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FOREWORD

The establishment of Export Processing/Industrial Zones (EPZs/IZs) has been adopted by the Cambodian government as a key strategy to develop and diversify the country's industrial and export basis, sustain economic growth, generate employment and reduce poverty. The establishment of IZ/EPZs is intended to support the creation of an enabling and competitive environment for foreign investments. However, the Cambodian government is also concerned by the social and poverty impacts of this strategy. The Cambodian National Poverty Reduction Strategy (NPRS) emphasizes the need to ensure "access for the poor to trade induced income and employment benefits", along with a "sustainable use of natural resources and improved conditions for workers (gender equity, health, safety and appropriate wage levels)" and explicitly recommends that agencies concerned "conduct poverty and social impact analysis to better predict both the positive and negative consequences of the trade strategy". As regards Foreign Direct Investment and the development of EPZs, the NPRS acknowledges that "FDI and export activity will not provide opportunity for poverty reduction if concerns about types and conditions of investment, ownership, labor standards and environmental regulations and accountability mechanisms" are not adequately addressed. It also stresses the need to "guarantee backward linkages, address the possible intensification of income inequalities between rural and urban areas, increased rural to urban migration and the creation of urban and peri-urban slums"[1].

In February 2003, UNDP was requested to assist the Cambodian government in getting a better understanding of the social impacts of EPZs in the particular context of the Koh Kong EPZ project. The EPZ project is a joint Cambodian-Thai initiative and ranks as a high priority within the framework for cooperation between the two countries.

As part of the UNDP Cambodia Capacity-Building for Pro-Poor trade Reforms program - Cambodia Integrated Framework[2] Phase I - and on-going successor program on "Trade related Assistance for Development and Equity" - Cambodia Integrated Framework Phase II[3]-, the Social Impact Assessment of the Koh Kong EPZ project was conducted with a view to providing a basis for further assessing the poverty reduction/human development impact of trade reforms with a focus on capturing people's perceptions and promoting their participation in the design of benefit enhancing as well mitigation measures.

As with Environmental Impact Assessments (EIAs), Social Impact Assessments (SIAs) of industrial zones are not a common practice worldwide. Only a few examples exist of EIAs being undertaken prior to the development on an industrial park to understand environmental and social aspects of the affected area. Moreover, the views of affected people on potential social or environmental impacts and possible mitigating measures are seldom taken into account in conventional SIAs.

In contrast, this pilot SIA has emphasized consulting people directly or potentially affected by the Koh Kong EPZ. This consultation process occurred through a specially designed household survey. It is assumed that, in a context where there is an increased reliance upon the private sector for the development of large scale industrial or infrastructure projects, integrating people's views may help design more suitable measures to enhance benefits and mitigate costs associated with project development. In addition to capturing the views of key stakeholders/informants of the project, the analysis and recommendations made in this SIA therefore draw upon and integrate the views of households potentially affected by the project.

[1] National Poverty Reduction Strategy, 2003-2005 2nd draft, Council for Social Development p.52-57).

[2] In Cambodia, the Integarted Framework (IF) process is part of a new approach which places greater emphasis on integration of trade with national development strategies. More specifically, the IF is a mechanism used for: (a) mainstreaming trade into development/plans/ poverty reduction strategies; (b) delivering trade-related technical assistance.

[3] Key objectives of UNDP Cambodia Capacity Building for Pro-poor trade reforms program included promoting "a broader national constituency on trade and poverty through a strategic and information based partnership development approach"; and "further elaborating on the links between poverty reduction/human development and trade expansion". The on-going program on "Trade related Assistance for Development and Equity focuses on "enhancing the national capacity to facilitate pro-poor trade policy formulation and implementation including cross-sectoral and decentralized capacity" as well as "ensuring people's participation and placement of poverty eradication concerns in the center of the formulation and implementation of national trade policy and communicate the people's voices to the national and international community in the context of the MDG8.

In contrast, this pilot SIA has emphasized consulting people directly or potentially affected by the Koh Kong EPZ. This consultation process occurred through a specially designed household survey. It is assumed that, in a context where there is an increased reliance upon the private sector for the development of large scale industrial or infrastructure projects, integrating people's views may help design more suitable measures to enhance benefits and mitigate costs associated with project development. In addition to capturing the views of key stakeholders/informants of the project, the analysis and recommendations made in this SIA therefore draw upon and integrate the views of households potentially affected by the project.

This participatory SIA provides a methodological framework that could be further used for assessing social/ poverty dimensions and impacts of other intended IZ/EPZ projects.It is hoped that findings and lessons learned from the SIA of the Koh Kong IZ/EPZ will encourage further discussions among national and international stakeholders on the particular social and human development challenges associated with the establishment of IZ/EPZs in Cambodia, as well as on policy measures, including regulations, that may help maximize social benefits and minimize adverse impacts of this instrument.

ACKNOWLEDGEMENTS

This pilot SIA has been the product of a close and continuous collaboration between UNDP, the Ministry of Commerce, the Center for Advanced Study (CAS) and individual experts from the National Institute of Statistics.

The authors of the report wish in the first place to acknowledge the initiative, leadership and continuous support of Mr Sok Siphana, Secretary of State, Ministry of Commerce. Special thanks are due to Mr. Ney Sakal, Deputy Chief of Bureau of Management, Mr. Pech Sokpo, Chief of Trade Promotion Section, Ministry of Commerce, Export Promotion Department and Mr. Khlang Sokha, Assistant to Secretary of State, for their dedication in facilitating the scoping and follow-up missions undertaken in the Koh Kong Province. The authors wish to acknowledge the time and support provided by local government officials, NGOs and other local stakeholders met during those missions.

The authors wish to thank all members of the CAS team of surveyors and supervisors for their dedication and work in the field, as well as Mr Lundy Saint (Computer Programmer, National Institute of Statistics), Mr. Saint Saly, MD, Statistical Analyst, Ministry of Health Cambodia, Dr Ros Seyha, epidemiologist, Ms Claude Katz (Team Leader, National Research Team Cambodia Human Development Report) for their valuable contribution to data processing and/or statistical analysis of the SIA survey results.

The authors would like to acknowledge the continuous support and valuable inputs of UNDP Cambodia Poverty Reduction Cluster. Special thanks are due to Ingrid Cyimana, Team Leader, for management and technical leadership, as well as to Mr Richard Schiere, Economic Analyst, Dania Marzouki, Poverty analyst, Severine Leonardi, HIV/AIDS focal point, Sari Laaksonen, Trade and Private Sector Specialist and Hin Wisal,Gender and Trade Analyst.

Finally, special acknowledgements and thanks are due to the 1231 households surveyed in the course of this SIA who devoted time and kindly accepted to share their views on their development priorities and perceptions of the IZ/EPZ project.

LIST OF ACRONYMS

AFTA	ASEAN Free Trade Zone
ASEAN	Association of South-East Asian Nations
BDP	Bureau of Development Policy of UNDP
BOT	Build-Operate and Transfer
CAS	Center for Advanced Studies of Cambodia
CDC	Council for the Development of Cambodia
CEAA	Canadian Environmental Assessment Agency
CSES	Cambodia Social-Economic Survey
EIA	Environment Impact Assessment
EPZ	Export-Processing Zone
FDI	Foreign Direct Investment
GSP	General System of Preferences
H/H	Household
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IF	Integrated Framework of the Capacity Building for Pro-Poor Trade Reforms in Cambodia
ILO	International Labor Organization
IZ	Industrial Zone

JICA ..... **Japanese International Cooperation Agency**

KVA ..... **Kilovolt-ampere**

MWA ..... **Megawatt**

NGO ..... **Non-Government Organization**

NIS ..... **Cambodia National Institute of Statistics**

NPRS ..... **Cambodia National Poverty Reduction Strategy**

ODA ..... **Overseas Development Agency**

PFI ..... **Private Financing of Infrastructure**

PPIAF ..... **Public-Private Infrastructure Advisory Facility**

SEPA ..... **China State Environment Protection Agency**

SEZ ..... **Special Economic Zone**

SPZ ..... **Special Promotion Zone**

SIA ..... **Social Impact Assessment**

SURF ..... **Sub-Regional Resources Facility of UNDP**

UNDP ..... **United Nations Development Program**

UNEP ..... **United Nations Environment Protection**

UNIDO ..... **United Nations Industrial Development Organization**

WFP ..... **World Food Program**

WTO ..... **World Trade Organization**

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EXECUTIVE SUMMARY

Executive Summary

The Cambodian government has declared its intention that a major element in the country's overall strategy of economic development and poverty reduction will be the establishment of Industrial Zones/Export processing zones (IZ/EPZs). Four such zones are planned: three along the Cambodia-Thailand border, at Poipet, Pailin and Koh Kong, and one close to the port city of Sihanoukville. The establishment of IZ/EPZs is intended to support the creation of an enabling and competitive environment for foreign investments. However, the Cambodian government is also concerned by the social and poverty impacts of this strategy, as stated in the National Poverty Reduction Strategy.

This SIA report focuses on the proposed zone at Koh Kong and attempts to assess its likely social and economic impact. The report's objective is to contribute to discussions among national and international stakeholders on the social development aspects of the proposed IZ/EPZ and potentially to inform regulatory and other measures directed at maximizing the social benefits and minimizing the social costs of this important project. The assessment of these impacts and related recommendations for mitigation draw upon consultations with major government and non-government stakeholders - in February 2003 (protocol interviews) and February 2005 (discussion of findings) -, as well as a socio-economic survey and consultations conducted among 1231 households in the project area of influence (10 to 15 Kilometer perimeter around the project site). The incorporation of a participatory approach to assessing these impacts assumes that, because the essence of a SIA is to determine and address concerns of people, directly or indirectly affected people's involvement must be active. The SIA survey work was subcontracted to the Center for Advanced Study (CAS) and conducted in May 2003. The whole survey process from questionnaire design to the analysis of results involved a close collaboration between CAS and the team of international consultants.

The legal and administrative framework under which the zone will operate includes Cambodia's 1994 Law on Investment, as amended by a new February 2003 Law on Investment in the Kingdom of Cambodia, which provides for a regime of tax and other incentives for investments located in the EPZs. Currently, a separate Law on Special Economic Zones is being drafted. Other important items of legislation regulating the zone are the 1994 Labor Law as well as the 1996 Law on "Environmental Protection and Natural Resources Management", which prescribes the conduct of Environmental Impact Assessments (EIAs) of major projects.

The site selected for the Koh Kong IZ/EPZ is on the Cambodian side of the Cambodia-Thailand border at Koh Kong, located at the southernmost tip of Thailand's Eastern Seaboard. It is well located for access to Thai transport and other infrastructure and for proximity to Thai firms which may invest in the zone. Prior to the commencement of this SIA, the households previously occupying this site and/or having claims on the land were relocated and/or compensated, as described in the report. A feature of the development of this particular IZ/EPZ has been the close involvement in project planning and preliminary site development of a private investor which has already constructed a casino, international resort and duty free shop immediately on the Cambodian side of the Koh Kong border with Thailand.

It is expected that the IZ/EPZ will contribute to household incomes in the project area, primarily through the direct and indirect employment effects of the zone. Attempts to project the likely number of jobs that might be created in the zone are speculative, but the creation of 28,200 jobs directly within the zone itself has been suggested and seems possible, depending on the attractiveness of the conditions offered. This number of jobs would imply an annual wage bill of around US$ 20 300 000. However, it is important to note that the number of firms that will actually enter the zone and the number and type of jobs that will be created remain uncertain. The number 28,200 represents the capacity of the zone and should therefore be seen as an upper limit on the number of direct jobs that might be created. The actual number could be considerably smaller. It was originally intended that the firms entering the zone would be primarily light manufacturing enterprises such as garments and electronics. If this expectation was realized, then based on experience with EPZs elsewhere, these employees would be primarily, but not exclusively, females in the age group 18 to 25 years, which can be viewed as an important positive impact given the worsening of female employment status, and thus household welfare, experienced in the project area in the recent period. As of early 2005, it however appears that a broader range of industries may enter, with employment consequences less focused on young women. Beyond these jobs created

directly, further, indirect employment effects can be expected in the project area and elsewhere in Cambodia as a result of the support services required by IZ/EPZ firms and through the spending of incomes earned by zone employees.

In view of demographic and human capital conditions prevailing in the project area, especially among the young female population, the maximization of the employment impact will require substantial targeted investments in vocational training in the short term, as part of a longer term strategy for developing industrial human capital. Given employment pressures at the country level, high in-migration can be expected, regardless of the potential employment intensity of the zone. This will require adequate mitigation through the development of social and physical infrastructure beyond the immediate surroundings of the project site. The case for a broad-based expansion in physical and social infrastructure is further compounded by the need to ensure that remote and more disadvantaged communities in the project have access to the zone. The high HIV/AIDS prevalence in the project area strongly calls for strengthening and integrating prevention measures, to avoid reversal in progress achieved in the recent period. Finally, large backward linkage effects within Cambodia should not be expected because of the enclave nature of the firms which typically invest in EPZs. However, the potential for supplier linkages between the zone and the local economy (fishing activities) and national economy (agricultural and other products) could be further investigated in consideration of environmental and sustainability issues, including land management.

The realization of employment gains will entail additional costs, which include the possible negative environmental consequences of the zone. The zone is located adjacent to a river lined on both sides with legally protected mangrove forests, immediately next to the boundary of the IZ/EPZ. This river empties, 17 kilometers downstream, into an important wetlands area which is protected by international agreements. Although laws exist within Cambodia regulating effluent from light manufacturing firms, monitoring the pollution that occurs and enforcing the existing laws is a continuing problem. Because of its environmentally sensitive location, it is essential that action be taken to mitigate the possible polluting effects of this IZ/EPZ. The plans for the zone include a biological water treatment facility. It is unclear whether this system is capable of preventing inorganic pollutants originating in the zone from causing serious damage to the wetlands areas mentioned above. In this regard, the conduct of a thorough Environmental Impact Assessment is strongly and urgently recommended along with plans for establishing a suitable monitoring system and policing mechanism within the zone.

