADB would require that the IAP-Indigenous People Expert review issues of resettlement and Indigenous Peoples, and other social plans to address them and, if necessary, recommend changes in project design to comply with the SR2 on Involuntary Resettlement and SR3 on Indigenous Peoples. In addition, the IAP-Indigenous People Expert will also review issues and concerns related to women and other vulnerable groups and propose measures to address them. This would include, but would not be limited to:

- i. **Indigenous Peoples.** Review whether Indigenous Peoples have security of tenure over forest and forest products, whether the Resettlement and Ethnic Minority Development Plan (REMDP) are culturally appropriate, if cultural heritage requires protection and establish that meaningful consultation has taken place. And also assess the adequacy of the resettlement sites and also determine the need for BCS.
- ii. **Biodiversity Offset Area.** Evaluate and assess the social and economic aspects including Indigenous People issues within the proposed biodiversity area. This is to understand (i) the status of biodiversity in the proposed offset areas, and if local communities currently use or benefit from those biodiversity resources, and (ii) any existing threats to the biodiversity values, including any socioeconomic drivers (such as fishing or forest production harvesting).

² www.adb.org/site/disclosure/public-communications-policy

³ If short-term experts will be required by IAP, the contingency budget can be tapped. Please refer to Annex 3-IAP Budgetary Cost Estimate.

- iii. **Other social plans.** Review measures to protect and improve the socio-economic conditions of the project affected people and make recommendations as appropriate.

F. Expected Implementation time frame and budget

17. The IAP-Indigenous People Expert is expected to be recruited by the Sponsors on December 2012 and the assignment will be completed by January 2020.

[REDACTED]

19. Expected major project milestones and deliverables that require review, approval/ endorsement and technical advisory services from IAP-Indigenous People Expert are the following:

- i. Social
 - a. Consultant's Terms of Reference for the conduct of technical assessment for Resettlement Site(s)
 - b. Work Plan with a Draft Format of Resettlement Site(s) Assessment Report
 - c. Resettlement Site(s) Assessment Midterm Report
 - d. Final Resettlement Site(s) Assessment Report

APPENDIX B

CONSULTANT'S CURRICULUM VITAE

Songwit Chuamsakul, Ph.D.


Education:

1. B.A. in Political Science, Ramkhamhaeng University, Bangkok, Thailand (1982).
2. MSW in Community Development, Thammasat University, Bangkok (1989).
3. Ph.D. in Native Studies, Department of Native Studies, Trent University, Peterborough, Ontario, Canada (2006).

Working Experiences:

1. Educator and Teacher Trainer for Hill Tribe Peoples of the Hill Areas Education Project (HAE), Northern Region Non-formal Education Center, Department of Non-formal Education, Ministry of Education, Lampang Province, Thailand (1982-1991).
2. Coordinator of Regional Highlander Education Center, Office of Education Region 8, Ministry of Education, Chiangmai Province, Thailand (1991-1993).
3. Social Science Researcher (Miao/Hmong Expert), Tribal Research Institute, Department of Public Welfare, Ministry of Labor and Social Work, Chiangmai, Thailand (1993-2009).
4. Indigenous peoples expert and Senior Social Development Official, Department of Social Development and Welfares, Ministry of Social Development and Human Security, Thailand (2010 - present)

Writings:

1. *Hmong Language Handbook 1*, with the financial support from Northern Region Non-Formal Education Center, Lampang Province, Northern Thailand (1985)
2. *Hill Tribe Education in Thailand*, with the financial support from Office of Education Region 8, Chiangmai Province, Northern Thailand (1992)
3. *Hmong and Drugs Addiction*, with the financial support from Tribal Research Institute, Chiangmai, Thailand (1995)
4. *Hmong Language Handbook 2*, with the financial support from Tribal Research Institute, Chiangmai, Thailand (1996)
5. *Hmong and HIV/AIDS Prevention*, with the financial support from Tribal Research Institute, Chiangmai, Thailand (1996)
6. *From the Mountain to the City: A Case Study of Hmong People in Northern Thailand*, with the financial support from Tribal Research Institute, Chiangmai, Thailand (1997)
7. *The Haw Tribal People: A Study of Haw People in Nan Province, Northern Thailand*, with the financial support from Tribal Research Institute, Chiangmai, Thailand (1997)
8. *Local Labor Migration: A case Study of Hmong, Yao, and Thai Peoples in Phayao and Nan Provinces, Northern Thailand*, with the financial support from Tribal research Institute, Chiangmai, Thailand (1997)
9. *Hmong Family Planning in Thailand: A Case Study of Two Hmong Villages in Northern Thailand*, with the financial support from His Royal Highness Foundation, Thailand (1998)
10. *Hmong and Natural Resources Management: A Case Study of a Hmong Village in Northern Thailand*, with the financial support from the Bio-Diversity and Sustainable

Development Program, Department of Social Sciences, Chiangmai University, Thailand (1998)

11. *Thai Hmong People and Their Identities*, under the project on "Responding to Globalization: Indigenous Knowledge and Social Change among Ethnic Minorities of the Greater Mekong Sub-region" with the financial support from the Rockefeller Foundation (2004).
12. *Vietnamese Hmong People and Their Identities*, under the project on "Responding to Globalization: Indigenous Knowledge and Social Change among Ethnic Minorities of the Greater Mekong Sub-region" with the financial support from the Rockefeller Foundation (2004).
13. *Education and Culture Changes: A Study of Two Hmong Villages in Northern Thailand* (Ph.D. Dissertation), Native Studies Ph.D. Program, Department of Native Studies, Trent University, Peterborough, Ontario, Canada (2006)

Articles:

1. *Hmong Shamanism*. Published in the Mountain Teacher Journal, Lampang Province, Northern Thailand (1990).
2. *Hmong and Family Planning*. Published in the Mountain Teacher Journal, Lampang, Northern Thailand (1991).
3. *Five Hmong Stories* (translated from Hmong to English), unpublished (1991).
4. *Hill Tribes Sustainable Development*. Published in the Mountain Teacher Journal, Lampang, Northern Thailand (1992).
5. *Hmong People and their Religious Conversions*. Published in the Mountain Teacher Journal, Lampang, Thailand (1992).
6. *Hmong Funeral Ceremony*. A special publication for Her Royal Highness The King's Mother Funeral Ceremony, Tribal Research Institute, Chiangmai Province, Northern Thailand (1996)
7. *From the High Mountains to the Land of Kangaroo: The Hmong People in Australia*. Published in the Tribal Research Institute Journal, Chiangmai, Thailand (1997)
8. *Hill Tribe's Spiritual Crafts*. A special publication on the Anniversary of 30 Years of Tribal Research Institute, Chiangmai, Thailand (1997)

Overseas Seminars and Experiences:

1. *The Himalayas Mountain Bio-Diversity and Eco-System Management*, in Katmandu, Nepal, with the financial support from ICEMOD and McArthur Foundation (April 11-17, 1994).
2. *Chinese Ethnic Nationality Studies*, in Yunnan University, Kunming, Yunnan Province, China, with the financial support from Tribal Research Institute, Chiangmai, Thailand (July 21-30, 1994).
3. *Hmong Cultural Exchange Program*, in Michigan, Minnesota, and California States, USA. with the financial support from the Hmong Hang Clan in USA. (November 20, 1994-January 10, 1995)
4. *Australian Hmong Traditional Texts and Minority Issues*, with the financial support from the Asian Young Scholars Exchange Program, under the Department of Linguistics, Melbourne University, Melbourne, Victoria State, Australia (March 1-May 31, 1997).
5. *Vietnamese Hmong Community-Based Education Program*, Sapa Town, Lao Cai Province, Northern Vietnam, with the financial support from Canada Funds, the Canadian Embassy of Thailand (July 1998).

6. *Sustainable Tourism in Vietnamese Hmong and Yao Communities*, Sapa Town, Lao Cai Province, Northern Vietnam, with the financial support from IUCN (April, 1999).
7. *Vietnamese Hmong People Identity: A Hmong Study Program*, in Hau Thao Commune, Sapa Town, Lao Cai Province, Northern Vietnam, under the project on "Responding to Globalization: Indigenous Knowledge and Social Change among Ethnic Minorities of the Greater Mekong Sub-region" with the financial support from the Rockefeller Foundation (April 13-22, 2004).
8. *American Youth and Violence*, in New York, the U.S.A. (2007).
9. *Chinese Rural Development*, in Beijing, China (2007).
10. *Korean Rural Development*, Seoul, Korea (2008).
11. *New Zealand Youth and Violence*: in Auckland, Wellington, and Christchurch, New Zealand (2009).
12. *Vietnamese Government Policy towards Ethnic Minorities*: in Hanoi and Dien Bien Phu, Vietnam (December, 2010).
13. *Laotian Hmong People and Development*: in Vientiane and Xiengkhoung Provinces, PDR Laos (2010)
14. *Vietnamese Ethnic Minorities Development and Tourism*: in Hanoi; Sapa Town, Lao Cai Province; Dalat Town; and Hochiminh City, Vietnam. (September 5 – 14, 2012)

Other important Social Responsibilities and Memberships:

1. Thai Highlander Education and Culture Commission (1992-1996).
2. Hmong HIV/AIDS Program - Chairperson (1993-1999).
3. Highlander Educational and Cultural Research Association Institute (HRI) - Vice-Chairperson (1993-1995).
4. Hmong Association for Development in Thailand (MDT) - Chairperson (1995-2000).
5. Highlander Quality of Life Development Association - Chairperson (2005 - present).
6. National Cultural Committee on the Revival of Karen People Way of Life, Ministry of Culture (2010 - present).
7. National Reconciliation Committee on Ethnic Minority Issues, the National Reconciliation Committee (2010 - present)
8. National Researcher of Thailand (Lifetime Membership) No. 39-00-0021
9. National Teacher Society of Thailand (Lifetime Membership) No. 001683951133

**Scope of Services of
Dr. Richard J. Frankel**

A. Project Background

1. Nam Ngiep 1 (NNP1) involves the development, construction, and operation of a 292-MW hydropower project on the Nam Ngiep River in Lao PDR. Shareholders in the NNP1 consortium are Kansai Electric (45% stake), Electricity Generating Authority of Thailand (EGAT) (30%) and Government of Lao PDR (GOL) (25%). GOL's stake may be financed by a JBIC loan.

2. Key features of the project are a 162-meter high dam, with a 269MW power plant for exporting power to Thailand; a 20-meter high regulating dam downstream of the main dam, with a 20MW power plant to supply the domestic market in Lao PDR; a 130-km double-circuit 120kV line to a shared substation at Nabong (within Lao PDR) for export to Thailand; a 40-km single-circuit 115kV line to a substation at Paksan, Lao PDR, for connection to the Lao power grid; a 67-square kilometer reservoir (at full supply level), and a catchment area of 394 square kilometers. Based on the hydrological study performed for the Project, NNP1's average annual output is expected to be 1,393 GWh from the main power station and 106 GWh from the second power station.

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4. Following the procedures and requirements of ADB's Safeguard Policy Statement (2009)¹ the NNP1 project has been categorized as A/A/A on environmental/involuntary resettlement/indigenous people. ADB has also deemed NNP1 a "highly complex and sensitive" project. For such projects, ADB requires the borrower/client should engage an independent advisory panel (IAP) of experts during project preparation and implementation.

B. Issues

Summary of Environmental issues

5. The main environmental impacts of NNP1 are the: (i) lost of 3,200 ha of forest area, (ii) changes in river hydrology and water quality that will cause some changes in the aquatic ecosystem and (iii) habitat fragmentation due to inundation of the project area. Mitigation measures are to be implemented by the Sponsor to protect, conserve and enhance the remaining forests of the Nam Ngiep watershed. These mitigation measures are: (i) implement forest and wildlife conservation and management program, (ii) examine the possibility of providing financial and technical assistance to nearby National Protected Area for better maintenance, (iii) prepare and implement a wildlife rescue plan to save the remaining wildlife in the project area and (iii) identify suitable biodiversity offset area to achieve no net loss of biodiversity.

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9. IAP's purview is comprehensive; it extends to the setting, design, and plans for construction and operation. This includes review of all relevant environmental assessments, operational and construction plans, environmental management and monitoring plans, resettlement action plans, plans for Indigenous Peoples and associated reports on project progress and corrective actions. The IAP's findings and recommendations are submitted directly to ADB and the Sponsor.

D. Panel Requirements

10. The Project Sponsors will recruit four distinguished international specialists and recognized national or sub-regional leaders from business, legal community and/or major institutions to form the Independent Advisory Panel (IAP). These specialists will have the expertise in (i) biodiversity assessment; (ii) protected/conservation area management, (iii) social assessment on involuntary resettlement and (iv) Indigenous Peoples. The Chair of the panel will be selected by the Panel themselves. If selection for the chairmanship has been made, IAP should inform Sponsors, GOL and ADB.

11. The IAP will meet at least three times during the project design, pre-construction and construction phase and twice annually thereafter. The initial meeting will include an extensive field visit. Other visits to the project area will be arranged at the IAP's request. IAP members will be supplied with complete set of documents before field visits and will be briefed in Vientiane before the first field visit. The IAP would normally visits the greater project area and the project proponents for a week or two, until the members become familiar with the many different components of the project.

12. After each meeting the IAP provides the Sponsors, GOL and ADB with a signed copy of its findings and recommendations before departure. The ADB is required to disclose certain information to the public accordance with its Public Communications Policy.² The IAP reports will be posted on ADB website except to the extent disclosure of such reports is not required under the Public Communications Policy. And also the report should be translated in Lao language for use by Government and public disclosure.

13. The budget for the IAP will allow for the recruitment of additional short-term experts³ to provide supplementary expertise and advice to the IAP, as required. This may include, as an example, a technical analysis of suitability of the resettlement site(s) by qualified agronomist, agro-forestry specialist, sociologist, and community planners.

14. The IAP will be responsible for the review and approval of the Environmental and Social Technical Assessment Consultants' Terms of Reference to carry out (i) baseline biodiversity and biodiversity offset design and (ii) resettlement site(s) assessment. The IAP may propose additional assessment/study as appropriate.

15. The IAP will review technical reports, provide further direction on additional studies to be undertaken (if any) and closely work with the E&S Technical Assessment Consultants during the conduct of the assessment providing advice on survey design and international good practice associated with the issues such as the design and implementation of biodiversity offsets and resettlement planning and implementation.

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³ If short-term experts will be required by IAP, the contingency budget can be tapped. Please refer to Annex 3-IAP Budgetary Cost Estimate.

E. Scope of IAP Panel of Expert on Environment

16. For environmental issues, IAP-Environmental Management Expert will primarily provide technical advice on the (a) project impacts and risks associated with environmental protection and conservation of natural resources, (b) suitability of effective mitigation measures and proposed environmental offset plans for any residual impacts, (c) implementation of the erosion control and pollution control protection measures (air, noise, wastewater, solid and hazardous wastes), and their environmental management and monitoring; (d) implementation of the biodiversity offset plan, including reforestation, wetlands and fisheries developments; and (d) review on monitoring reports during implementation and the suitability of any corrective actions undertaken or proposed.

The IAP-Environmental Management Expert should be an expert on environmental matters concerning hydropower or other major infrastructure projects. Work of the expert would include, but would not be limited to:

- i. Review and comment on the design and results of the Baseline Environmental Surveys and Studies for the Nam Ngiep River and nearby National Protected Area (NPA);
- ii. Provide advice on international best practices regarding the design and implementation of environmental protection and pollution control mitigation measures, offsets and requirements covering erosion and sediment control, spoil disposal, quarry and construction site management, water quality monitoring, hazardous chemicals and wastes management, emission and dust control, site cleaning and revegetation, and environmental training of workers);
- iii. Review and comment on the proposed environmental protection and pollution control systems for both the construction and operation phases, including adequacy and suitability of the offset mitigation measures and economic considerations (in conjunction with the resettlement and Indigenous Peoples experts), legal requirements and institutional arrangements, adequacy of community participation and stakeholder consultations including recommendations from the Government, the proposed financial plan and budget arrangements, and the proposed management and monitoring plan.
- iv. Review and evaluate implementation of the environmental management plan for the project during construction and implementation phases and comment and advise on the suitability of corrective action taken or needed during the construction and implementation
- v. Review and evaluate implementation of the environmental offset measures being implemented by Sponsor and GOL and comment and advise on the suitability of corrective actions to be taken or needed.

Review and evaluate the monthly environmental monitoring reports of the contractors and Project Proponents and comment on the adequacy and

analysis of results, particularly with respect to Lao National Environmental Standards.

F. Expected Implementation time frame and budget

17. The IAP-Involuntary Resettlement Expert is expected to be recruited by the Sponsors on December 2012 and the assignment will be completed by January 2020.

[REDACTED]

19. Expected major project milestones and deliverables that require review, approval/ endorsement and technical advisory services from IAP-Environmental Management Expert are the following:

- i. Environment:
 - a) Comments on the Consultant's Terms of Reference for the conduct of environmental flow assessment.
 - b) Comments on the Environmental Flow Assessment Report
 - c) Review and comment on annual environmental monitoring report during construction and implementation of the project, including the implementation of the Biodiversity Offset.
 - d) Review and comment on any other relevant environmental management reports.