In the course of this SIA study, households in the project area, including resettled households, were consulted on their development priorities, knowledge and perceptions of project benefits and negative impacts. An important finding was that the development of factories was seen as a top development priority by a high proportion of respondents (22%), and, consistent with this, the project was welcomed by most of the respondents (90%). However, expansion of education and health facilities as well as road infrastructure (emphasized by 53% of households surveyed), remain the top development requirements of people, especially in the more remote and socio-economically vulnerable communities in the project area.

The households surveyed generally had positive expectations regarding the IZ/EPZ impacts, possibly excessively so. This result was independent of gender, age and proximity to the project site. Almost all of these respondents cited expected benefits from employment opportunities and resulting improved living standards. In addition, improved local business opportunities were expected by 21% of respondents. Other expected benefits included reduced illegal logging, reduced out-migration of young females, development of tourism, reduced delinquency among young people and improved school facilities.

Concerns over the environmental and health impacts of the project, as well as on hiring and labor management conditions within the zone, are significant. Many respondents expressed concern that 'outsiders' (from elsewhere in Cambodia) rather than locals may be the main beneficiaries of the jobs created by the IZ/EPZ. Some feared social conflict as a result of such an outcome. Concerns about environmental/health effects were mainly concentrated on air pollution. Possible water pollution (river and sea) was emphasized mainly in fishing communities, strengthening the case for an in-depth environmental impact assessment and adequate environmental mitigation.

Measures aimed at maximizing the employability of the local population must avoid discriminating against other Cambodians who migrate to Koh Kong in search of employment opportunities. On the other hand, social conflict could result if locals feel they are incurring the costs of the IZ/EPZ development without sharing in its benefits. A further priority is to achieve a balance between development of IZ/EPZ-specific infrastructure, which further strengthens the case for developing general social infrastructure, including roads and educational facilities

beyond the project's immediate surroundings, with benefits flowing to those not directly involved with the IZ/EPZ as well as those directly employed within it. The management of employment issues, ensuring fairness in hiring and ongoing labor relations, is a priority area. This requires proper enforcement as well as an adequate legal and regulatory environment. The establishment of adequate consultation and negotiation mechanisms between labor and management and mechanisms to resolve disputes should be priority matters for the local Labor Office responsible for the zone.

In view of the advanced stage of project implementation, knowledge of the project was found to be low, both among stakeholders and households. Both local government stakeholders and local communities need to be better informed about the development of the zone (especially about its likely industrial profile and implementation schedule) and its expected effects. This is critical to ensure proper and timely planning for training provision and other social infrastructure development that would help mitigate social impacts, as well as to preserve the goodwill of the population. Consultation findings generally show the need for developing an active communication strategy and for ensuring that the IZ/EPZ development will contribute to meeting people's development priorities.

Finally, the types of industries to be located in the zone will influence the zone's social and environmental impacts. This underscores the need for a clear investment promotion strategy that is sensitive to local/national conditions and comparative advantages.

Introduction

INTRODUCTION

A. Iz/epz development in cambodia: context, policy challenges and rationale for social impact assessments (sia)

Industrial and trade development in Cambodia faces numerous challenges, Cambodia's industrial and export basis is narrow, relying on a small set of both products (mainly garments and footwear) and markets. At the same time, there are significant constraints on stimulating private investment, both domestic and foreign. This includes weak infrastructure, lack of transparency and accountability of the legal and regulatory framework, limited financing sources, lack of industrial and managerial skills, poor supportive infrastructure (road and port infrastructure, electricity, water and telecommunications). All this contributes to undermining its competitive edge vis a vis neighboring countries.

Box 1: IZ/EPZ regional development strategy

Source: Ministry of Commerce

The creation of industrial and export processing zones along the border and coastal areas is expected to reduce transportation costs and promote the economic development of coastal areas. IZ/EPZ in Koh Kong, Pailin and Poipet are intended to attract mainly investors from Thailand, whilst the EPZ/SEZ in Sihanoukville[4] is expected to attract investors from other Asian countries (Malaysia, Singapore, Indonesia and the Philippines). The development of IZ/EPZs along the Thai border (Koh Kong, Pailin and Poipet) is the cornerstone of the Thailand – Cambodia economic cooperation framework,[5] which also covers tourism, trade and agriculture. It is expected that Thailand will provide industrial experience, skills and infrastructure such as ports and roads, while Cambodia will provide lower labor costs[6] as well as some raw materials and, in the first place, easier market access through the GSP system. Thailand, like other neighboring South East Asian countries graduated from receiving GSP market access for a number of labor intensive products, as well as resource intensive products, which makes it potentially interesting for Thai manufacturers of these products to relocate their manufacturing facilities to Cambodia in order to enjoy Cambodia's GSP market access.[7]

[4] The development of the Sihanoukville IZ/EPZ has been recently approved under the "Anukret on the Establishment of the Sihanoukville Industrial zone", following a feasibility study conducted by JICA, as part of JICA study on Regional Development of Phnom Penh - Sihanoukville Growth Corridor. The tot=al area would be 43 ha with 29 ha allocated to factory trader plots. The zone is planned to have 2 components: an export processing zone, where export oriented manufacturing facilities will locate; and a free trade zone for logistics and service providers. It is expected that the zone will create 3600 new employment and 1200 indirect job opportunities outside the zone for supporting services·

[5] The Joint Development Study for Economic Cooperation Plan between Thailand and Cambodia, Conceptual Report, February 2001; IF implementation report, June 2002.

[6] Cambodian labor costs are estimated to be approximately half of the level of Thai labor costs in the most attractive investment zone in Thailand (The Thai Board of Investment has divided Thailand into three areas or zones. Zone Three is farthest from Bangkok and offers the most attractive investment incentives).

[7] Cambodia's neighboring countries in South East Asia have lost their GSP status, while, through this system, developed countries have opened their market for over 6,000 products of Cambodian origin to be imported into those countries with lower import duties or duty free.

Against this background, the establishment of IZs/EPZs and more generally "Special Economic Zones" stands primarily as a key measure to foster a better investment climate, to spur human capital development, as well as to reduce the country's vulnerability to external shocks through the diversification of the industrial base and export markets. From a broader development perspective, the establishment of IZ/EPZs is expected to stimulate export-led growth, employment generation and poverty reduction. Currently, there are four priority locations for IZ/EPZ development in Cambodia: Koh Kong, on the Cambodia-Thailand boundary (between Chamyeam Post and Khun Chhang stupa); Poi Pet; Pailin, and Sihanoukville (See Box1).

Recent changes in Cambodia's trade environment however put important constraints on IZ/EPZ development while the materialization of its expected social benefits will require actions on many fronts.

Cambodia's accession to the WTO has exacerbated competitive pressures on national industries. Furthermore, some of Cambodia's preferential trade rights, such as the US quota system, which contributed to Cambodia's competitive edge in attracting FDI in textile industries in recent years, expired on December 31, 2004.[8] From the viewpoint of Cambodia's investment promotion strategy, this raises important issues regarding measures (especially tax incentives) that are needed to compensate for this loss of competitiveness. Given strains on Cambodia public finance, an on-going debate here relates to whether investments in IZ/EPZ/SEZs should enjoy a preferential tax treatment compared to other investments (See Box 2).

Another consequence of the expiration of the US preferential quota system, of particular relevance in the context of this SIA is that it may undermine incentives to monitor and improve labor standards in textile industries.[9] The strengthening of linkages between trade and labor standards, as actively promoted by Cambodia in the textile industry under the US quota system, is however contemplated as a potential source of competitiveness on US and other labor-standard sensitive and socially conscious markets in the EU, vis a vis competing exporting industries in other countries (Vietnam or China) .

Box 2: Incentive framework for IZ/EPZs/SEZs

Cambodia has promulgated an Investment law (the 1994 Law on Investment), as well as a range of sub-decrees that provide the legal framework for investments. In close collaboration with line ministries, international organizations, the private sector and the Council for the Development of Cambodia (CDC), the Investment Law has been recently amended,[10] mainly with a view to rationalizing tax incentives as well as increasing the transparency, simplicity and predictability of the investment approval process.[11] The law requires the CDC to act as a broker to get license and authorization from other ministries and institutions on behalf of investors within a period of 28 days. It also provides for streamlining the provision of tax incentives[12], which is meant to accommodate the expected decrease in public revenues arising from Cambodia's membership in the ASEAN Free Trade Area (AFTA) and accession to the WTO. It is also acknowledged that tax incentives are not enough to attract investments while at the same time, overgenerous incentives put high strains on the government's capacity to finance investments in physical and social infrastructure and human capital development, which are not only paramount for poverty alleviation but are also critical in attracting foreign investments.

However, reflective of the policy dilemmas and trade-offs faced by the Government the incentive framework for Special Economic Zones/Export Processing Zones in Cambodia is still work in progress. [...]

[8] The phasing out of US quotas exposes Cambodian exporters to direct competition from China, where production costs are estimated to be 15% to 30% lower than in Cambodia

[9] In January 1999, the government of Cambodia and the US indeed signed a trade agreement on textiles and apparel aimed at improving working conditions in the sector in Cambodia in exchange of increased export quotas, which was extended up to Dec 2004. Since then Cambodia's clothing manufacturers have been operating since 1999 under an inspection program directed by the International Labor Organization. The agreement--monitored by the International Labor Organization--gave unions freedom to organize one-fourth of the garment industry into independent unions, whose strikes in 2000 boosted industry wages by about 25 percent. As a result, production for export has quadrupled, to $1.5 billion, over the last five years. In 2003, exports rose 11 percent, helping the nation's economy as a whole to grow about 5 percent.

[10] The Law on Amendment to the Law on Investment of the Kingdom of Cambodia was adopted by the National Assembly on 4 February 2003.

[11] Including automatic approval for Qualified Investment Projects

[12] In the area of incentives, the Amendment provides for the adoption of a 20% unified corporate profit tax rate for new "Qualified Investment Projects (QIPs)" after the expiration of the tax holiday period, and phasing out of the current preferential 9% rate in 5 years after promulgation of the Law for existing investments. It also provides for the abolition of various tax exemption schemes on the distribution of dividends, profits and re-investment.

The Amendment to the 1994 Investment Law provides that Qualified Investment Projects (QIPs) in Special Economic Zones (SEZs)/EPZs shall enjoy the same privileges as other QIPs (Article 14). A separate Law on Special Economic Zones[13], which would provide for a preferential incentive regime for investments located in such zones, is being drafted.[14] From the perspective of this SIA, the issue of the tax incentive regime for EPZs is of particular relevance, as maximizing social benefits from the development of EPZs is likely to require significant resources to be invested in physical and social infrastructure as well human capital in areas surrounding the zones.

NB: Under its WTO commitments, Cambodia will comply with the Agreement Agreement on Subsidies and Countervailing Measures[15] from accession. It will either eliminate the existing system of remission of import fees and waiver of duty for certain goods used by certain investors, or establish a functioning duty drawback system consistent with WTO provisions, through amendment of the Law on Investment, as necessary, by the end of 2013. Cambodia has promised that free zones or special economic areas, including special promotion zones will be established in accordance with the Law on Investment, and will be fully subject to the coverage of WTO agreements and its commitments in its Protocol of Accession to the WTO Agreement. Cambodia will ensure enforcement of its WTO obligations in those zones or areas. In addition, from the date of accession, goods produced in these zones under tax and tariff provisions that exempt imports from tariffs, will be subject to normal customs formalities when entering the rest of Cambodia.

Remarkably, whilst considering IZ/EPZ development as an important tool for poverty reduction, the Cambodian government also recognizes that benefits from IZ/EPZ development are not straightforward and that many social and environmental issues need to be considered and addressed by adequate measures and policies. Cambodia's National Poverty Reduction Strategy indeed warns that "FDI and export activity will not provide opportunity for poverty reduction if concerns about types and conditions of investment, ownership, labor standards and environmental regulations and accountability mechanisms" are not adequately addressed. This especially underscores the importance of establishing an effective regulatory/management framework for IZ/EPZ/SEZs, which, at the current stage, is still under construction (See Box 3).

Box 3. The regulatory framework for IZ/EPZs/SEZs

The Cambodia Draft Law on Special Economic Zones provides for the establishment of the Economic Zone Authority of Cambodia (EZAC), as the governing organization of Special Economic Zones. The EZAC would be empowered to "lay down policies, and supervises the operation, administration, management and development of SEZs". The establishment of industrial zones must otherwise comply with existing land management and construction laws.[16] The draft law on IZs provides for a 99 year leasing period for zone developers and possible sub-leasing to zone investors.

Provision on employment practices are those provided for in the 1994 Law. As regards labor standards, EPZs must comply with the Labor law. The development and enforcement of the environmental legislation is a priority for the government. The 1996 Law on Environmental protection" provides for the conduct of Environmental Impact Assessments (EIA). The Sub-Decree on Environmental Impact Assessment EIA was passed in 1999 and instructed the Ministry of Environment to formulate implementing rules and guidelines. EIA became a requirement on projects and investments that are submitted to Council of Development of Cambodia (CDC) for approval. However, EIA implementation procedures remain unclear. Only very few private sector projects have been so far required EIAs. [...]