**Scope of Services and Curriculum Vitae of
Dr. Kathy Mackinnon**

APPENDIX A

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Summary of Involuntary Resettlement (IR) issues

¹ [www.adb.org/documents/so\(safeguard-policy-statement](http://www.adb.org/documents/so(safeguard-policy-statement)

6. The project, will directly affect 812 households (5,360 persons) of which 432 households (3,053 persons) from seven villages will be relocated. The project will also indirectly affect 2,597 households (14,712 persons). The proposed relocation sites are in (1) Ban Pou for 10 households of its own, (2) Hatsamkhone village for 5 households of its own, (3) Hat Gniun for 33 households in Hatsaykham village (Zone 3), and mainly Houay Soap for 399 households in four villages of Houypamom, Sopphunane, Sopyouak, Namyouak villages (Zone 2LR). During the due diligence, it is clear that acceptability and suitability issues have been raised by affected peoples in relation to the proposed Houay Soap resettlement site.

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13. After each meeting the IAP provides the Sponsors, GOL and ADB with a signed copy of its findings and recommendations before departure. The ADB is required to disclose certain information to the public accordance with its Public Communications Policy.² The IAP reports will be posted on ADB website except to the extent disclosure of such reports is not required under the Public Communications Policy. And also the report should be translated in Lao language for use by Government and public disclosure.

14. The budget for the IAP will allow for the recruitment of additional short-term experts³ to provide supplementary expertise and advice to the IAP, as required. This may include, as an example, a technical analysis of suitability of the resettlement site(s) by qualified agronomist, agro-forestry specialist, sociologist, and community planners.

15. The IAP will be responsible for the review and approval of the Environmental and Social Technical Assessment Consultants' Terms of Reference to carry out (i) baseline biodiversity and biodiversity offset design and (ii) resettlement site(s) assessment. The IAP may propose additional assessment/study as appropriate.

16. The IAP will review technical reports, provide further direction on additional studies to be undertaken (if any) and closely work with the E&S Technical Assessment Consultants during the conduct of the assessment providing advice on survey design and international good practice associated with the issues such as the design and implementation of biodiversity offsets and resettlement planning and implementation.

E. Scope of IAP Panel of Expert on Environment:

17. For environmental issues, IAP-Biodiversity Offset Expert will primarily provide technical advice on the (a) project impacts and risks associated with environmental protection and conservation of natural resources, (b) suitability of effective mitigation measures and proposed environmental offset plans for any residual impacts; and (c) determining and implementation of the biodiversity baseline and offset plan, including reforestation, wetlands and fisheries developments.

The IAP-Biodiversity Offset Expert should be an expert on biodiversity matters concerning hydropower or other major infrastructure projects. Work of the expert would include, but would not be limited to:

- i. Review and comment on the design and results of the Baseline Environmental Surveys and Studies for the Nam Ngiep River and nearby National Protected Area (NPA);

² www.adb.org/site/disclosure/public-communications-policy

³ If short-term experts will be required by IAP, the contingency budget can be tapped. Please refer to Annex 3-IAP Budgetary Cost Estimate.

- ii. Review and evaluate Implementation of the biodiversity offset measures being implemented by Sponsor and GOL and comment and advise on the suitability of corrective actions to be taken or needed.

F. Scope/Terms of Reference for Panel Members on Social

18. For social issues, ADB would require that the IAP review issues of resettlement and Indigenous Peoples, and other social plans to address them and, if necessary, recommend changes in project design to comply with the SR2 on Involuntary Resettlement and SR3 on Indigenous Peoples. In addition, the IAP will also review issues and concerns related to women and other vulnerable groups and propose measures to address them. This would include, but would not be limited to:

- i. **Biodiversity Offset Area.** Evaluate and assess the social and economic aspects including IR and IP issues within the proposed biodiversity area. This is to understand (i) the status of biodiversity in the proposed offset areas, and if local communities currently use or benefit from those biodiversity resources, and (ii) any existing threats to the biodiversity values, including any socioeconomic drivers (such as fishing or forest production harvesting).

G. Expected Implementation time frame and budget

19. The IAP-Biodiversity Offset Expert is expected to be recruited by the Sponsors on December 2012 and the assignment will be completed by January 2020.

21. Expected major project milestones and deliverables that require review, approval/endorsement and technical advisory services from IAP-Biodiversity Offset Expert are the following:

- a. Comments on the Consultant's Terms of Reference for the conduct of baseline biodiversity assessment including biodiversity offset design report.
- b. Comments on the Baseline Biodiversity Assessment Report
- c. Comments on the Biodiversity Offset Design Report
- d. Review and comment on implementation of Biodiversity Offset during construction and implementation of the project.

APPENDIX B

CONSULTANT'S CURRICULUM VITAE

DR. KATHY MACKINNON

[REDACTED]

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Education:

1976	Awarded D. Phil., University of Oxford
	Awarded M.A., University of Oxford
1966-1972	Oxford University, UK., Lady Margaret Hall
1969	Awarded B.A. (Hons) in Zoology

Current Positions:

Deputy -Chair, IUCN/World Commission on Protected Areas (WCPA)

Board Member, Botanic Gardens Conservation International

Member, Supervisory Council, Wetlands International

Member, Cambridge Conservation Science Group, University of Cambridge, UK

Honours & Awards: 2007 Distinguished Service Award, Society of Conservation Biology

Retired from World Bank. Occasional Consultancies. Voluntary work for IUCN/WCPA

Key Qualifications:

Biodiversity Specialist – from 1994 to February, 2010 Lead Biodiversity Specialist in the Environment Department of the World Bank, worked on Bank forestry and biodiversity portfolio, including technical review of all Bank projects funded through the Global Environment Facility (GEF). Worked with other Bank professionals, environmental and natural resource management teams on biodiversity issues in Bank projects and programmes.

Considerable experience in field preparation and supervision of biodiversity conservation and natural resource management projects in Africa, Asia, Central and Latin America, Eastern Europe and the former Soviet Union. Provided technical support and supervision to Bank forestry and biodiversity projects, including policy input on forest issues and projects which focus on protected area management and sustainable forest and natural resource management. Within the World Bank, involved with efforts to integrate biodiversity and conservation issues into mainstream development and climate change programmes, including dissemination of good practice.

Conservation and Park Management

Prior to joining the Bank, I worked extensively in Asia, especially Indonesia, on conservation and protected area planning and management. Have worked extensively with international and national conservation NGOs, and government agencies in developing countries. Served as Senior Conservation Advisor to Directorate General Forest Protection and Nature Conservation (PHPA), Jakarta, Indonesia. Assisted with planning and management of the Indonesia protected area system and preparation of Indonesia Biodiversity Action Plan.

Member IUCN Commission on National Parks and Protected Areas (WCPA). Vice-Chair WCPA for Biodiversity and Climate Change. Lead Climate Change WCPA Task Force. Formerly co-Chaired WCPA Science and Management Task Force. On WCPA Steering Committee involved in setting agenda for 4th World Parks Congress, 2014. Worked with WCPA to develop, publish and disseminate best practice guidelines on protected areas management including guidelines for Protected Area Management Plans, Transboundary Areas, Management of Mountain Protected Areas and developing tracking tools for improving management effectiveness of protected areas. .

Author of several conservation texts, including *IUCN Reviews of Protected Area Systems in Indomalayan and Afrotropical Realms* and *Managing Protected Areas in the Tropics*, as well as park management and operational plans.

Other Conservation Projects

Within World Bank task managed several GEF biodiversity projects and global programs, including the Critical Ecosystem Partnership Fund (CEPF) which targets small grants resources to civil society for conservation activities in global hotspots, Save Our Species global project and Tiger Futures. Also managed global partnership program with Global Invasive Species Programme to build capacity in developing countries for addressing invasive alien species issues. Led World Bank analytical work promoting incorporation of Ecosystem-based approaches into responses to Climate Change. Initiated and won funding for the Bank Local Language Field guide program.

Ecology/Environmental science

Senior ecology advisor on EMDI (Environmental Management Development in Indonesia) Project. Author for *The Ecology of Kalimantan* working with Environmental Study Centres, especially in Kalimantan (Borneo).

Preparation and publication of field guides, conservation text translations and popular conservation books. (e.g. Birds of Java and Bali; Nature's Treasurehouse, The Wildlife of Indonesia). Lead editor on Bank Biodiversity Impact series, including topics such as Ecotourism, Forest Management, Hunting, Forest Certification and Mainstreaming Biodiversity in Development, Ecosystem-based Approaches to Climate Change .

Research Interests:

Rainforest ecology, primate and small mammal ecology and behaviour; conservation biology; linking conservation and development.

Employment Record:

- 2010 – Present Independent consultant (to World Bank, FAO and MacArthur Foundation). Voluntary work as Vice-Chair of IUCN/WCPA (Biodiversity and Climate Change) supporting voluntary network of protected area professionals.
- 1994-2010 Lead Biodiversity Specialist in the Environment Department of the World Bank, responsible for technical review, assistance and supervision to Bank and GEF biodiversity projects. With other environmental specialists and regional task teams; provide and integrate knowledge of biodiversity conservation into sector work, development projects and programmes and training for government agency and Bank staff. Represented the Bank at international meetings, especially Convention on Biological Diversity and IUCN Congress. Co-author of Bank strategy papers on mainstreaming biodiversity into Bank development assistance. Development of good practice guidelines and tools for improving quality of Bank projects.
- 1993 Biodiversity Specialist. GEF Project Preparation, Thailand. Conservation Forest Area, Protection, Management and Development.
- 1992-1993 Biodiversity Specialist, GEF Project Preparation. Pre-Investment Study, Indonesia. Integrated Conservation and Development Project, Kerinci-Seblat National Park.
- 1990-1992 Conservation Advisor to WWF Indonesia Programme. Senior Conservation Advisor to Directorate General Forest Protection and Nature Conservation (PHPA). Assisting PHPA with planning, park management and programme development.
- 1992 June 1 month consultancy to Papua New Guinea for UNDP biologist/ecologist on GEF Formulation Mission assisting Dept. of Environment and Conservation.
- 1991 Consultant to the World Bank on Reconnaissance Mission for GEF project in Indonesia, focusing mainly on project to Integrate Conservation and Development in Kerinci N.P. Prepared Indonesia Biodiversity Action Plan. Prepared terms of reference for other GEF components: to strengthen Museum and Herbarium, National Conservation Awareness Programme.
- 1991 10 day consultancy for the World Bank to review conservation needs in Papua New Guinea.
- 1990 7 weeks consultancies for ODA, team leader and preparation mission for Wetlands project, Kalimantan under ODA (UK) Forest conservation Project.
- 1987-1989 Advisor, Environmental Management development in Indonesia (EMDI) project, a cooperative project between Dalhousie University, Canada and the Indonesian Ministry of Population and Environment. Senior Author for 'The Ecology of Kalimantan'. Working with environmental study centres, especially in Kalimantan.
- Oct.-Dec. 1989 2 month consultancy for USAID as Biodiversity Specialist on PID mission for project on Natural Resource Management in Kalimantan.

- 1987 Consultant to the World Wildlife Fund, editing Master Plan for Management of the Giant Panda and its Habitat. Prepared slide programme on Panda Reserves, including text.
- 1987 Editing work for IUCN.
- 1986 6 week in Sichuan, China to review conservation status of golden snub-nosed monkeys. Funded by WWF-US.
- 1985-1986 Consultant to Parks Commission, IUCN, preparing Reviews of Protected Areas Systems of Afrotropical and Indomalayan Realms. Attended meetings in India and Madagascar for CNPPA.
- 1984 Consultant to Parks Commission, IUCN, preparing and editing management handbook, concerned with land resource and national park management.
- 1984-1985 Writing popular articles and scientific papers.
- 1984 Writing and editing work. Wrote and prepared layout of a book on the wildlife of Indonesia, 'Indonesie Natuur en Natuurbewoud', used as fundraiser by Wereld Natuur Fonds, Netherlands. Helped to prepare Field Guide to Birds of Java and Bali.
- 1983 5 months consultancy for the World Health Organization on Primate Resources Programme. Surveys to determine status of wild populations of Indonesian primates. Recommendations for semi-wild breeding schemes of macaques for biomedical research.
- 1979-1983 Accompanied husband on FAO posting to Indonesia, (National Parks Development Programme). Helped edit management plans prepared by FAO and WWF personnel, and teaching manuals prepared for School of Environmental Conservation Management.
- 1978-1984 Voluntary work with Yayasan Indonesia Hijau, an NGO concerned with conservation education. Preparing educational materials, articles for magazine 'Voice of Nature'. Authored popular book Alam Asli Indonesia, published as a fundraiser for YIH.
- 1977-1979 Assistant Project Leader, WWF projects, Indonesia. Identifying new reserves in N. Sulawesi. Preparing management plans, implementing management, scientific research and training in Tangkoko-Dua Saudara Reserve.
- 1974-1977 Finishing D.Phil. theses. Raising two small children. Editing and writing popular books and popular and scientific articles.
- 1973 8 months research on ecology of Malayan primates and squirrels in Krau Game Reserve, W. Malaysia. The results were published in scientific journals.
- 1971 2 months in Indonesia helping with research on orangutans.
- 1969-1972 Research student, Animal Ecology Research Group, University of Oxford.

Teaching Experience and Conservation Education:

- 1994-present Numerous presentations on conservation issues at international fora, scientific meetings, university and student fora. Training sessions on conservation planning and management effectiveness of protected areas.
- 1988 Lectures at Indonesian universities; training workshops on environmental impact assessment; briefings for senior Indonesian diplomats.
- 1977-1984 Voluntary work with Yayasan Indonesia Hijau Preparation of slide programmes, writing articles for Suara Alam and Voice of Nature Magazine.
- 1977-1978 Preparation of slide programmes for conservation education.
- 1972 – present Guest lectures at British and Indonesian universities, schools, workshops, societies.

Societies, Public Activities

- 2011 Supervisory Council, Wetlands International
- 2010 Board Member, Botanic Gardens Conservation International
- 1998 -2010 Advisory Editor, Environmental Conservation International Journal of Environmental Science.
- 1996 - International Editor, Oyrx, Journal of Flora and Fauna International
- 1996 - Editorial Board of Biodiversity Conservation, Indonesia.
- 1992 Regional Member Species Survival Commission, IUCN
- 1991- Member, Commission on National Parks and Protected Areas (WCPA) of IUCN. Now Vice-Chair IUCN/WCPA (Biodiversity and Climate Change).
- 1990- Regional Member (Asia) IUCN Special Survival Commission (SSC).
- 1980-1983 Vice Chairman and Chairman, Board of Governors Bogor Expatriate School, Indonesia.
- 1978-1984 Advisor to Yayasan Indonesia Hijau, NGO concerned with conservation education.

Other Skills:

- Languages: English Mother tongue
 Indonesian Fluent
 Malay Fluent
 French Moderate
 German, Dutch Slight knowledge

PUBLICATIONS

Books

Davies, J., Poulsen, L., Schulte-Herbrüggen, B. Mackinnon, K., Crawhall, N., Henwood, W.D., Dudley, N., Smith, J. and M. Gudka. 2012. *Conserving Dryland Biodiversity*. IUCN and UNCCD.

Dudley, N., Stolton, S. Belokurov, A. Krueger, L., Lopoukhine, N. MacKinnon, K, Sandwith, T. and Sekhran, N., editors (2010). *Natural Solutions. Protected areas helping people cope with climate change*. IUCN-WCPA, TNC, UNDP, WCS, World Bank and WWF.

MacKinnon, K., Hatta G. and Halim G. and Mangalik A. (1996) *The Ecology of Kalimantan*. The Ecology of Indonesia Series, Volume III. Periplus, Singapore (also translated into Indonesian)

MacKinnon, K. (1992) *Nature's Treasurehouse. The Wildlife of Indonesia*. Gramedia Jakarta.

MacKinnon, J., K. MacKinnon, G. Child, and J. Thorsell. 1986. *Managing protected areas in the tropics*. IUCN, Gland.

MacKinnon, J. & K., Child, G. and Thorsell, J. (1989) *Pengelolaan Kawasan Yang Dilindungi di Daerah Tropika*. GAMA Press, Yogyakarta.

MacKinnon, J. & K., (1986) *Review of the Protected Areas System of the Indo-Malayan Realm*. IUCN and UNEP

MacKinnon, J. & K., (1986) *Review of the Protected Areas System of the Afrotropical Realm*. IUCN and UNEP

MacKinnon, K. (1986) *Alam Asli Indonesia*. Gramedia, Jakarta

MacKinnon, K. (1985) *Indonesia: Natuur en Natuurbehoud*. mp Bocken b.v. Weert, Netherlands

MacKinnon, J. & K. (1974) *Animals of Asia, The Ecology of the Oriental Region*. Eurobook, London

World Bank 2010. *Convenient Solutions to an Inconvenient Truth. Ecosystem-based Approaches to Climate Change*. World Bank, Washington. D.C

World Bank Publications (lead or contributing author)

Mackinnon, K. (2010) Editor. *Banking on Biodiversity. Environment Matters*. World Bank, Washington D.C.

World Bank. (2009). *A Future for Wild Tigers*. World Bank, Washington, D.C.

World Bank, (2008). *Biodiversity, Climate Change and Adaptation*. World Bank. Washington D.C.