[13] Special Economic Zones comprises are of two types: Special Promotion Zones and Export Processing Zones

[14] The Cambodia Draft Law on Special Economic Zones is drafted with the assistance of JICA, for a review of the Draft Law, Version 4, 14 May 2004, see the Feasibility Study of Koh Kong Industrial Estate,Chapter 7, pp 7.2 to 7.5

[15] The WTO agreements do not directly address the concept of free zones, but the Agreement on Subsidies and Countervailing Measures does present some regulatory and policy issues of note, somewhat undermining the legal basis for EPZs. In particular, export based incentives are prohibited for most countries and incentives based on domestic content are prohibited to all countries.

[16] 1999 Law on Ministry of Land Management Urbanization and Construction; 1997 Sub-decree on the licensing of Construction permit.

As regards financing arrangements, the EPZ development strategy is planned to rely upon private financing, with the zone construction and development cost being entirely borne by private investors. The strategy reflects the acknowledgement by the Cambodian government of the role and the financial leverage offered by the private sector in the delivery of physical and industrial infrastructure. The 1994 Investment Law and its Amendment addresses financing schemes such as Build-Operate and Transfer (BOT) while a basic decree on BOT/Private Financing of Infrastructure (PFI) has been recently issued. However, the legal and regulatory framework for PIF is not fully fledged. Currently, private financing transactions are not subject to published performance requirements, a competitive bidding process or established procurement procedures, and more broadly, from an appropriate oversight and public scrutiny. Technical assistance in this area is currently under way.[17]

The NPRS also stresses the need to "guarantee backward linkages, address the possible intensification of income inequalities between rural and urban areas, increased rural to urban migration and the creation of urban and peri-urban slums".[18] The recently adopted Rectangular Strategy for Growth, Employment, Equity and Efficiency in Cambodia further emphasizes the need for fostering linkages between Small and Medium Sized Enterprises and large enterprises, including foreign enterprises, as well as the need for promoting linkages between agriculture/agro-industry, manufacturing and tourism industries. Critically, the strategy points to the importance of backstopping Cambodia's industrial and trade development by a consistent human capital development strategy and improving working conditions[19].

All the above issues and concerns provide a strong rationale for conducting ex-ante environmental and social impact assessments of IZ/EPZs. This SIA focuses on the proposed IZ/ EPZ project in Koh Kong, which is considered as having the highest priority under the Thailand – Cambodia economic cooperation framework and is actually the most advanced[20].

[17] Support is being provided through The World Bank /Public-Private Infrastructure Advisory Facility (PPIAF) as well as UNIDO in areas such as supervision and management of PPI transactions, development of procurement procedures, preparation of contractual documents; public relations / dissemination of information to potential bidders; preparation of bidding documents, management of bidding and selection processes.

[18] National Poverty Reduction Strategy, 2003-2005 2nd draft, Council for Social Development p.52-57).

[19] Royal Government of Cambodia, "Rectangular Strategy", 2004; The Private Sector Growth and Employment Platform of the Strategy more specifically covers the following aspects: "Strengthened private sector and attraction of investments; (ii) Promotion of SMEs; (iii) Creation of jobs and ensuring improved working conditions; (iv) Establishment of social safety nets for civil servants, employees and workers.

[20] A private investor has already started to develop the site in anticipation of the enactment of the Industrial Zone law and before the Sub-Decree on the creation and land management of the Zone was issued. The land has been purchased and roads have been built to the Thai border and into the nearby town including a bridge over the Prek Khao Pao River. Construction of the wall bordering the project site has been completed.

B. The sia of Koh Kong iz/epz project: a phased-in and participatory process

The identification of the Koh Kong IZ/EPZ project's social (and environmental) impacts relied upon a broad-based consultation of key stakeholders and potentially affected households in the project area, while preliminary findings and recommendations of the SIA have been further discussed through a second round of consultations with key stakeholders in Phnom Penh and Koh Kong prior to finalizing this report.

Departing from more conventional approaches, this SIA put a particular emphasis on capturing the thoughts and views of people directly or indirectly affected by the construction and operation of the Koh Kong IZ/EPZ project. Because the essence of a SIA is to determine and address the concerns of the people affected, it is indeed assumed that potentially affected people's involvement must be active.

The assessment started in February 2003 with the conduct of protocol interviews with provincial leaders and local government representatives, as well as Civil Society representatives[21]. This was followed by a household survey conducted in the project area in May 2003. The SIA survey work covered 1231 households in a 10 to 15 kilometers perimeter around the IZ/EPZ project site. The SIA survey work was subcontracted to the Center for Advanced Study (CAS) and was designed and conducted in close and steady collaboration between CAS and UNDP consultants[22].

Besides filling information gaps on socio-economic characteristics in the project area, two other major objectives were assigned to the household survey work: 1) To obtain people's views on their development priorities; 2) To assess people's knowledge of the IZ/EPZ project and gather their perceptions and feelings on project potential benefits and negative impacts as well as people's thoughts on ways to enhance/mitigate those impacts, confronting views with development priorities. Results of consultations have been considered in terms of their relationships with respondents' individual or household background (gender, age, socio-economic status, educational attainments, location), with a view to identifying differences in perceptions and development priorities.

Preliminary findings and recommendations of the SIA of Koh Kong IZ/EPZ were presented and discussed in a public workshop in Phnom Penh in October 2003.

The study team has the view that findings of a SIA are valuable for decision-making throughout the project planning and development process. Thus, findings are not merely something produced at the end of the assessment. While they may start off general in nature they may shift and become more specific as more detailed information is gathered.

[21] The listed of persons met during the mission is provided in Annex IV of the report.

[22] Several meetings were organized to discuss issues relating to the questionnaire design and other issues such as details regarding the pretest, sampling procedures, dealing with local stakeholders. After completion of data entry and processing, the UNDP consultants and CAS experts collaborated on optimizing the readability of the tabulations of survey results and on the selection of background variables to be used in analysis.

Thus, it was decided that the SIA of Koh Kong EPZ/IZ would further build on the information and findings of the upcoming Feasibility Study of the zone, as well as on a second round of consultations with local stakeholders and key informants in the Koh Kong project area. The Feasibility Study took place in mid 2004 and was released at a seminar at the Ministry of Commerce in Phnom Penh on 28 January, 2005.[23] The SIA study team subsequently reviewed the Feasibility study findings and their implications with respect to initial findings and recommendations of the SIA. In February 2005, the SIA study team undertook a second round of consultations with stakeholders in the Koh Kong province to discuss SIA preliminary findings and recommendations, whilst taking stock of potential significant changes in project baseline conditions since mid 2003.[24] This new round of local consultations proved especially instrumental in further informing the SIA and refining earlier findings and recommendations, notably those requiring actions at the local level. It notably led the SIA study team to consider project social (and environmental impacts) under alternative scenarios regarding the type of industries (light industries – as originally planned - versus potentially more capital intensive/polluting industries) targeted for the zone.

The revised findings and recommendations of the Koh Kong EPZ/IZ SIA were then presented and discussed in a roundtable that was held in Phnom Penh on February 2005, prior to the finalization of this report.

[23] "The Feasibility Study on the Establishment of Industrial Estate in Koh Kong (Nearng Kok), Cambodia Under the Economic Cooperation Plan Between Cambodia and Thailand", was commissioned to the Industrial Estate Authority of Thailand in association with Chotichinda Mouchel Consultants Limited and Panya Consultants, Co., Ltd., Phnom Penh, 28 January, 2005. The study team was kindly provided with a copy of the summary report, which was presented at the seminar, and a CD ROM containing the full report. The Feasibility Study contains useful information on the topographical features of the IZ/EPZ and the proposed engineering developments, including transportation, water supply, electricity supply, drainage system, telephone, flood protection and drainage, waste water treatment and garbage management. The Feasibility Study also contains an "initial environment examination" and an" initial social impact assessment" Most of the listed beneficial and negative impacts expected from the zone construction and operations are in essence similar to the ones identified by the SIA study team. From a methodological viewpoint, the SIA study team however notes that: (i) the scope of the socio-economic and attitude survey is essentially limited to two communities located in the proximity of the project zone, even though the impacts of the zone can be expected to have a much broader outreach. (ii) the listed social impacts are mainly speculative and not well documented while the assessment tends to overlook HIV/AIDS impacts, gender impacts, impacts on vulnerable communities. The scope of the "Interim Environmental Examination" is also limited, with some inconsistencies found between the assessment of existing environmental conditions and likely impacts of the project. Finally the detailed study generally points to significant environmental and social impacts during the construction and operation phase, the overall conclusions tend to minimize those impacts under the working assumption that proper mitigation measures will be implemented. However, some of the proposed mitigation measures tend to be generic and do not seem to fit well with the local situation. The SIA study team strongly recommends disseminating the results of Koh Kong EPZ/IZ SIA to the Thai partners in Koh Kong EPZ/IZ development, as a complement and basis for further discussion of the Feasibility Study findings and recommendations in this area.

[24] The listed of persons met during the mission is provided in Annex IV of the report

C. Sia scope

In most SIAs of large infrastructure projects, land management and related compensation issues are generally considered as critical social dimensions to be mainstreamed into the project overall planning process. However, this SIA took place in a context where arrangements on land resumption, displacement and resettlement of people required for the construction of the IZ/EPZ site had already been implemented by local authorities[25] . With regards to this important issue, the SIA can hardly come up with practice recommendations, but rather with lessons learnt. However, in addition to the information gathered from local officials regarding compensation and resettlement procedures, the study team sought to get feedback from people who have been relocated, through the survey work.

Given the particular nature of the project, the SIA focuses on assessing the potential impact of the IZ/EPZ project on income/employment generation for the local population as well as on migration impacts, with particular attention paid to gender and equity dimensions. In this regard, the survey work that underpins the SIA put the emphasis on collecting gender disaggregated data for key socio-economic indicators, especially demography and occupation status. At the level of individuals within households, the stratification procedure sought to ensure an approximately equal representation of males and females. Moreover, a census approach has been adopted for directly affected communities, communities identified as more vulnerable or disadvantaged, as well as for the group of resettled households.

The SIA also addresses the potential for supplier linkages between the zone, on the one hand, and the local, provincial and national economies, on the other. Finally, in view of project's particular location and obvious potential for tourism/ecotourism, the scope of this SIA has been broadened to include a primary assessment of environmental impacts.

The report provides a comprehensive set of recommendations geared toward enhancing (mitigating) project positive (negative) impacts that draws both upon study team observations and people's perceptions of project impacts and suggestions for mitigation.

The report is structured as follows: Section I describes key features of the Koh Kong EPZ/IZ project. Section II reviews the methodology of the SIA Household Survey. Section III presents the SIA major findings and recommendations. Section IV summarizes conclusions and lessons learnt.

[25] People having some claims on the land in the project site have been compensated and people previously living in the project site have been relocated.

CHAPTER 1

KEY FEATURES OF KOH KONG EPZ/IZ PROJECT

The following section provides basic information on Koh Kong EPZ/IZ project key features and implementation status (as of February 2005). The section draws primarily on materials provided by stakeholders met in Phnom Penh and Koh Kong as well as on the recently published Feasibility Study of the project.

1.1 Location

The sub-decree (10ANKR.BK) on the creation of the Nearng Kok Industrial Zone, Koh Kong Province, was issued in January 2002. The sub-decree delimits the boundary lines for the location for the creation of the EPZ Zone in the Nearng Kok Village, Bak Klang Commune, Mundul Seima District, Koh Kong Province. The project site is located 4 km from Koh Kong town and 2 km from the Cambodian-Thai Border. According to the Feasibility Study, the zone covers a land area of approximately 339.36ha[26] (See Annex III.1)

1.2 IZ/EPZ Characteristics

- Estimated number of factories, job creation and wages

The original plans for the IZ/EPZ specified 140 factories (source: Implementing the Integrated Framework in Cambodia, p.38). The Feasibility Study (2005) specifies that the Industrial Estate in Koh Kong will consist of an EPZ (56.8 ha), but will also contain a General Industrial Zone (110.24 ha) and a "General Ready Made Industrial Zone" with:

o 31 factories and 200 workers per factory expected in the EPZ
o 72 factories and 200 workers per factory expected in the General Industrial Zone.
o 74 factories with 100 workers per factory expected in the General Ready-Made Industrial Zone (see Feasibility Study, Chapter 6, Economic and Financial Analysis)
o or a total of 28 200 direct jobs involving an annual wage bill of USD 1,692,000 per month or USD 20,304,000 per year.

Temporary employment generated during construction is expected to reach a maximum of 100 workers per year

- Expected type of industries:

During the planning of the zone the types of firms targeted were garments, toys, shoes, luggage, as well as agro-processing (source: Ministry of Commerce and stakeholders met during February 2003 field trip). By February 2005 this set of target industries remained, but the set had broadened to include consumer products, agricultural machinery, motor-cycle parts, glass products as well as other industries. The significance is that the newly added industries are more capital intensive, less intensive in the employment of female workers and potentially more polluting than the light manufacturing, labour intensive industries originally targeted.

- On-Site Infrastructure:

Detailed description of IZ/EPZ facilities, including environmental facilities to be constructed within the zone are given in Annexe III, Project Brief, Office of National Economic and Social Development Board, The Joint Development Study for Economic Cooperation Plan between Thailand and Cambodia, November 2001.

[26] According to the decree, it covers a land area of approximately 336.24 ha

The same document posts a total construction cost of 62 634 000 USD. More details on zone conceptual design for land use and facilities are provided in the Feasibility Study (January 2005, see Annex III.2).
Of particular relevance from the viewpoint of this SIA, garbage disposal within the zone is to be by incineration, except for hazardous waste, which is to be stored. Waste water treatment is to be separate from the drainage system and is to be a closed biological treatment system using a Sequence Batch Reactor (SBR). As regards on-site social infrastructure, the Feasibility Study mentions plans for the construction of a Training Center/Food and Textile Institutes as well as a Health Center.