World Bank and UNDP (2007) *Reducing Threats to Protected Areas. Lessons from the Field*. World Bank, Washington.

World Bank, (2006). *Mountains to Coral Reefs. The World Bank and Biodiversity*. World Bank, Washington D.C.

World Bank. (2004). *Ensuring the Future: The World Bank and Biodiversity 1988-2004*. World Bank, Washington, D.C.

Stolton, S., Hockings, M., Dudley, N., MacKinnon, K. and Whitten, T. (2003). *Reporting Progress in Protected Areas: A Site Level Management Effectiveness Tracking Tool*. World Bank/WWF Alliance, Washington, D.C.

World Bank. (2003). *Cornerstones for Conservation. World Bank Assistance for Protected Areas 1988-2003*. World Bank, Washington, D.C.

Pierce, S., Cowling, R., Sandwith, T., and MacKinnon, K.(editors) (2002). *Mainstreaming Biodiversity in Development: Case Studies from South Africa*. World Bank, Washington, D.C.

World Bank. (2002a). *Biodiversity Conservation in Forest Ecosystems. World Bank Assistance 1992-2002*. World Bank, Washington, D.C.

World Bank. (2002b). *Conservation of Biodiversity in Mountain Ecosystems – At A Glance*. World Bank, Washington, D.C.

World Bank. (2001). *Indonesia: Environment and Natural Resource Management in a Time of Transition*. World Bank, Washington, D.C.

World Bank (2001). *Supporting the Web of Life: Biodiversity at The World Bank*.

World Bank. (2000). *Supporting the Web of Life. The World Bank and Biodiversity – A Portfolio Update 1988-99*. World Bank, Washington, D.C.

MacKinnon, K. et al. (2000). *Transboundary Reserves : World Bank Implementation of the Ecosystem Approach*. World Bank, Washington, D.C.

MacKinnon, K. et al. (2000). *Conservation and Sustainable Use in Dryland Ecosystems*. World Bank, Washington, D.C.

- **Selected Scientific Publications, papers and Reports**

Lopoukhine, N., N. Crawhall, N. Dudley, P. Figgis, C. Karibuhoye, D. Laffoley, J. Miranda Londoño, K. MacKinnon and T. Sandwith. 2012. Protected areas: providing natural solutions to 21st Century challenges. *SAPIENS*

MacKinnon, K. 2012. Biodiversity, Poverty and Climate Change: New Challenges and Opportunities. In *Biodiversity Conservation and Poverty Alleviation: Exploring the Evidence for a Link*. Pages 289-303. Wiley-Blackwell, London

Dudley, N., K. MacKinnon and S. Stolton. 2012. Reducing vulnerability: the role of protected areas in mitigating natural disasters. In Renaud, F.G., Sudmeier-Rieux, K. and M. Estrella (forthcoming) *The Role of Ecosystems for Disaster Risk Reduction*, Tokyo: United Nations University Press

- Woodley, S., K. Mackinnon, K. Redford, N. Dudley, B. Bertzky, N. Crawhall, J. Miranda Londono and T. Sandwith. 2012. Meeting Aichi Target 11: What does success look like for protected area systems? *PARKS*
- Dudley, N., Krueger, L., MacKinnon, K., and Stolton, S. 2011. Ensuring That Protected Areas Play an Effective Role in Mitigating Climate Change. In *Ecological Consequences of Climate Change: Mechanisms, Conservation, and Management* edited by E. A. Beever, CRC Press/Taylor & Francis Group.
- Dudley, N., Higgins-Zogib, L., Hockings, M., MacKinnon, K., Sandwith, T. and Stolton, S. 2011. National Parks with Benefits: How Protecting the Planet's Biodiversity Also Provides Ecosystem Services. *Solutions* 2(6): 87-95.
- Mackinnon, K., Dudley, N. and Sandwith, T. 2011. Natural solutions: Protected areas helping people to cope with climate change. *Oryx* 45(4): 461-462.
- Walston J, Robinson JG, Bennett EL, Breitenmoser U, da Fonseca GAB, et al. (including K. Mackinnon) 2010. Bringing the Tiger Back from the Brink—The Six Percent Solution. *PLoS Biol* 8(9): e1000485.
- MacKinnon, K. (2010). *Funding for biodiversity: implications for World Heritage sites* in World Heritage magazine *Heritage and Biodiversity*, UNESCO
- Sutherland, W.J et al (including K. MacKinnon) 2009. One Hundred Questions of Importance to the Conservation of Global Biological Diversity. *Cons. Bio.* 23: 1523-1739.
- MacKinnon, K. (2006). Megadiversity in Crisis: Politics, Policies and Governance in Indonesia's Forests. In *Emerging Threats to Tropical Forests* (editors W. Laurance and Carlos Peres), University of Chicago Press.
- MacKinnon, K. (2005). Parks, peoples and policies: conflicting agendas for forests in Southeast Asia. Pages 558 – 582. In *Tropical Rainforests. Past, Present and Future.* (editors E. Bermingham, C.W. Dick and C. Moritz), University of Chicago Press, Chicago and London.
- MacKinnon, K., Brylski, P. and Kiss, A. (2005). West Tien Shan. At The crossroads of Central Asia. In *Transboundary Conservation. A New Vision for Protected Areas.*(editors R.A. Mittermeier, C.F. Kormos, C.G. Mittermeier, P. Robles Gil, T. Sandwith and C. Besancon) Pp. 285-289. CEMEX, Agrupacion Sierra Madre, Conservation International, Mexico.
- MacKinnon, K. (2004). Challenges and Opportunities for Mountain Protected Areas: a Perspective from the World Bank. Pages 26-34 in Harmon, D. and Worboys, G L. (eds.) *Managing Mountain Protected Areas: Challenges and Responses for the 21st Century.* Andromeda Editrice, Colledara, Italy.
- MacKinnon, K. (2003). Forests for the Future: Conservation in Kalimantan. In *Borneo in Transition: People, Forests, Conservation and Development* (eds. C. Padoch and N. Peluso). Oxford in Asia series, Kuala Lumpur
- MacKinnon, K. & Whitten, T. 2001. Biodiversity. Pages 32-50 in *Environment and Natural Resource Management in a Time of Transition* (eds T. Walton, Aden, J.), World Bank, Washington D.C.
- MacKinnon, K., editor. (2001). Integrated conservation and development projects: can they work? *PARKS* 11 (2), IUCN.

- Mackinnon, K. and Wardojo, W. (2001). ICDPs – Imperfect solutions for imperiled forests in South-East Asia. *PARKS* 11: 50-59.
- Jepson, P., J. Jarvie, K. MacKinnon, and K.A. Monk. (2001). The end for Indonesia's lowland forests? *Science* 292: 859 - 861.
- Whitten, T., Holmes, D. and MacKinnon, K. (2001). Conservation Biology: A Displacement Behaviour for Academia? *Conservation Biology* 15(1): 1-3.
- Mackinnon, K. (2000). Never say die: fighting species extinction. In *Priorities for the Conservation of mammalian diversity: has the panda had its day?* (eds. A. Entwistle and N. Dunstone), pp335-353. Cambridge University Press (Conservation Biology series 3).
- Mackinnon, K., Mishra, H. and Mott, J. (1999). Reconciling the needs of conservation and local communities: the GEF approach to tiger conservation in India, in *Riding the Tiger: Tiger Conservation in Human-dominated Landscapes* (eds. J. Seidensticker, P. Jackson and S. Christie). Cambridge University Press, U.K.
- Mackinnon, K. (1998). Sustainable use as a conservation tool in the forests of South East Asia. Pages 174-192 in E.J. Millner-Gulland and R. Mace. *Conservation of Biological Resources*. Blackwell Science, Oxford.
- Mackinnon, K. (1997). The ecological foundations of biodiversity protection. Pages 36-63 in R. Kramer, C. van Schaik, and J. Johnson, editors. *Last Stand: Protected Areas and the Defense of Tropical Biodiversity*. Oxford University Press, Oxford and New York.
- Mackinnon, K. and Sumardja, E., (1996) Biodiversity and Conservation in Borneo. In *Borneo in Transition: People, Forests, conservation and Development* (eds. C. Padoch and N. Peluso) Oxford in Asia series, Kuala Lumpur.
- Mackinnon, K. and MacKinnon, J. (1994) The Need to Protect Forests and Wetlands for Water, Wildlife and Human Welfare. Proc. Africa Committee, ICUS
- Mackinnon, K., A. Irving, and M.A. Bachruddin, (1994) A last chance for Kutai National Park: local industry support for conservation. *Oryx* 28: 191-198.
- Mackinnon, K. (1991). Protected Areas Management to Conserve Biodiversity in Indonesia. *Tigerpaper* XVIII: 8-16
- Mackinnon, K. (editor and contributor) 1992. Papers presented to Second Asian Workshop on Conservation Biology. WWF and BIOTROP.
- Mackinnon, K. and H. Susilo. (1992) *The Indonesian National Conservation Plan. Ten Years On*. Paper presented to 4th World Parks Congress, Caracas.
- Mackinnon, K. and MacKinnon, J. (1991). Habitat protection and reintroduction programmes. in *Beyond Captive Breeding. Reintroducing Endangered Mammals to the Wild* (ed J.H.W. Gipps) *Symp. Zool. Soc. Lond.* No. 62: 173-198.
- Mackinnon, K. with C. Santiapillai (1991) Conservation and Management of Rhinos in Indonesia, WWF, Bogor.
- Mackinnon, K. and W.S. Ramono (1991). Orangutans as Flagship Species. Proceedings of Great Apes Conference, Jakarta.

- MackKinnon, K. with W.S. Ramono and C. Santiapillai (1991), Conservation and Management of Javan Rhinoceros Rhinoceros sondaicus in Indonesia. Proceedings of Conference on Conservation and Biology of Rhinos, San Diego.
- BAPPENAS (1991) Biodiversity Action Plan for Indonesia.
- MackKinnon, K. with R. Petocz, and N. Wirawan. (1991) The Kutai National Park: Planning for Action, WWF, Bogor.
- MackKinnon, K. (1990). A Biodiversity Inventory for Indonesia. WWF, Bogor.
- MackKinnon, K. (1990). Biodiversity and endangered species in Borneo. Keynote paper prepared for Conference on Conservation and Management of Rainforests, Sabah.
- MackKinnon, K. (1989). Conservation and National Parks in South-East Asia. *In Nature's Last Strongholds*. Equinox, Oxford.
- MackKinnon, J. & K. (1987) Protected Areas as Refuges for African Pachyderms. AERSG, Nyeri, Kenya.
- MackKinnon, K. and MacKinnon, J. (1987) Les reserves proteges de Madagascar. *In: Proceedings of Conservation Workshop, Madagascar*. WWF-US.
- MackKinnon, K. (1987) Conservation Status of Primates in Malesia, with special reference to Indonesia. *Primate Conservation* 8: 175-183.
- MackKinnon, K. and MacKinnon, J. (1987) Conservation Status of Primates in the Indo-Chinese Region. *Primate Conservation* 8: 187-195.
- MackKinnon, K. (1986) The Conservation Status of Indonesian Primates. *Primate Eye* 29: 30-35.
- MackKinnon, K. S. (1986) The Conservation of Non-Human Primates in Indonesia. *In: Primates – The road to Self-Sustaining Populations*. Ed. K. Benirschke. Springer-Verlag, New York.
- MackKinnon, K. (1986) Report on a survey to determine the status and conservation needs of the golden snub-nosed monkey Pygathrix (Rhinopithecus) roxellana in Sichuan Province, China. WWF-US.
- MackKinnon, K. (1986) Articles on 'Malayan Tapir' and 'Orangutans' for The Big Encyclopedia of Mammals, Ed. B. Grzimek.
- MackKinnon, K. S. (1986) The Conservation of Non-Human Primates in Indonesia. *In: Primates – The road to Self-Sustaining Populations*. Ed. K. Benirschke. Springer-Verlag, New York.
- MackKinnon J. & K. (1984) Territoriality, Monogamy and Song in Gibbons and Tarsiers. *In: The Lesser Apes*. Eds. Preuschoft, Chivers D., Brockelman, W. and Creel. Edinburgh University Press.
- MackKinnon, K. (1984) Entries on 'Flying Lemurs', 'Tapirs' and 'Squirrels' for The Encyclopedia of Mammals, Ed. D. Macdonald, Unwin.
- MackKinnon, K. (1983) Report of a World Health Organization (WHO) Consultancy to Indonesia to determine Population Estimates of the Cynomolgus of Long-tailed Macaque Macaca

- fascicularis (and other primates) and the feasibility of semi-wild breeding projects of this species. WHO Primate Resources Programme Feasibility Study: Phase II.
- Mackinnon, J. and MacKinnon, K. and Tarmudji (1980) Cagar Alam Tangkoko-Dua Saudara, Sulawesi Utara. Management Plan 1981-1986. WWF Indonesia Programme, Bogor.
- Mackinnon J. and MacKinnon, K. (1980) Niche Differentiation in a Primate Community. In: Malayan Forest Primates – Ten Years' Study in Tropical Rainforest. Ed. D.J. Chivers, Pienum, London.
- Mackinnon, J. & MacKinnon, K. (1980) The Behaviour of Wild Spectral Tarsiers. Int. J. of Primatol. 1(4): 361-79.
- Mackinnon, K. (1979) Tangkoko-Batuangus Reserve. Tigerpaper 6: 43-46.
- Mackinnon, J. & MacKinnon, K. (1978) Comparative feeding ecology of six sympatric primates in West Malaysia. Proc. 6th I.P.S. Congress: 305-321.
- Mackinnon, K. (1978). Competition between Red and Grey Squirrels. Mammal Review 8 (4): 185-190.
- Mackinnon, K. (1978) Stratification and feeding differences among Malayan squirrels. Malay Nature Journal 30: 593-608.
- Mackinnon, J. & MacKinnon, K. (1977). The formation of a new gibbon group. Primates, 18(3):701-8.
- Mackinnon, K. (1976) Home Range, feeding ecology and social behaviour of the grey squirrel Sciurus carolinensis Gmelin. D.Phil. Thesis, University of Oxford.

**Scope of Services and Curriculum Vitae of
Mr. Anthony Zola**

A. Project Background

1. Nam Ngiep 1 (NNP1) involves the development, construction, and operation of a 292-MW hydropower project on the Nam Ngiep River in Lao PDR. Shareholders in the NNP1 consortium are Kansai Electric (45% stake), Electricity Generating Authority of Thailand (EGAT) (30%) and Government of Lao PDR (GOL) (25%). GOL's stake may be financed by a JBIC loan.

2. Key features of the project are a 162-meter high dam, with a 269MW power plant for exporting power to Thailand; a 20-meter high regulating dam downstream of the main dam, with a 20MW power plant to supply the domestic market in Lao PDR; a 130-km double-circuit 120kV line to a shared substation at Nabong (within Lao PDR) for export to Thailand; a 40-km single-circuit 115kV line to a substation at Paksan, Lao PDR, for connection to the Lao power grid; a 67-square kilometer reservoir (at full supply level), and a catchment area of 394 square kilometers. Based on the hydrological study performed for the Project, NNP1's average annual output is expected to be 1,393 GWh from the main power station and 106 GWh from the second power station.

3. NNP1 is structured as a 27-year BOT concession. About 95% of output will be sold to Thailand under a 27-year power purchase agreement with EGAT. For Lao PDR, the project will generate considerable export earnings and increase power supplies by 6%.

4. Following the procedures and requirements of ADB's Safeguard Policy Statement (2009)¹ the NNP1 project has been categorized as A/A/A on environmental/involuntary resettlement/indigenous people. ADB has also deemed NNP1 a "highly complex and sensitive" project. For such projects, ADB requires the borrower/client should engage an independent advisory panel (IAP) of experts during project preparation and implementation.

B. Issues

Summary of Involuntary Resettlement (IR) issues

5. The project, will directly affect 812 households (5,360 persons) of which 432 households (3,053 persons) from seven villages will be relocated. The project will also indirectly affect 2,597 households (14,712 persons). The proposed relocation sites are in (1) Ban Pou for 10 households of its own, (2) Hatsamkhone village for 5 households of its own, (3) Hat Gniun for 33 households in Hatsaykham village (Zone 3), and mainly Houay Soap for 399 households in four villages of Houypamom, Sopphunane, Sopyouak, Namyouak villages (Zone 2LR). During the due diligence, it is clear that acceptability and suitability issues have been raised by affected peoples in relation to the proposed Houay Soap resettlement site.

C. Rationale

6. The requirement for independent advisory panel (IAP) to monitor project preparation and implementation for highly complex and sensitive projects is stated in the ADB's Safeguard Policy Statement (2009). The IAP's primary objective is to provide independent review and guidance on the treatment of environmental and social issues associated with a project under preparation and implementation.

¹ www.adb.org/documents/safeguard-policy-statement

7. Engagement of an IAP can: (i) verify and report on compliance with ADB's and the host country's safeguard requirements, and (ii) increase the ability of the borrower/client to document, manage, and reduce risk exposure to environmental and social issues. The IAP also provides technical expertise to help the borrower/client to take timely actions to address complex and controversial issues, ensuring compliance with social and environmental commitments.