- Management

The zone is to be managed on a day to day basis by the project developer, subject to supervision from the Cambodian government. However, the nature of that supervision remains unclear.

1.3 Related Infrastructure Development

Apart from the bridge crossing the Prek Khao Pao River (completed in April 2002) which establishes a land link into Thailand, major infrastructure development plans in the project area include the following:

Workers center and market servicing the zone: across the highway, immediately opposite the zone, a site has been prepared for a workers' center to house zone workers and a market, intended to serve the zone employees directly. Approximately 100 hectares of land (147 ha according to the Project Brief) have been acquired and cleared for this purpose. The Project Investment Master Plan for Koh Kong Province also mentions construction of a market and business center within Bak Khlang Commune to serve the people of Nearng Kok and Cham Yeam, and which would be financed by "Provincial Hall investors".

Hydro-power station: Early documents relating to the proposed zone indicated that the EPZ firms' requirements for electricity would be purchased from Thailand. Subsequent developments have included plans for a hydroelectric scheme, the Stoeng Russey Chrum Kandal Hydro Power Project. A Site Visit Report based on an inspection of the proposed site from 24 to 26 December 2002 has been made available. The proposed hydropower scheme will be roughly 25 kilometers from Dang Tong commune and approximately 6 kilometers upstream from an existing waterfall on the Stoeng Russey Chrum estuary.

The scheme would provide electricity for the zone and for other users in Koh Kong as well. The planned output of the hydro power plant is 150 MWA Of this output, 20 to 30 MWA would be required by the EPZ. At present, about 5 MWA is imported from Thailand at a cost of 2.5 baht per KVA. The power is resold to industrial users at 6 baht per KVA. The hydropower scheme would be constructed and owned by a private sector developer.

Other planned locations for hydro-power stations and dams in project area include:

1- Metoek (Government Financing)
2- Ta tay (Private financing)
3- Thy Phat (Private financing)

The road RN 48: The route RN 48 is under construction for macadam pavement with 4 new bridges to reduce transport time from Phnom Penh and Sihanoukville. The road connects route 4 (Chaomchau – Kampong Spueu-Krong Prea-Sihanoukville) with Koh Kong. Rehabilitation has been conducted with support of the Thai army. They are four missing bridges on the road. The road will be important, leading directly to the Eastern Seaboard of Thailand. The government of Cambodia has asked the Thai government to resurface the route to asphalt pavement. At present, the road has a gravel surface. Sealing this surface is intended in the subsequent work planned by the Thai Corps of Engineers.

Golf and country club: The Project Investment Master Plan for Koh Kong Province also lists a planned Golf and country club to be located in Bak Khlang Commune and which is intended to serve both local and international tourists. The project is to be financed by the "Duty Free Shop", which is the private company that has already constructed a casino, international resort and duty free shop immediately on the Cambodian side of the Koh Kong border with Thailand
International port: The Project Investment Master Plan for Koh Kong Province also mentions a proposed international port, also to be financed by the Duty Free Shop Co.. Ltd., but the funding for this project is not yet

confirmed. Information received from the private developer (the Duty Free Shop Co.. Ltd). during the February 2005 site visit suggested that the firm will wait until the number of firms actually entering the zone becomes clearer before proceeding with further investment in the port.

Public infrastructure facilities in Bak Khlang commune: In the Project Investment Master Plan for Koh Kong Province, plans are mentioned for government construction of a community health center, an elementary school and an office of the District Education Office, within the commune. These projects would also be financed by the Cambodian government.

1.4 Implementation Status

- Construction

The construction of the wall delimitating the zone started right upon the issuance of the Sub-decree establishing the Zone. Construction of the wall is completed, along with a gate at the entrance to the zone and some office buildings.

- Land Management, compensation schemes and resettlement

At the time when this SIA started in February 2003, families previously living and/or with land rights/certificates over the land in the project site had already been resettled and/or compensated. Reflective of the diversity and complexity of the situation pertaining to land ownership/land use rights in the project area, a multi-tier compensatory scheme has been established. Compensation has been provided to families living on the project site as well as those with claims on land on the project site according to different criteria, involving a major distinction between families having official land titles (delivered by the government), families with land certificates (delivered by communes) with differentiation based on whether households had a house on the site and whether it was making productive use of the land.

	Compensation scheme
Families with land titles/certificates (number: 48)	Land: Cultivated land: 10 baht per square meters Non- cultivated land: 5 baht per sqm for land cleared by fire Land when only trees were cut: 3 baht per sqm.
	House: Brick: 1200 baht per square meters + one plot of land; Wood: 1000 baht per square meters + one plot of land; Cottage housing: 500 baht per square meters;
Families with land certificates corresponding to non clearly delimited plots on project site (Number: 70)	flat 5000 baht
Families with no land certificates (Number: NA)	1000 baht

(Source: Mundul Seima District Governor Office; Land Management Department)

The study team understood that around 118 families (with land titles or certificates) would have been affected by the take-over of the project site land by the government and eligible to compensation, including:

1) 48 Families with land titles or certificates, including

- 13 families with land titles, a house and cultivated land
- 35 families with land certificates, including:
- XX families with a house and cultivated land
- XX families with no house and cultivated land
- XX families with no house and no cultivated land

2) 70 families with land ownership certificates only but no idea of the location of the corresponding land area in the project site (and possible overlap with the above 48 families occupying the land). This particular situation was due to the fact that prior to the IZ/EPZ development project, there was an urban development plan for the same area which led families to acquire land certificates. When the plan was abandoned in favor of the IZ/EPZ, families with land titles applied for compensation based on their land titles.

No clear information regarding the number of families with no land titles/certificates (illegal settlers) and related compensation scheme was made available to the study team. The basis for compensation of eligible families is summarized in the table above.

CHAPTER 2

THE SIA HOUSEHOLD SURVEY METHODOLOGY

The project information available at the beginning of the SIA included the project footprint (site location and land requirements) as stated in the related "Subdecree on the Creation of the Nearng Kok Industrial Zone, Koh Kong Province", (see Annex II) as well as "Project Brief" information on construction plans and costs. Conversely, updated information on baseline socio-economic characteristics of communities and households in the EPZ/IZ project area was very limited, with most information available at the onset of the SIA coming from the 1998 census. In order to obtain a more accurate picture of the baseline situation in the project area, the study team decided to undertake a socio-economic profile of households in the project area (demography, employment, unemployment, educational status, access to social infrastructure, income and expenditures) through household surveys. The SIA survey work covered 1231 households in communities falling within a 10 to 15 kilometer radius around the project site. In line with the participatory approach adopted in this assessment, households were also consulted on their development priorities, knowledge and perceptions of the IZ/EPZ project. The present section briefly reviews major dimensions of the sampling and research methodology used in the SIA survey work that underpins the SIA. More details can be found in Section I of the Household Survey Report in Annex I.

2.1 Sampling Methodology

2.1.1 Sampling location and approach

The survey covered 3 communes in the Mundul Seima district (rural) and 3 communes in the Smach Mean Chey district (urban). Bak Khlang commune, where the project is located, comprises 7 villages and account for about 85% of the population in Mundul Seima district followed by Peam Krasaob (8%) and Tuol Kokir (7%). Smach Mean Chey and Dang Tong communes, urban areas, account for 47% and 44.2% of the population of Smach Mean Chey District respectively (See Map above and Table 1A).[27]

Table 1A Population distribution in project area, as of January 2003

District	Commune	Rural/Urban*	% of district population	% of district number of households
Mundul Seima	Bak Khlang (7 villages)	Rural	84.7%	85.5%
(rural)	Tuol Kokir (4 villages)	Rural	7%	6%
	Peam Krasaob (2 villages	Rural	8.3%	8.5%
Smach Mean Chey	Smach Mean Chey (5 villages)	Urban	47.4%	40.9%
(urban)	Dang Tong (4 villages)	Urban	44.2%	50.4%
	Stueng Veaeng (2 villages)	Urban	8.4%	8.7%

Source: Ministry of Planning, Koh Kong.

[27] Table 1B Population densities in project area, 1998

	Population density (persons)		Population density (persons)
Koh Kong Province	*11.8*	*Smach Mean Chey Distric*	
Mundul Seima District		*Smach Mean Chey*	*216*
Bak Khlang	*8.2*	*Dang Tong*	*8617*
Peam Krasaob	*32.2*	*Stueng Veaeng*	*66.7*

Source: 1998 Census

Population densities in communes in the locality or vicinity of the EPZ project site vary sensibly between urban and rural areas ranging from 8.2 in Bah Khlang to 8617 in the small urban center of Dang Tong. Bak Khlang is the largest commune of Mundul Seima, which explains its very low population density (see map in annexe VI). However, its population (11708) is mainly concentrated in the villages located at a commutable distance (less than 10 -15 kilometers) of the project site.

Table 2: Planned and actual samples of interviewed households

	Number of families	Total population	Sample of H/H planned	Actual Sample of H/H
Mundul Seima district (rural)	**2,746**	**13,821**		
Bak Khlang commune	2,347	11,708		
Village Bak Khlang 1	215	1,135	**320**	322
Village Bak Khlang 2	505	2,848		
Village Bak Khlang 3	228	1,247		
Village Boung Kar Chang	112	527		
Village Cham Yeam	913	3,900		
Tuol Kokir commune	171	974		
Village Nearng Kok (Bak Khlang)	286	1,682	**286**	**291**
Village Koh Por (Bak Khlang)	88	342	**88**	**62**
Peam Krasaob commune	228	1139	**228**	**196**
Smach Meanchey district (urban)	5,375	30,059		
Smach Meanchey Commune	2,199	14,258	**360**	360
Dang Tong Commune	2,694	13,293		
Stueng Veaeng	482	2508		
TOTAL			**1282**	**1231**

Source: Ministry of Planning office, Koh Kong (January 2003 data)

The sampling location, consisting of the two districts mentioned above (rural Mundul Seima district and urban Smach Meanchey district) within Koh Kong province, was divided into areas that were covered with a census approach (covering all households) and areas that were covered by a representative sample of households. The census approach was applied to the following areas within Mundul Seima district:

- Nearng Kok village (Bak Khlang commune): the project site is within its boundaries so its respondents were considered the most directly affected and include most of the households that have been resettled from the walled industrial zone land.

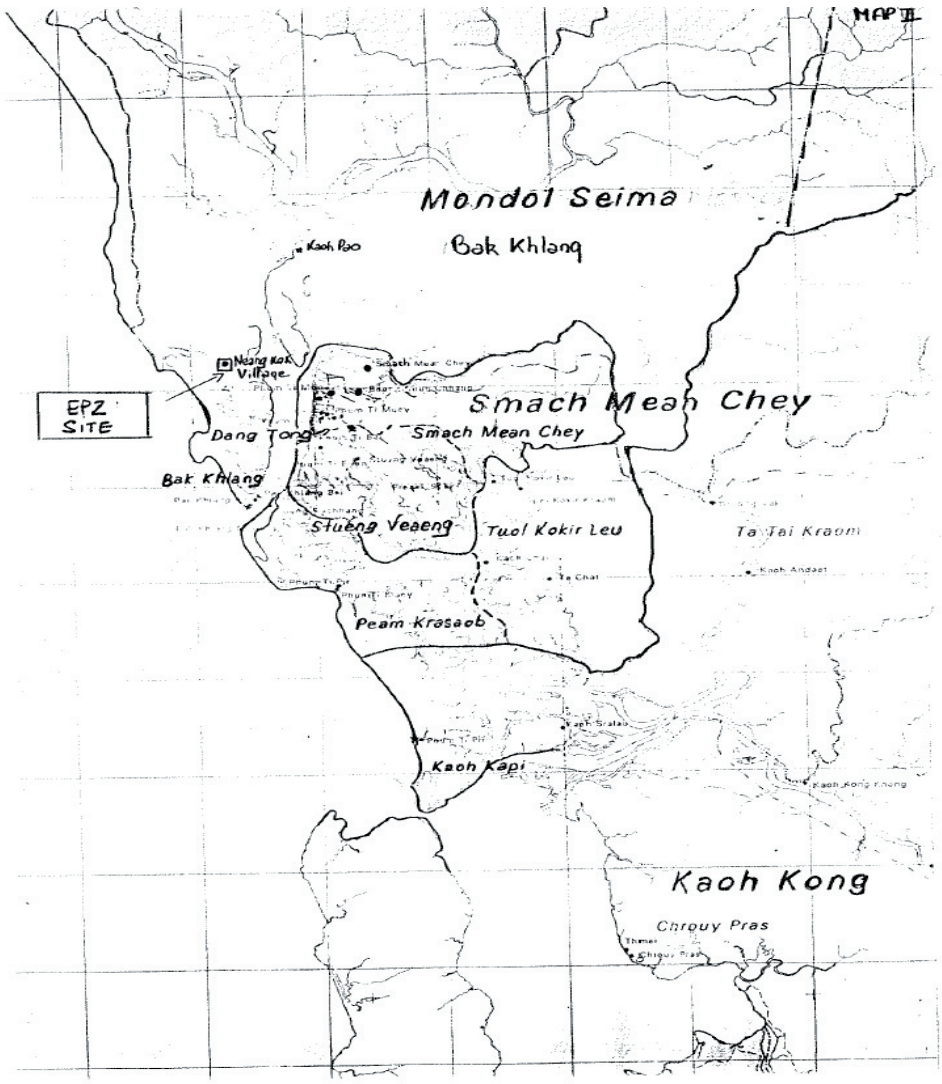
- Koh Por village (Bak Khlang commune): a traditional fishery village upstream of the Koh Por river. It is a relatively remote location, the smallest community of the whole area, (poor) and potentially affected by environmental effects of the industrial zone.

- Peam Krasaob commune: according to WFP poverty mapping the poorest community within the project area, the largest of the remoter locations, an established fishing commune.

A census approach was also adopted for resettled households. The rest of Mondul Seima district (the 5 remaining villages of Bak Khlang commune and Tuol Kokir commune) and all of Smach Meanchey district were covered by interviewing representative samples of households. Within each district all villages were included. Identification of households was done on the basis of village maps made with the help of the village chief. A random starting point was chosen on the map and households were contacted along a route that ensured coverage of the whole village according to an interval proportionate to the size of the village. Table 2 above summarizes the resulting sample of interviewed households, indicating the planned and the actual samples.

Suggestions for sampling were mostly based on field observation during the scoping mission conducted by the study team in February as well as on 1998 census data and data provided by local authorities. From an analytical perspective, the fieldwork did not undermine the potential importance of the criteria for choosing the above sitescommunities for a census approach. However, the reality check of the survey work warranted

some adjustments to the statistical definition (coverage) of communities most directly affected by the project, rural communities as opposed to urban, vulnerable and poor communities. In particular, the reference to the census rural/urban classification for certain communities proved to be inconsistent with socio-economic profiles generated by the survey. Significantly, the Nearng Kok village (Mundul Seima district), where the project is located, could not qualify as rural given its easy access to urban facilities (educational and health, markets, electricity, piped water, etc.) nor in terms of its population density. (For more details on these issues, see Section I of the survey report in Annexe I).



2.1.2 Selection and characteristics of respondents

Within the household an adult member was chosen between 18 and 60 years of age. To ensure adequate coverage of gender and age categories the within-household selection of interviewees was stratified with the objective to have more or less a 50/50 representation of females and males and a 25/25/25/25 representation of 18-25, 26-35, 36-45, 46-60 age categories. The stratification procedure, however, failed to produce the intended proportions of gender and age categories. For gender this was to be expected. With fishing being such a dominant activity and almost exclusively a male activity, many more women than men were expected to be at home. The under-representation of young and old adults was not anticipated.

Table 3A: Household respondents – rural/urban and gender**

	Rural		Urban	
	Number	Percentage	Number	Percentage
Male	402	46.1	176	48.9
Female	469	53.9	184	51.1

** Unweighted data;** 1998 census distinction*

To ensure a maximum number of under-represented categories the within-household sampling procedure was not random (i.e. a random choice from the list of household members) but purposive. Through this procedure, enough individuals were interviewed within each age category to enable statistical analysis of the effect of age on opinions. Also, enough under-represented categories were in the sample to provide a solid basis for weighting the data according to the actual population pyramid of the area in order to ensure that the weighted sample is representative. Male respondents were mainly fishermen (32.4%). Female respondents were predominantly engaged in small business activities at the village level (24.2%) or housewives (18.7%). Of male respondents, 6.5% were civil servants or moto-dop drivers (5.4%).

Table 3B: Main occupation of respondents*

	Whole Project area%	Male	Female
Home duties	19.2	0.5	18.7
Fisherman	18.5	32.4	5.7
Seller in the village	15.2	5.4	24.2
Unemployment	5.3	5.8	4.0
Police/ army/gendarmerie	3.1	6.5	0.0
Construction worker	2.9	5.2	0.7
Civil servant	2.7	4.9	0.7
Moto-Dop	2.6	5.4	0.0
Vegetable garden/fruits	2.6	2.2	3.0
Seller in a market	2.5	2.7	2.2
Still at school	1.8	1.9	1.6
Agricultural day laborer	1.7	1.9	1.6
Transporting goods within and between the village	0.9	1.4	0.5
Rice Agriculture	0.7	1.2	0.2
Private company staff	0.6	0.5	0.0
Others	6.1	7.9	4.5

**Weighted data*

2.2 Research Methodology

2.2.1 Questionnaire design and training of interviewers

The first draft of the survey questionnaire was produced by CAS and refined in collaboration with the international consultants. It consisted of three modules: 1) Household information; 2) Households' development priorities; 3) Households' knowledge and perception about the EPZ project. The draft questionnaire was pre-tested on 20 respondents from three different locations. The pre-test also considered gender and age.

Apart from the usual objectives of questionnaire pre-tests to determine the time necessary for the interview and improve the wording of the questions, a specific goal was to determine the best sequencing of the three questionnaire modules. Starting with the household module resulted in insufficient time and attention left for the crucial EPZ module. However, starting directly with this module influenced the mind set of interviewees and

compromised their answers on development priorities in general. Therefore, the optimal sequencing involved splitting the H/H module into a short household member inventory, necessary to chose the actual interviewee, followed by the (short) module on general development priorities, then the crucial EPZ module, and finally the remaining household information (see Appendix IV in Annex I).

Before the pre-test, a first interviewer training was organized. Not all team members participated in the pre-test, and the questionnaire was revised on the basis of the pre-test so a second training was necessary. The training, mainly based on role-plays, contributed to ensure a full understanding and rehearsal of instructions to interviewees contained in the questionnaire.

2.2.2 Data collection, coding and processing

The survey team consisted of 12 members: two teams, each containing five enumerators and one supervisor. The size of the teams enabled the supervisor to sit in on approximately two interviews per enumerator per three days, making for a high number of observed interviews (approx. 20%). In addition to the regular supervision, the research coordinator conducted two spot checks of three days each. The supervisors also ensured proper execution of the household sampling procedure. Replacement of households proved necessary in a few cases in only one outlying village (Tuol Kokir).

Local authorities were informed about the work undertaken from the provincial level downwards to the village level. At the village level, the village chief was asked to assist in drawing maps and indicating the number and location of households in the village. In order to avoid any interference, care was taken to ensure that the interviews themselves were always conducted without local authorities being present. Without exception, the team managed to avoid accompaniment of village chiefs or other government officials.

Because coding of the data requires a full understanding of the objectives of the survey, this was done in-house before the questionnaires were handed over to the National Institute of Statistics (NIS) for data entry. On the basis of the first batch of questionnaires returned to Phnom Penh, a team of three researchers under the guidance of the research coordinator developed a detailed coding system for all open-ended questions. The NIS performed a third editing check on the questionnaires before entering them into a database, using a data entry template specifically programmed for this questionnaire. The normal quality control instrument of double data entry was applied. The data set was only regarded as cleaned after two checking procedures, the first by the NIS and the second by CAS (using cross-tabulations on a selected set of variables to detect odd patterns). These strict quality control procedures ensured that all questionnaires collected were fit for inclusion in the data set. Consequently, the number of interviews conducted is the same as the sample number of households in the dataset.

2.3 Statistical Analysis

Simple correlation or regression analysis was performed to control for the reliability of some socio-economic data (especially income and expenditure data) collected through the survey. The survey results on households' development priorities, knowledge and perceptions of the project impact have been analyzed in relation to a set of respondent background characteristics, through simple statistical tests or simple regression (logit) analysis. Given the particular nature and characteristics of the IZ/EPZ project, the analysis focused on capturing differences in perceptions along the following criteria: gender of the respondent; age of the respondent; educational attainment; rural or urban location; proximity to the IZ/EPZ site; duration of residence in the area; occupational status; and living standard of the respondent household. (For the statistical definition of variables see Section I of Annex I).

CHAPTER 3

SIA FINDINGS AND RECOMMENDATIONS

The section presents the SIA major findings and recommendations in a way that attempts to put into perspective/ integrate views of key informants/stakeholders and households in the project area with study team observations. The section starts with a summary of the socio-economic profile of the project area (III.1), followed by insights on people's development priorities (III.2) and people's knowledge of the IZ/EPZ project (III.3). This first set of findings provides important background information for the understanding and analysis of project likely and perceived impacts. The section then analyzes project's likely social and environmental impacts drawing upon the results of the SIA perception survey as well as the study team review of project key features and socio-economic/ environmental conditions of the project area (III.4). The last paragraph provides a set of recommendations for mitigation to be considered by project stakeholders (III.V).

3.1 Socio-economic Profile of Project Area [28]

The average monthly income per capita elicited by the SIA socio-economic survey was 138 030 Riels (34.5 USD) and the average monthly expenditure per capita was 102,100 Riels (25.5 USD) for the whole project area. Except for the fishing community of Peam Krasaob, for which reported income and expenditure data were not deemed representative due to a strong seasonality bias, poverty incidence (Headcount Index) was estimated for selected locations in the project area, using the 1999 CSES Other urban and Rural poverty lines and household reported expenditure (see table 6 below) – For more details on estimates methodology see in Annex 1 - Section I, par.7 and Appendix 2)-

Table 4- Poverty incidence in selected locations of the project area of influence (Headcount Index)

	Poor % of total	
(Other) Urban areas	**(a)**	**(b)**
Nearng Kok [29]	39.2	24
Smach Meanchey	33.1	15.7
Rural areas		
Koh Poa	24.6	11.4
Other villages of Mundul Seima	24.1	14.4

Source SIA Survey
** When individual consumption is compared with a poverty line value, those whose level of consumption is below the poverty line are classified as poor (the so-called head count index).*
(a) Estimates based on poverty line for H/H consumption expenditure (Food + Non Food) = 2093 Riels for Other Urban (here Nearng Kok and Smach Mean Chey) and 1777 riels for rural areas (Koh Poh and Other Village of Mundul Seima);
(b) Estimates based on food poverty line (including beverage and tobacco) = 1737 Riels per person per day for other urban areas and 1379 Riels for rural areas.

[28] For details see Annex I, Survey Report Section II. Although being somewhat constrained by the need to balance questions on socio-economic status and questions relating to the knowledge and perceived impacts of the project within a time that would minimize the risk of decreasing respondent cooperation and reliability of answers, the amount of quantitative and qualitative data collected through the SIA socio-economic survey in May 2003 was detailed enough to effectively inform the analysis of project potential impacts on local communities and populations.
[29] Nearng Kok was reclassified by the survey team as "Other urban", given a very easy access to urban facilities. For other villages of Mundul Seima, the survey team kept the rural classification because the contribution to the total of urbanized Bak Khlang alone is not sufficient reason to reclassify this area as urban because it is counterbalanced by rural Cham Yeam.

Differences between estimates based on the food poverty line and those based on the overall poverty line can be viewed against the fact that the Koh Kong Province is facing perennial food deficits.[30]

Table 5: Ranking of areas according to non-monetary indicators of poverty

Non-monetary indicator of poverty	Nearng Kok	Koh Por	Peam Krasaob	Other villages of Mundul Seima	Smach Meanchey
Rainwater as source of drinking water in the wet season	3	1	1	2	2
Pond as the source of drinking water in the dry season	4	5	1	2	3
Battery or kerosene lamp as lighting	3	1	2	4	5
Thatch roof house	2	1	1	2	3
Male educational attainment [31]	3	1	2	3	4
Female educational attainment	3	2	1	3	4
Access to health facilities	2	1	1	3	3
Ownership of TV	4	1	2	3	5
Totals	24	13	11	22	29

Source: SIA Survey

These results should however be interpreted with caution and in consideration of other non-monetary indicators of poverty in the project area. Table 7 above ranks the surveyed communities according to a set of collected indicators on living standards. The lower the ranking number the more disadvantaged the community. The similarities between Peam Krasaob and Koh Por are most striking.

The overall rate of landlessness in the Koh Kong province is estimated at 50% against 10-15% at the national level.[32] In the project area, however, 70.2 % of surveyed households reported to own a piece of land under cultivation. This of course should be viewed against the fact that livelihoods mainly depend on fishing activities. Of much concern is the fact that access to land remains very precarious for communities, such as Koh Poh, which depend more heavily on agriculture.

Reliance on galvanized iron and aluminium for housing is higher than in the rest of the country. Piped water is only available in urbanized areas. Of households in the community of Peam Krasaob, 70% rely on pond water during the dry season. Access to electricity has seemingly improved in recent years, whilst charcoal seems to be replacing firewood. All villages in the project area have primary schools but in rural communities (Peam Krasaob, Koh Por, Tuol Kokir), schools fail to go beyond grades 3 or 4. Educational attainments in the project area are strikingly low. 14.4% of male household members have no formal education while 53.9% (against 25.9% for the whole country, 1999 CSES) attained primary levels without completing the six grades. More than one fourth of female members have no education and more than half did not complete primary school. The communities of Peam Krasaob and Koh Por are especially disadvantaged.

Conversely, access to health facilities, as indicated by the time needed to reach a treatment facility or the proportion of households resorting to a treatment facility when sick, is found to be reasonably good in the surveyed area.

[30] See Assessment and Localization of the Millenium Development Goals on Eradication of Poverty and Hunger, FAO, draft, July 2003
[31] Never went to school and/or primary incomplete
[32] See Assessment and Localization of the Millenium Development Goals on Eradication of Poverty and Hunger, FAO, draft, July 2003

However, access appears to be more constrained for rural communities (Peam Krasaob, Koh Por, Tuol Kokir), which also report high health service costs. Reflecting limited governmental health facilities in the project area, most of households are instead resorting to private health care providers, especially in remote communities of Peam Krasaob and Koh Por. While the quality of services provided is deemed satisfactory, services are considered expensive by 49.2% of respondents. Significantly, 69.2% of respondents (and, remarkably, almost all households in Peam Krasaob) reported that health facilities do not meet current needs.