8. The overall role of an IAP is to provide (i) an objective, balanced, and impartial view on the overall project preparation and implementation processes, including identification of issues that concern social and environmental impacts and risks; and (ii) independent advice to facilitate decision making on complex and controversial issues to ensure the actions taken regarding such issues comply with the safeguard requirements.

9. IAP's purview is comprehensive; it extends to the setting, design, and plans for construction and operation. This includes review of all relevant environmental assessments, operational and construction plans, environmental management and monitoring plans, resettlement action plans, plans for Indigenous Peoples and associated reports on project progress and corrective actions. The IAP's findings and recommendations are submitted directly to ADB and the Sponsor.

D. Panel Requirements

10. The Project Sponsors will recruit four distinguished international specialists and recognized national or sub-regional leaders from business, legal community and/or major institutions to form the Independent Advisory Panel (IAP). These specialists will have the expertise in (i) biodiversity assessment; (ii) protected/conservation area management, (iii) social assessment on involuntary resettlement and (iv) Indigenous Peoples. The Chair of the panel will be selected by the Panel themselves. If selection for the chairmanship has been made, IAP should inform Sponsors, GOL and ADB.

11. The IAP will meet at least three times during the project design, pre-construction and construction phase and twice annually thereafter. The initial meeting will include an extensive field visit. Other visits to the project area will be arranged at the IAP's request. IAP members will be supplied with complete set of documents before field visits and will be briefed in Vientiane before the first field visit. The IAP would normally visits the greater project area and the project proponents for a week or two, until the members become familiar with the many different components of the project.

12. After each meeting the IAP provides the Sponsors, GOL and ADB with a signed copy of its findings and recommendations before departure. The ADB is required to disclose certain information to the public accordance with its Public Communications Policy.² The IAP reports will be posted on ADB website except to the extent disclosure of such reports is not required under the Public Communications Policy. And also the report should be translated in Lao language for use by Government and public disclosure.

13. The budget for the IAP will allow for the recruitment of additional short-term experts³ to provide supplementary expertise and advice to the IAP, as required. This may include, as an example, a technical analysis of suitability of the resettlement site(s) by qualified agronomist, agro-forestry specialist, sociologist, and community planners.

² www.adb.org/site/disclosure/public-communications-policy

³ If short-term experts will be required by IAP, the contingency budget can be tapped. Please refer to Annex 3-IAP Budgetary Cost Estimate.

14. The IAP will be responsible for the review and approval of the Environmental and Social Technical Assessment Consultants' Terms of Reference to carry out (i) baseline biodiversity and biodiversity offset design and (ii) resettlement site(s) assessment. The IAP may propose additional assessment/study as appropriate.

15. The IAP will review technical reports, provide further direction on additional studies to be undertaken (if any) and closely work with the E&S Technical Assessment Consultants during the conduct of the assessment providing advice on survey design and international good practice associated with the issues such as the design and implementation of biodiversity offsets and resettlement planning and implementation.

E. Scope/Terms of Reference for Panel Members on Social

16. For social issues, ADB would require that the IAP-Involuntary Resettlement Expert review issues of resettlement and Indigenous Peoples, and other social plans to address them and, if necessary, recommend changes in project design to comply with the SR2 on Involuntary Resettlement and SR3 on Indigenous Peoples. In addition, the IAP-Involuntary Resettlement Expert will also review issues and concerns related to women and other vulnerable groups and propose measures to address them. This would include, but would not be limited to:

- i. **Resettlement.** Assess whether resettlement has been minimized, whether sufficient preparation has been undertaken for restoration of income and living standards of the affected peoples; and review the timetable, budget and institutional capacity to implement resettlement. And also assess the adequacy of the resettlement sites and also determine the need for Broad Community Support (BCS).
- ii. **Biodiversity Offset Area.** Evaluate and assess the social and economic aspects including Involuntary Resettlement within the proposed biodiversity area. This is to understand (i) the status of biodiversity in the proposed offset areas, and if local communities currently use or benefit from those biodiversity resources, and (ii) any existing threats to the biodiversity values, including any socioeconomic drivers (such as fishing or forest production harvesting).
- iii. **Other social plans.** Review measures to protect and improve the socio-economic conditions of the project affected people and make recommendations as appropriate.

F. Expected Implementation time frame and budget

17. The IAP-Involuntary Resettlement Expert is expected to be recruited by the Sponsors on December 2012 and the assignment will be completed by January 2020.

[REDACTED]

19. Expected major project milestones and deliverables that require review, approval/ endorsement and technical advisory services from IAP-Involuntary Resettlement Expert are the following:

- i. Social:
 - a) Consultant's Terms of Reference for the conduct of technical assessment for Resettlement Site(s)
 - b) Work Plan with a Draft Format of Resettlement Site(s) Assessment Report
 - c) Resettlement Site(s) Assessment Midterm Report
 - d) Final Resettlement Site(s) Assessment Report

APPENDIX B

CONSULTANT'S CURRICULUM VITAE

Anthony M. Zola

1. NAME: Zola Anthony Michael
 (Family Name) (Given Name) (Middle Name)

2. DATE OF BIRTH: 15 May 1948

3. NATIONALITY: USA / Legal resident of Thailand

5. EDUCATION: M.A., Economics, 1976, Maxwell School, Syracuse University, Syracuse, New York, USA

 B.A., International affairs, 1970, George Washington University, Washington, DC, USA
 Certificate, French language and civilization, 1967, University of Paris, Sorbonne, France

6. MEMBERSHIP OF PROFESSIONAL SOCIETIES: Thailand Agricultural Economics Association
 Certified Agricultural Consultant, American Association of Agricultural Consultants, since 1987
 Board Member, Thailand-United States Educational Foundation (Fulbright Thailand)
 Board Member, Mekong Environment & Resource Institute Foundation, Thailand

7. COUNTRIES OF WORK EXPERIENCE: Thailand, Lao PDR, Cambodia, China/Yunnan, Burma/Myanmar, Bangladesh, Nepal, Pakistan, Fiji, West Africa

8. LANGUAGE & DEGREE OF PROFICIENCY: English – Native Lao – Excellent
 Thai – Excellent French – Good

9. EMPLOYMENT RECORD

9a. FROM: 2008 TO: present
 AFFILIATION:

Mekong Environment and Resources
 Institute, Bangkok, Thailand

POSITION HELD AND DESCRIPTION OF Greater Mekong Subregion Resources

DUTIES: Development Specialist - Senior Researcher

Undertakes short-term assignments as a land, human, and capital resources development in the Greater Mekong Subregion.

On-going and recent assignments include the following:

(i) **Office of Environmental Policy and Planning, Ministry of Science, Technology, and Environment, Bangkok, Thailand, Environmental Planner:** Reporting on Thailand's implementation of Agenda 21 to the United Nations Commission on Sustainable Development 'Preliminary Study on Agenda 21 – Thailand'; reports to 8th & 9th sessions of CSD; report on Thailand's progress and achievements in achieving the objectives of Agenda 21; and 'Review of Thailand's Sustainable Development Strategy' for World Summit on Sustainable Development 9/99 – 9/2002.

(ii) **ADB/Thailand/Environmental Policy Analysis Study, Natural Resources Management Specialist:** Assisted with preparing a framework for public investments to rehabilitate natural resources. Formulated project concepts for donor funding. 12/98-3/99.

(iii) **ADB/Thailand/Agriculture Sector Needs Assessment, Natural Resources Management Specialist:** Reviewed natural resources management policies and implementation at Ministry of Agriculture and Cooperatives. 8/98-12/98.

(iv) **UNDP/Thailand/Evaluation Mission: Evaluation for the Thailand Program on Environment and Natural Resources Management, Resource Economist:** Examined economic and environmental aspects of program's design, implementation, results, and local and national impacts, including support for NGOs. Responsible report preparation, presenting lessons learned from the program for planning and managing future environmental programs. 12/97 – 4/98.

(v) **DANCED/Thailand/Strengthening of Natural Resources Policy and Management in the Office of Agricultural Economics (OAE), Agricultural/Resource Economist:** Responsible for economic analysis of implications for Thai agriculture of implementation of Agenda 21, namely: conventions on biodiversity, desertification, and climate change, and the implications for agricultural development in Thailand and the ASEAN region. 1995-1997.

(vi) **World Bank/Thailand/Pre-Investment Study for a Coastal Resources Management Project, Resource Economist/Team Leader:** Directed preparation of a project formulation mission for the World Bank and the Thai Government to improve management of coastal resources in Thailand. 1/95-10/95.

(vii) **World Bank/GEF/Workshop on Biodiversity Conservation Projects, Resource Person, Natural Resources Planning Specialist:** Participated in regional workshop on formulating biodiversity conservation projects. June 1994.