According to data provided by local representatives of CARE International[33], the prevalence rate in the Koh Kong province was estimated at 5% against 2.6% at the national level in 2002.

Table 6 HIV/AIDS Infection rates in Koh Kong province, 1995 to 2003, per cent of group

	Direct sex workers	Indirect sex workers	Pregnant women	Police
1995	39.2	23.0	n.a.	10.7
1996	52.1	n.a.	5.3	14.3
1997	52.0	n.a.	n.a.	21.0
1998	41.0	17.6	6.0	25.8
1999	41.7	n.a.	8.0	24.0
2000	53.0	15.7	5.0	10.7
2001	53.7	12.7	3.3	8.4
2002	n.a.	n.a.	n.a.	n.a.
2003	31.0	3.0	3.0	8.0

Source: Koh Kong Health Department;
Notes: "Indirect sex workers" means people working in hotels, restaurants and other entertainment venues. "Pregnant women" means women receiving treatment at ante-natal clinics.
"n.a." means data not available.

According to the manager of the Provincial Health Department/Provincial AIDS in Koh Kong Province, percentages for target groups in the whole Koh Kong Province currently range from 3% for pregnant women to 31% for Direct Sex Workers. Although the situation was reported to have improved in the last three years HIV/AIDS remains a serious problem. The SIA survey findings suggest that awareness of HIV/AIDS issues is reasonably high in the project area. On average, four fifths of surveyed residents could point out particular families affected by HIV/AIDS (see Annex 1, par.4.3.6).

Employment in the project area is mainly concentrated in fishing and selling activities, followed by agriculture, construction and transportation. The employment structure however exhibits a distinct gender pattern and salient variations across locations. Strikingly, 26.3% of the male household members aged 15 to 59 are engaged in fishing, with proportions reaching 58.7% and 75.5% in the communities of Koh Por and Peam Krasaob, respectively. Most females in the project area are housewives/home duties (32.9%), engaged in selling activities (22%) or agricultural/fishing activities (13.3%). According to the SIA survey, having a second occupation does not appear to be such a significant phenomenon in the project area[34], although it was reported by 21.6% of household heads and by 44% of working age residents in Koh Por, reflecting the seasonality of fishing and agricultural activities. Only 5.1% of the working age population was found to be unemployed. Unemployment among young females aged 15 to 24 was however found to be much higher at 11.3%.

While unemployment figures should be taken with caution, the detailed information on occupational status of household members collected through the survey suggests that precarious employment is significant, with, remarkably, more than 7% of household members being occasional day laborers (for more details see Table 6A to 6D in Annex I). Furthermore, 34.5% of respondents mentioned that their household members have sought a job in the 12 months preceding the survey.

[33] The NGO care is especially active as an information disseminator and prevention and care provider in the project area, having sign boards up at all entries to the (numerous) brother areas; leaflets are also evident on restaurant walls.
[34] 12.6% of males and 8.4% of females aged 15-59

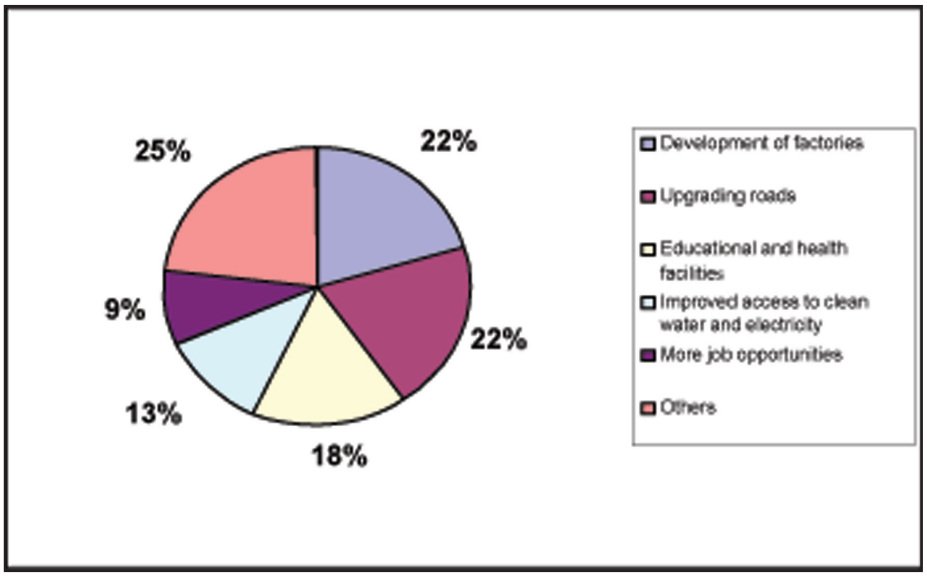
Echoing the results of the socio-economic survey, most local stakeholders (particularly the Ministry of Agriculture and Fisheries, the Ministry of Labor, and the Women's Affairs Department) met in 2003 and 2005 stress that employment pressures and underemployment have increased in recent years. Decreasing fish populations and decreasing incomes from fishing activities, low agricultural productivity and incomes derived from agricultural production have become major concerns in the project area. Many stakeholders expressed their concerns about the fact that poverty continues to encourage illegal logging, causing further damage to the environment. As a result, the region has also experienced a significant amount of out-migration to other villages and to Thailand.[35] The HH survey results generally confirm this trend. Remarkably, 15% of household respondents reported that some of their family members have temporarily worked outside of their place of residence in the 3 months preceding the survey, mainly in Thailand. Further, 30% of respondents also reported that some family members had been already working outside the province for more than 2 years.

Against this background, diversification of employment opportunities and a shift towards higher income generating activities is viewed as critical by key stakeholders in the project area and the IZ/EPZ project is consequently seen as a priority.

3.2 People's Development Priorities

As part of the SIA perception survey work, households were consulted on their development priorities before being consulted on their knowledge and perceptions of the project.

Chart 1 A – Households' development priorities (Distribution of answers, %)



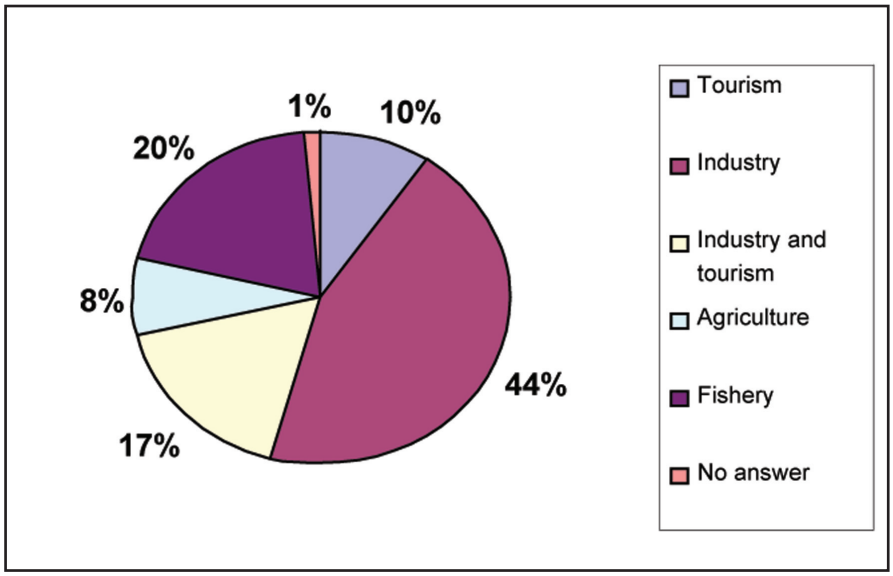
Source: SIA Survey

As mentioned earlier, this particular sequencing was meant to ensure that answers on development priorities would not be influenced and biased by expectations about the project. However, as revealed by the statistical analysis, answers may still have been biased to some extent, especially for respondents who are located close to the project site and/or who are more informed than others.

The consultation involved two questions. The first was open ended and thus not conditioned by surveyors' expectations on the nature of answers. As a means to assessing households' preferences for economic development against their general development priorities, people were then asked to choose between five options (tourism, industry, industry and tourism, fishery, agriculture).

[35] According to the information provided to the study team between 2,000 and 4,000 people would have migrated to Thailand; in the recent period out-migration to Thailand has however reduced due to stringer regulations at the border.

Chart 1 B: Households' preferred options for economic development (% of respondents)

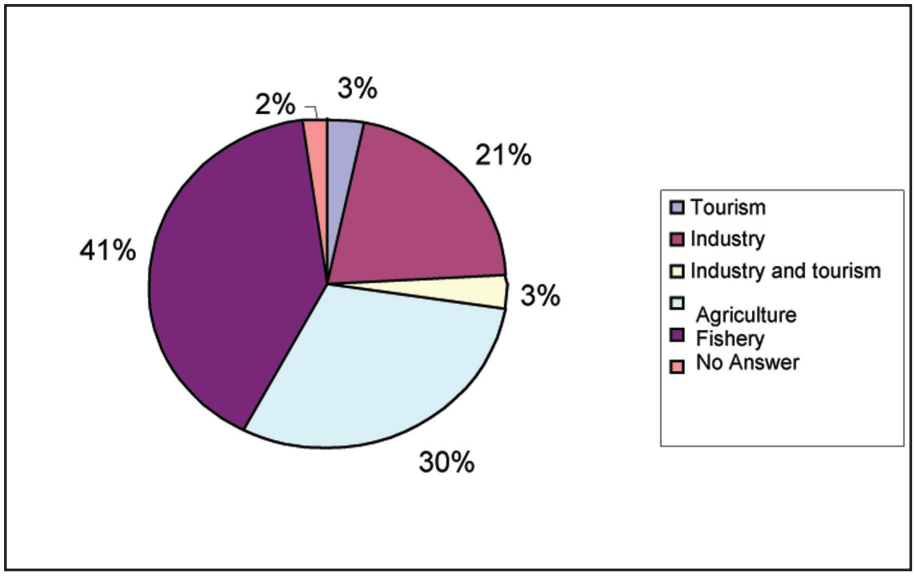


Source: SIA Survey

A major finding of the HH survey is that, in the project area, the establishment of factories is seen by a significant number of people as a top development priority (See chart 1 A above).
Remarkably also, and quite reflective of employment pressures in the project area and the need to access more income generating opportunities, 9.4% of cited development priorities referred to the expansion of job opportunities. When asked to choose between five options for economic development (industry, tourism, both tourism and industry, agriculture and fishery), again, most respondents chose industry (44%), while industrial development combined with tourism was seen as a suitable option by a further 17% of household respondents and tourism by only 9% - See Chart 1B -. The rationale underpinning the choice of industry is strongly associated with the need to access more income earning opportunities (57%).[36] For some 5% of respondents however, industrial development would help contain out-migration to Thailand. Expectedly, in the vicinity of the project site (Nearng Kok, Cham Yeam), where the construction of the site has created expectations, the preference for industry turned out to be significantly higher (60%).
However, the above results need to be qualified in several aspects. First, the development priorities of households remain largely skewed towards physical and social infrastructure development (altogether 53%, Chart I-A) with health and education facilities (including access to safe water) accounting for 28% of cited top priorities, followed by upgrading of roads (22%). Also, around 20% of respondents in the surveyed area still consider fishery as the most suitable option for economic development (see Chart I-B).

[36] The regression analysis conducted on survey results also shows that job seekers were more likely to choose industry than others. Consistently as well, a negative relationship was found between household welfare (measured by expenditure) and the choice of industry (See statistical analysis in Annexe I Appendix iii)

Chart 1.C Rural households'[37] preferences for economic development (% of respondents)



Source: SIA Survey

Second, people's views on their development priorities differ significantly across locations within the project area. In poorer rural areas as identified by the survey team (Koh Por, Peam Krasaob, Tuol Kokir), a larger emphasis is put instead on social and physical infrastructure development (39%).[38] As an indication, only 21% of respondents in those communities chose industry as the most suitable option for economic development (See chart 1.C).[39] In the vicinity of the project site (Nearng Kok, Cham Yeam), where road upgrading along with tourism development at the border, has been significant in recent years, the emphasis is also put on improved health and education facilities.

Third, in the statistical and regression analysis conducted on survey results, female and male attitudes towards industrial development were found to differ significantly when industrial development was considered against all other cited development priorities (open ended question). For females, education and health clearly remain the top priorities. However, no gender difference was found when this choice was simply considered against other options for economic development (discrete choice). Conversely, the age of the respondent was not discriminating in the former case but was found to influence the choice of industry against other economic development options, with young people exhibiting a lower preference for industrial development.
Finally, reflective of possible differentials in access to job opportunities as well as awareness on the potential impacts of industrial development in the area, preference for industrial development was also significantly lower among the most educated while they tend to exhibit a higher preference for development of tourism and a higher preference for developing both industry and tourism.

3.3 People's Knowledge of Iz/epz Project

A major finding of the consultations with local stakeholders conducted for scoping purposes at the beginning of this SIA (February 2003) was that knowledge about the IZ/EPZ project was generally quite limited. The exceptions were key local stakeholders and informants, essentially those who were involved in project land management at the early stage of project development (Governors of Koh Kong Province and Mundul Seima district, Land Management Department). Some interlocutors (especially civil society organizations and mid-level representatives of line ministries) did not know about the project and the study team became therefore became the main provider of information.

[37] As identified by the survey team (Peam Krasob, Koh Por, Tuol Kokir)
[38] Reference is made to the first open ended question
[39] In Peam Krasaob, 73% of respondents put the onus on fishery while in Koh Por, agricultural extension was prioritized by 41.9% of respondents.