(viii) **USAID/Thailand/Monitoring, Analysis and Evaluation of Provincial and Local Environmental Planning Project, Environmental Planner/Team Leader:** Assisted with development of a database program and performance indicators to monitor provincial environmental plans. 1994-1995.

(ix) **UNDP/Thailand/Thai Forestry Sector Master Plan Project, Resource Economist:** Assisted UNDP with technical management and environmental analysis of the Pilot Implementation Phase of Forestry Master Plan. 1994-95.

- (x) **World Bank /Thailand/Land Titling III Project, Environmental Analyst:** Prepared an environmental analysis of the impact of the third phase of the 20 year Land Titling Project on natural resources. 1994.
- (xi) **Asla Foundation/Laos/Institutional Development and Planning Assistance to the Lao National Chamber of Commerce and Industry, Management Consultant:** Advised on internal administration, financial management, and planning. Assisted with preparation and publishing of the first English language directory. 1993-94.
- (xii) **World Bank/Thailand/Pre-Investment Study for a Conservation Forest Area Protection, Management, and Development Project in Thailand, Resource Economist/Team Leader:** Project formulation of a biodiversity conservation plan for Thailand, including: organization and management of village interviews using rural and participatory appraisal techniques. 1/93-12/93.
- (xiii) **UNDP/Laos/Management of Vaccine Production and Distribution Project, Management Consultant:** Prepared a vaccine distribution and extension system for seven provinces of Laos. Tasks included village interviews and RRA for improving livestock health services. January-February and April-May 1992.
- (xiv) **UNDP/Thailand/Evaluation Mission: Reforestation of Denuded Forest Land, Khao Kho, Phetchabun, Resource Economist/Team Leader:** Evaluation and environmental assessment of reforestation project. 05/92.
- (xv) **UNDP/UNCDF/Laos/Technical Review Missions: Small Scale Irrigation Development Project, Oudomxay and Luang Namtha Provinces, Northern Laos, Mission Leader and Development Economist:** Undertook review of social and agro-economic aspects of project implementation. 10-11/91; 03-04/92; 05-06/93.
- (xvi) **ADB/Laos/Preparatory Study for a Micro-Credit and Training Project, Economist/Team Leader:** Studied constraints to SME development; surveyed credit availability and training needs; defined a micro-credit and training program. 7/92-2/93.
- (xvii) **UNDP/Laos/Small Scale Irrigation Project Evaluation Mission: Savannakhet and Vientiane Provinces, Mission Leader and Resource Economist:** Economic, environmental, and social impacts assessment of irrigation projects 4/91-6/91.
- (xviii) **World Bank/Thailand/Study on Conservation Forest Area Demarcation, Protection, and Occupancy in Thailand, Resource Economist:** Study of protected area occupancy. Proposed measures to improve conservation forest management. 1990-91.
- (xix) **UNDP/Thailand/Forest Sector Master Plan: Technical Review Missions, Resource Economist/Environmental Planner.** 1991-93.
- (xx) **ADB/Laos/Third Forestry Development Project Preparation, Lao Management Systems Specialist:** Design of industrial tree plantations project, with smallholder participation. 1990-91.
- (xxi) **UNDP/Laos/Project Formulation: Village Level Irrigated Agriculture Training Project, Resource Economist:** Designed an irrigated agricultural extension project. 1991.

9c. FROM: 1990 TO: 1991

Pacific Management Resources Co.,

EMPLOYER:

Ltd., Bangkok, Thailand
**Regional Director - Asia/Pacific &
 Agricultural/Resource Economist**

POSITION HELD AND DESCRIPTION OF DUTIES: Short-term assignments as an agricultural and resource economist: i) UNDP/Laos/Agricultural Policy Review & ii) ADB/Laos/Crop Development Plan. Project coordinator for i) USAID/Bangladesh/Agriculture Research Project, Phase II (Supplement); ii) ADB/Nepal/Master Plan for Horticulture Development Project; iii) ADB/Fiji/Sigatoka Valley Rural Development Project.

9d. FROM: 1987 TO: 1990

EMPLOYER:

**PacMar, Inc. Honolulu, Hawaii, USA
 Director of Operations.**

POSITION HELD AND DESCRIPTION OF DUTIES: Projects supervised included: i) ADB/Thailand/Private Tree Farms Development Study (1989); ii) USAID/Thailand/Rural Industries & Employment Project/Thailand (1987-1990); and, iii) ADB/Thailand/ Agricultural Development Information Project.

9e. FROM: 1985 TO: 1987

EMPLOYER:

**Hawaiian Agronomics (International)
 Inc., Honolulu, Hawaii, USA
 Regional Manager - Asia**

POSITION HELD AND DESCRIPTION OF DUTIES:

Based in Bangkok, Thailand. Projects under direct responsibility included the following: 1) World Bank, Rural Land Use Project Preparation / Thailand; 2) World Bank, Agro-Industrial Sub-sector Study Mission/Thailand (1986).

9f. FROM: 1983 TO: 1985

EMPLOYER:

**Louis Berger International, Inc., East
 Orange, New Jersey**

POSITION HELD AND DESCRIPTION OF DUTIES: Land Reform Economist/Team Leader, Thailand

Implemented a US\$40 million World Bank funded Land Reform Areas Project; responsible for planning, project administration, supervision of a four-man advisory group, project counterparts, and several groups of sub-consultants.

9g. FROM: 1981 TO: 1983

EMPLOYER:

**Louis Berger International, Inc., East
 Orange, New Jersey, USA
 Economist/Irrigated Agriculture Marketing
 Advisor / Lam Nam Oon Integrated Rural
 Development Project, Sakon Nakhon,
 Thailand**

POSITION HELD AND DESCRIPTION OF DUTIES:

Designed and operated an agricultural commodity information and marketing extension program for crops produced in a 32,000 hectare irrigation project in Northeast Thailand. Initiated contract farming of crops for processing facilities. USAID funded grant.

9h. FROM: 1977 TO: 1981

**Royal Thai Government, Department of Public
 Welfare, Land Settlement Division (World Bank Loan
 Project), Ministry of Interior, Bangkok, Thailand**

EMPLOYER:

**Agricultural Business and Marketing
 Advisor**

POSITION HELD AND DESCRIPTION OF DUTIES:

Conducted market research and development studies, identifying markets for farmers in an agricultural diversification project at two self-help land settlements in Northeast Thailand: Ban

Kruat and Prasart Land Settlements, Buriram and Surin provinces.

9i. FROM: 1976 TO: 1977

Catholic Relief Services, Bourkina
Fasso, West Africa
Program Assistant

EMPLOYER:

POSITION HELD AND DESCRIPTION OF DUTIES:

Responsible for planning and managing a food security program for maternal-child health centers throughout the country. Designed and operated a food reserve monitoring and evaluation program with government counterparts.

9j. FROM: 1972 TO: 1975

U.S. Agency for International Development,
Vientiane, Laos

EMPLOYER:

Agricultural Extension Advisor

POSITION HELD AND DESCRIPTION OF DUTIES:

Organized and operated agricultural extension units for crop and livestock promotion throughout Laos with the Agricultural Development Organization (ADO), a USAID supported agricultural development program.

9k. FROM: 1970 TO: 1972

U.S. Peace Corps, Bangkok,
Thailand

EMPLOYER:

Volunteer/Community
Development/ Agriculture

POSITION HELD AND DESCRIPTION OF DUTIES:

Worked on agricultural development projects with the Community Development Department, Ministry of Interior in Nongkhai province, Northeast Thailand.

Recent publications:

1. *Scoping Study on Trade, Food Production, and Service Sector Linkages in Luang Prabang, Lao PDR*, September 2011.
2. *Strategy for Agricultural Development to 2020, Lao PDR*. Ministry of Agriculture and Forestry, IFAD, AFD. September 2010.
3. *Agriculture Master Plan, 2011-2015, Lao PDR*. Ministry of Agriculture and Forestry, IFAD, AFD. August 2010.
4. *Scoping Study on Cross-border Agribusiness in Lao PDR: Focus on Champasak Province*. World Bank / Trade Development Facility. August 2009.
5. *Policy, Market, and Agriculture Transition in the Northern Uplands, Lao PDR*. World Bank. May 2008.
6. *Study on Enhancing Upland Food Security and Cross-border Agricultural Production Supply Chains in the Greater Mekong Subregion*. MIDAS Agronomics and the Rockefeller Foundation. March 2008.
7. *Report on the Progress and Achievements of Thailand in Implementing Agenda 21*. Office of Environmental Policy and Planning and MIDAS Agronomics Co. Ltd., Bangkok. August 2002.
8. *Environments in Transition: Cambodia, Lao PDR, Thailand, Viet Nam*. Asian Development Bank, Manila. 2000.