The lack of knowledge found among local officials and stakeholders themselves (see previous section) certainly accounts for part of the information gap at the household level. According to the SIA 2003 survey results, less than 44% of households reported to know about the project, and only 63% of households' respondents in the vicinity of the project site (Nearng Kok and Cham Yeam). Except for those who have been relocated from the project site, households reported they had mainly heard of the project through families and friends (46%). For respondents who knew about the project, only 79% mentioned that the zone will attract factories, among which around 15% specified garment factories. Approximately 40% of people (with about the same proportion in the most directly affected communities of Nearng Kok or Cham Yeam) who heard about the project in the first place had heard about it one year ago and only 24% heard about it two years ago. The team of enumerators thus played an important role in providing information on the project.

As revealed by the second round of consultations undertaken in February 2005 for updating and dissemination purposes, knowledge and information regarding the development process of the IZ/EPZ remains quite low while information asymmetries between key government departments and critically between government departments and the private developer of the zone are significant. Except for the provincial Department of Industry, none of the government stakeholders knew when the IZ/EPZ zone would start operating or the status of applications for investment in the zone. This was partly due to some turnover among government staff/heads of departments in some line departments since mid 2003, coupled with seemingly limited information flows within and between departments. Remarkably, while there is a local "Working Group" on the development of Koh Kong industrial estate, the membership of this group is currently restricted to only a few stakeholders (Department of Commerce, Industry, Land Management, Governor of Koh Kong province, the private developer).

As further addressed below, information gaps and asymmetries have important implications regarding people's expectations and perceptions of project likely social and environmental impacts as well as for the management of those impacts though local planning.

3.4 Social (and Environmental) Impacts of Project

3.4.1 Stakeholders' views

During consultation rounds in February 2003 and February 2005, local government stakeholders generally tended to be optimistic about the benefits of the IZ/EPZ project for the local population.[40] This can be attributed to a certain degree of "good will" and trust that the project will be beneficial for Cambodia. This view is also fueled locally by significant pressures to shift out from agriculture and fishery towards more lucrative activities. Given that the Koh Kong area offers a clear potential for tourism development, the study team sought to gather government stakeholders' views of the perceived benefits from the IZ/EPZ as compared with tourism development. Whilst some stakeholders gave equal importance to the industrial and tourism development, the general opinion was that industrial development is more important in that it offers a greater employment potential compared with tourism development as well as more immediate sources of revenue for the majority of the population whilst involving lower investment costs. There were also views that the development of the IZ/EPZ, through boosting infrastructure development (roads as well as other infrastructure and services) in the project area, would also contribute to making the area more attractive for tourists. Potential negative (and long lasting) environmental impacts of the development of the zone on tourism development were generally given less weight than the expected benefits.

The following points summarize particular benefits of the zone cited by stakeholders met during the first round of consultations in February 2003.

[40] See Annex IV

IZ/EPZ development will provide jobs and accommodate the pressing need for shifting from fishing and agricultural activities

The IZ/EPZ project would contribute to reducing out- migration.

Reduced income opportunities and poverty continues to encourage illegal logging in the area. Employment in the IZ/EPZ would help mitigate this problem

IZ/EPZ development might trigger the joint development of a deep sea port within Koh Kong area

IZ/EPZ and related infrastructure development may contribute to spur tourism development.

IZ/EPZ development may reduce border smuggling activities

IZ/EPZ agro-processing industries would provide opportunities for local producers (fish products)

Female employment in the IZ/EPZ may be less affected by gender discrimination than employment in tourism-related activities.

However, in general, the second round of consultations in February 2005 revealed greater awareness and concerns over potentially adverse impacts of project, especially environmental and health impacts, as well as regarding employment prospects for the local population.

Various stakeholders, especially, in planning, environment, health and social affairs departments notably stressed the need for a timely design and implementation of benefit enhancing/mitigation/monitoring measures.

In this regard, most of them mentioned that, currently, their ability to address potential impacts of the zone through planning was restricted by several factors. The lack of timely information on the IZ/EPZ development status, notably regarding the type of factories that will locate in the zone, was reported to be the major barrier to planning for training provision. Furthermore, some stakeholders mentioned that access to land for social infrastructure development in the project area has become more difficult, as more land is being allocated for industrial development. Limited technical capacity to implement some mitigation/monitoring measures, especially in relation to environmental impacts, was also reported to be an issue. It should also be noted, that at the same time, there was a general trust among stakeholders that the private developer of the zone would address, in a timely way, the environmental and social impacts of the zone through investments in relevant infrastructure (waste treatment, dormitory for workers and health facilities).

3.4.2 Households' acceptance of project and perceived impacts

Most households' respondents welcome the project (90%),[41] regardless of gender, age and proximity to the project site. Consistent with their development priorities, respondents of rural communities (Peam Krasaob, Tuol Kokir, Koh Por) appeared to be somewhat more skeptical (79%). Quite expectedly also, attitudes of the least (as well as the most) educated respondents turned out more mixed compared with other respondents. These results need to be interpreted against the fact that information and knowledge about the project remains limited.
Household respondents were then consulted on their perceptions of positive and negative impacts of the project, as well as on how benefits could be increased and adverse impacts mitigated. Again, questions were open, in the sense that no information was given to respondents about expected answers by interviewers. Most answers are quite straightforward with respect to their policy implications.[42]

[41] A brief introduction of the project was given to those respondents who did not know about it, prior to asking whether people welcomed the project or not;

[42] As underlined in Section II (Methodology section) of the report, within households, respondents were selected with the objective to have an equitable representation of females and males. In considering opinion results, it is important to have in mind that the population in the project area is currently living in a "factory free" environment. Most male respondents were fishermen (23.6%), civil servants (8.4%) or moto-dop drivers (5.2%). Female respondents were predominantly engaged in small business activities at the village level (22%) or housewives (25.8%).

- Perceived benefits

Almost all respondents, regardless of location, gender, educational status, expect benefits for the communities and their families. Answers on expected benefits are clustered and ranked in table 7 below. Consistent with people's views on their development priorities and sensible employment pressures in the area, the expansion of job opportunities was the most frequently cited benefit (59%), followed by improved living standards (31%), with those two benefits being closely related in people's minds. Besides direct employment in the zone, people anticipate that the project will help create more local business opportunities for family members (21%). Remarkably, only a few respondents mentioned that the project employment opportunities would more specifically benefit females. Consistent with the concerns expressed by stakeholders in the project area (see previous section), some people also anticipate that it may reduce migration out of the community.

As regards perceived benefits at the family level across locations, another interesting finding of the survey is that people in poorer rural areas (Koh Por, Peam Krasaob and Tuol Kokir) have generally lower expectations regarding increased business opportunities compared with other people. Conversely, more than other people in the surveyed area (13% against 7%), people in those rural communities consider that the project would give them the opportunity to shift out from their current occupation. Interestingly, but quite surprisingly again, young respondents anticipate more benefits in terms of employment for the next generation than for themselves.

Table 7: Major Perceived benefits for the community and the family (distribution of answers, %)

	For the Community	For the Family
1 – Job related benefits	59%	57%
More job opportunities In general	50%	48%
More job opportunities for females	3%	-
More job opportunities For males	1%	-
Reduced out-migration	5%	0.4%
Others		8.5%
2- Improved living standards	31%	22%
3- More local business opportunities	6%	21%
4-Physical/social infrastructure improvement	1%	-

Source: SIA survey

Although not frequently cited, but quite consistent with stakeholders' perceptions, other expected positive impacts include reduced illegal logging, reduced out-migration of young females, development of tourism, reduced delinquency among young people, and development of educational infrastructure.

- Perceived negative impacts

Perceptions on project impacts may appear overly-optimistic, if judged by the fact that only 14.8% of respondents anticipated negative impacts for the community or family. However, in interpreting this result, one should recall that knowledge of project as well as awareness of industrial development challenges in this "factory-free" environment is low. Expectedly, the most educated, but also the most informed about the project were more likely to identify negative impacts. These perceived negative impacts are nonetheless numerous and deserve consideration. They are clustered according to their nature and ranked in importance in Table 8 below.

Table 8: Perceived adverse impacts on the community and the family* (distribution of answers by category, %)

On the Community		On the Family	
1 Pollution	53%	1. Health problems	36%
Air pollution	42%	3. Unfavorable employment and labor conditions	49%
Water pollution	11%	Corruption /nepotism in recruitment	27%
2- Health problems	26%	Low wages	17%
3. Social conflicts	20%	Labor conflicts	3%
Conflicts over land	7%	Security problems for workers	2%
Labor conflicts	8%	4. Pollution	15%
In-migration and potential conflicts with newcomers	4%		

Source: SIA survey

Concerns over environmental pollution (especially air pollution) appear to dominate other concerns at the community level, especially in urban areas. Closely related to worries about air pollution, concerns over adverse health impacts score second in importance at the community level and dominate other concerns at the family level. Opinions might have been to some extent influenced by media exposure and hearsay about health related problems of (garment) factory workers in Phnom Penh). However, those concerns are not surprising given that the population has been so far living in an unspoiled, "factory-free" environment. As stressed earlier, the disease burden in the area is also significant while existing health facilities are not considered to meet people's needs.

Water pollution (sea and river) arising from industrial waste emerged as a more prominent concern among respondents in the more vulnerable fishing community of Peam Krasaob (22.2% of cited impacts against 10.7% in the whole project area). Another interesting finding is that people worry that the project may generate some kind of social conflicts. Around 20% of cited adverse impacts were relating to this perceived risk at the community level. Given the current stage of project, caution is required in interpreting concerns over land conflicts. This impact was mentioned in many more instances by people in the vicinity of the project site (Nearng Kok, Cham Yeam). This may to some extent reflect the earlier exposure and sensitization of this community to the development of the project site. However, according to surveyors, the project site seems also to symbolize more general concerns over land-grabbing in Koh Kong.

While most of the cited beneficial impacts of project at the family level refer to the prospects of increased job opportunities, the most frequently cited negative impacts refer to employment and labor management issues. Worries of people in this area relate to unfairness/corruption in recruitment and possible unfair competition from outsiders, wage conditions, as well as labor conflict management.[43] Although not frequently cited, concerns about security of workers are worth noting.

Households were subsequently consulted on measures to enhance benefits from the project and mitigate adverse impacts. Again the question was open, and a wide range of answers was provided. Answers are clustered and ranked according to their frequencies in table 14 above. Most suggestions made by respondents again speak for themselves and have clear policy implications. Some suggestions made, especially those calling for a rapid implementation of the project again reflect people's concerns and eagerness to access more job and income earning opportunities. They are also reflective of goodwill among the population, which will need thus to be protected adequately. Most strikingly, while expectations regarding employment opportunities are excessively high, most suggestions made reflect concerns and some awareness that the local population, especially the most vulnerable and disadvantaged,[44] may not actually benefit from the project unless adequate preventing and mitigating measures are taken.

[43] Those concerns again (especially concerns over recruitment procedures) turned out to dominate other concerns in the vicinity of the project site (Nearng Kok, Cham Yeam).

[44] This concern also emerged when people were consulted on who they think would be the most negatively impacted groups

Table 9: Households' opinions on governmental measures to enhance benefits and mitigate impacts (distribution of answers %)

Measures to enhance benefits	Measures to mitigate impacts
A- Fair/transparent employment and labor conditions for local people (48%)	A- Enforcement of labor laws (30%)
B- Accelerate project implementation (26%)	B- Prevent corruption (26%)
C- Ensure the most vulnerable (the poor and the least educated) will benefit (16%)	C – Protect the environment (22%)
D- Road and transportation infrastructure development (3%)	D- Use modern machinery (10%)
E- Vocational training provision (2%)	E- Expand health care services (8%)
F- Ensure security for workers (1%)	

Source: SIA Survey

- Resettled households' perceptions

Families previously living on the land allocated to the project have already been resettled outside of the zone along a road linking the IZ/EPZ zone to the planned "market place" for servicing the zone. According to local stakeholders interviewed during the study team scoping mission in February 2003, the compensation scheme was judged satisfactory by affected families. It was pointed out that relocation and allocation of land plots in the proximity of the "market place" would improve living standards of those families by providing more business opportunities whilst also increasing the value of the land as the development of the market place proceeds.

The SIA survey sought to get more feedback of the resettlement process during the earlier development of the zone. The team surveyed 42 households in the Nearng Kok village. Although they have been compensated, only a few people (24%) reported that they had been consulted on their preferences before being relocated. Only 15.1% claimed that their situation improved following their resettlement, with the bulk feeling about the same, and about 20% feeling worse off than prior to relocation. Being located close to the market place that is planned to service the zone has indeed created positive expectations regarding business opportunities, but some of those relocated are thinking to move if those benefits do not materialize. During the follow-up mission in 2005, it was actually reported to the study team that some of the relocated families had recently left for other places.

3.4.3 Study team assessment

In view of project particular nature and people's expectations and concerns, the study team put the emphasis on investigating project's potential impacts on local employment and related impacts on in-migration. Those impacts are assessed against the particular demographic and educational conditions prevailing in the area, with a particular focus on gender and equity dimensions. The assessment also covers the potential for supplier linkages between the zone and the rest of the economy, as well as environmental impacts. As noted earlier, the information provided by the Feasibility Study of the zone and on a more concrete basis by local stakeholders met in early February 2005, suggests that the range of industries that may be promoted/locate in the zone may be more diversified than the light manufacturing (including garment/textile) industries that were initially anticipated, potentially including a significant number of heavy and more capital intensive industries. It should however be stressed that the nature of the firms which will enter the zone and the number and type of jobs which may be created are all highly uncertain and will remain so until firms have made definite commitments to enter the zone. The assessment subsequently considers two alternative scenarios regarding the industrial profile of the zone.

3.4.3.1 Impact on household incomes

Despite the limitations of the income and expenditure data generated by the SIA survey, it is reasonable to assume that employment in the IZ/EPZ factories would not only diversify income sources but also increase household incomes in the project area. Accurate information on wage conditions in the IZ/EPZ zone is still unavailable. However, as a rough indication, at full capacity, the zone is expected to generate about 60 USD of wage income per month and per job (Source: Feasibility Study, January 2005), which compares favorably with the 34.5 USD per month generated by the SIA household survey.

3.4.3.2 Absorption of the local labor force and reduced out-migration

Employment generation and its induced impact on income poverty reduction is a major immediate social benefit associated with IZ/EPZ development. The employment effect can be direct through employment within zone factories or indirect. The indirect effect may arise through macroeconomic effects such as through the wages spent locally by workers or through backward effects, if activities of EPZ firms generate employment in local enterprises that supply some inputs to them. Generally, indirect employment from EPZs is much more limited than for other forms of FDI because the enclave nature of EPZs inhibits interactions with the local economy.

While the successful development of the Koh Kong IZ/EPZ project may help alleviate current employment pressures at the national level, through migration, in light of the high expectations of people living in the project area (as revealed by the SIA development priority and perception survey), this SIA more specifically addresses employment prospects for local populations.

The construction and maintenance of the factories and other facilities in the zone may provide temporary jobs to some unskilled workers in the project area. According to the Feasibility Study, the construction of the zone is expected to generate a maximum of 100 jobs per year. As regards employment prospects in the zone when it is fully operating, the basic assumption is that the zone will generate around 28 200 job opportunities. But, again, those figures are speculative.

Given the limited availability of industrial infrastructure in the project area, the development of the zone is also likely to trigger additional job creation, including employment relating to access roads upgrading or development (notably the road linking the zone to the Thai border).

Temporary employment opportunities for male workers might thus be created during construction of the Koh Kong IZ/EPZ site whilst male workers could also be employed for heavy tasks within the zone, or in other infrastructure construction works around the zone, as activities expand.[45] Expansion of business, transport and other support services to the zone should also provide more long term employment opportunities for both males and females, and therefore reduce out-migration.

If it is assumed that industrial activities locating in the zone will primarily consist of garments, shoes, luggage, electronics and other light industries - as initially planned and in line with the official investment promotion strategy for the zone - it may be expected that a large bias towards the employment of young female workers will result, as experienced in other parts of Cambodia for similar industries (such as the development of garment industries in Phnom Penh) as well as with EPZ in other countries.

In many countries, the zones have indeed made it possible for unpaid homemakers, women who are heads of households, those in the agricultural sector and school-leavers with very few job prospects, to find paid employment in industry. On the whole, women comprise the bulk of the unskilled and semi-skilled production workers and this is particularly pronounced in the textile, clothing, leather and electronics industries. International experience with EPZs shows that women employed in them are usually aged between 18 and 25 years; most are single, with primary school education or sometimes higher education and little or no previous work experience.[46]

According to the demographic profile of the project area generated by the SIA survey, young females aged 15 to 24 currently account for about 23.2% of the population in the project area or roughly 5000. Gender ratios (male/female) are generally similar across locations around 0.98-1, except for the fishing community of Peam Krasaob which posts a significant male surplus. More critically from the perspective of this report, females in the 15 to 24 age category appear to be under-represented in the project area, strikingly in Smach Mean Chey, a potentially important catchment area for the zone (Table 10 below).

[45] The survey results show notably that construction works relating to the development of physical infrastructure in the vicinity of the project site (Nearng Kok) and other villages of the Mundul Seima district currently mobilize more than 11% of the male household members.

[46] International experience suggests that women's share to total employment in EPZs is substantially higher than the manufacturing sector outside EPZs, generally exceeding 75%, see Takayoshi Kusago and zafiris Tzannatos, Export Processing Zone: A Review in need of Update,

SP discussion paper Nb 9802 the World Bank.

Table 10: Proportion of females aged 15 to 24 and female to male ratio in the surveyed area

% of total population	Whole surveyed area	Nearng Kok	Koh Por	Peam Krasob	Other villages of Mundul Seima	Smach Mean Chey
Females						
15-19	15.4	12	12.3	11.1	15.6	15.7
20-24	7.8	9.7	14	8.7	9.8	7.8
Males						
15-19	16.2	10.2	8.8	9.2	14.5	17.4
20-24	9.2	10.0	8.8	11.0	11.0	8.5
Male to Female ratio						
15-19	1.03	0.84	0.71	1.33	0.92	1.08
20-24	1.16	1.01	0.63	1.62	1.11	1.19

Source: SIA Survey

This suggests that many females in this age category might have out-migrated to other parts of the province or elsewhere in country. Although the survey could not provide accurate information on the scale of female out-migration in the project area, this is quite consistent with the fact that job opportunities for the young female labor force in the project area are limited. Remarkably also, 11.7% of female household members in this age category were reported to be openly unemployed.

Thus, a major positive impact of the Koh Kong EPZ would be to absorb part of the local female labor force with beneficial impacts on household incomes.[47] However, due to the lack of industrial experience coupled with low educational achievements, especially among the young female population, employability constraints are likely to be significant.

Whilst as mentioned above, employment in EPZs does not usually involve a strong skill bias, there is some evidence that skill requirements in the type of industries expected in the EPZ zone have been increasing in recent years, as evidenced by labor data relating to approved investment projects in Cambodia (see table below). Strikingly, the share of skilled labor (labor with previous experience) in the garment industry has increased from 54% in 1997-1998 to 75% for the period 2000-2002 (Table 11). Skill requirements however appear to be lower in food processing industry, suggesting that promoting this type of industry might be more beneficial to people in the area compared with other types of industry, given current human resource constraints.

Table 11 – Skill requirements in industry in Cambodia
Data for approved projects in selected industries;

	1997-1998				**2000-2002**			
Industry	Skill	Unskilled	Others		Skilled	Unskilled	Others	
Garment	68453	92376	10135	170964	36006	9927	1841	47774
	40%	54%	6%	100%	75%	21%	4%	100%

Source: See Hing Thoraxy, JICA Cambodia's Investment Potential, Challenges and Prospects, 2003;

[47] An additional benefit of the zone development would be to reduce out-migration. In the course of its follow-up mission in February 2005, the study team was reported (Department of Women's affairs) that the employment status of females in the project area has actually deteriorated in the recent period (notably due to a slowdown in activities in the Koh Kong tourist zone) with important implications for poverty in the area. Remarkably, the Department of Women's Affairs has been recently asked by the Provincial Government to conduct a survey on the employment/unemployment, health and educational status of young females – 18 to 25 – in the Province, reflecting

increasing concerns over the situation of women.

Table 12: Occupation status of females aged 15 to 24 (%).

Occupation status	% of all females
At school	24.5
Housewives/home duties	21.5
Selling	14.1
Agriculture and fishing	12.1
Day laborer	6.7
Sewing	1.4

Source: SIA Household Survey

Table 13: Educational attainments of the young female population

	Level of education Females							
	Never went to school	Primary incomplete	Primary complete	Lower secondary incomplete	Lower secondary complete	Higher secondary incomplete	Higher secondary complete	Total
Age								
15 – 19	8.6	59.5	11.1	14.5	1.2	3.6	1.4	100.0
20 – 24	17.0	51.3	11.7	7.9	5.2	4.2	2.6	100.0

Source: SIA survey

It is quite obvious from data collected by the SIA socio-economic survey that skills of the local labor force, especially young females, are likely to be insufficient relative to industrial requirements. As revealed by the survey, most females aged 15 to 24 are still at school, or housewives/home duties (altogether 47%) and those working mostly engaged in selling activities. Of females aged 15 to 19, 8.6% never went to school and 59.5% have not completed primary education. In the 20 to 24 age category, the proportion of females with no education is especially high (17%) – See tables 12 and 13.

Vocational training provision in the project area remains embryonic. The SIA survey reveals that only 2.1% of household members (mainly males) have received some vocational training in the 3 months preceding the survey. According to the information provided to the study team, a few training courses have so far been provided to small groups of women (20 persons twice a year) by the Ministry of Labor and the Ministry of Women's Affairs in Koh Kong town, with a view to meeting skill requirements in the textile/garment and hairdressing sectors.

Educational attainment data also suggest that access of the local workforce to managerial positions within the EPZ factories is likely to be limited. In the whole project area, only 3.6% of the male population above 15 has completed lower secondary education (against 7.9% and 7.7% for the Koh Kong province and the whole country respectively – 1998 census). The proportion is significantly lower for females (1.4%).

Other things equal, in addition to a strong gender bias in the employment of the labor force, it is also quite clear that access to jobs in the zone factories or outside the zone are likely to differ between locations.

Table 13 Educational attainments of females (in percentage)

	Never go to school	**Primary incomplete**
Koah Por	32.6	62.1
Peam Krasaob	38.3	51.7
Whole project area	27.4	59.2

Source:SIA survey.

In Peam Krasaob, remoteness, which goes along with high transport costs, may restrict access of household members to job opportunities in the zone and business opportunities outside the zone.[48] Educational attainments are also significantly lower in Koh Poh and Peam Krasaob compared with other areas, especially for females (Table 13).

However, as indicated earlier, there is a probability that the range of industries that will be promoted/locate in the zone may be more diversified than the light manufacturing industries targeted in the first place. Other targeted industries may also include consumer products, agricultural machinery, motor-cycle parts, glass products as well as other industries. This has implications regarding the potential employment and gender impacts of the zone and thus social welfare and poverty reduction prospects in the project area.

First, as industries locating in the zone would tend to be more capital-intensive, the number of jobs may be smaller. Second, the gender as well as the skill mix of the jobs created may be less biased towards young females than under the scenario analyzed above. Indeed, employees of the firm may not be primarily, relatively unskilled young women, as in the case of garment/textile/electronic manufacturers. There may be more job opportunities for males (including among migrants), with possibly more semi-skilled jobs.

On the positive side, the project may divert a greater number of males away from low-income generating fishing activities, while at the same time reducing pressures on local fishing resources (a major issue in the project area as discussed later in this report). However, the worsening of the employment status of females in the recent period suggests that, in the project area, the positive impact of greater diversification in male employment on household incomes may still be lower than potential benefits from increased female employment.

Furthermore, it is quite straightforward that the potential shift in the skill-mix of the jobs created towards semi-skilled jobs would exacerbate employability constraints. In this regard, it is also important to note that, although higher than those of females, educational attainments of the household male population in the project area, as elicited by the SIA HH survey are quite low. Remarkably, 14.4% of males aged above 6 do not have any formal education while 53.4 % attained primary levels of schooling without completing all six grades; only 11.9 % reported to have finished primary school before dropping out, or only half of what the 1998 census reported for the Koh Kong province (see SIA Report, Annex I, par 4.2). The proportion of males with no or incomplete primary education in the age tranche 25 to 54 exceeds 50%. The survey results also show that the educational attainments of the male population are significantly higher in urban areas than in rural/fishing areas (See Annex I, Table 10A), suggesting that, just as in the case of female employment, potential male employment in the zone may also be urban-biased.

On the whole, the above analysis suggests that, under this alternative scenario for the industrial profile of the zone, project overall contribution to local employment and welfare would be smaller.

Finally, let us recall that the potential benefits of the project in terms of employment and income earning opportunities need to be appraised in consideration of their qualitative dimensions. Employment in factories does not necessarily go along with an improvement of the quality of life, as widely evidenced by recent assessments of working conditions in textile factories. As revealed by consultations with households in the project area beyond wage issues, concerns over employment and working conditions including equity in recruitment, enforcement of labor standards, health and security) are also significant.

3.4.3. In-migration related impacts

Whilst some workers employed in the zone might be local, the demographic and human capital conditions prevailing in the project area suggest that the local supply of suitable workers to the zone factories will be much smaller than the expected demand for labor in the zone.

As a rough indication of the scale of potential in- migration to the project area, under the prevailing assumption that the zone will primarily host light industries, the total female population aged 15 to 24 currently amounts to about 5000 against 28,200 jobs expected to be created in the zone when fully operating. Taking into account the potential skill constraints (see above), as well as other family responsibilities that might keep women at home (the surveyed area continues to have a large dependent population of children), the potential local supply of female workers to factories located within the zone might thus be considerably lower. The zone development is thus likely to trigger large inflows of migrants, mainly young females, from other parts of the country, with many possessing experience in manufacturing and relevant skills that would give them an advantage over local workers.

[48] As an indication, expenditure on transport and communication accounted for 16% of total expenditure in the month preceding the

survey, against 6.8% on average for the whole project area)

It would be possible (but by no means certain) that the number of jobs for young women created in the zone may be no more than 5,000. But even if this occurs, significant numbers of migrants should still be expected. The experience of Poipet is a relevant case study. In Poipet the establishment of some manufacturing enterprises has attracted many more migrants than the number of jobs created. Because of the closure of several large garment manufacturers in Cambodia the pool of potential migrants, especially young females, who might relocate in the hope of obtaining new industrial employment is quite large. Furthermore, migration flows from other parts of the country will be facilitated by the on-going upgrading of the road network linking Koh Kong Provincial Center to other cities in the country (especially the Road No. 48, see section II.1 of the report).

The SIA survey findings suggest that in-migration for jobs already started in the last two years in the proximity of the project site. As an indication, the share of newcomers, (defined as people who have been living in the area for less than two years) in the Nearng Kok village (12.7%) significantly exceeds the proportion of newcomers for the whole project area. Most of them (65%) have moved in the hope of finding job opportunities.[49]

On the positive side, more in-migration may spur the demand for local products and services in the project area and the expansion of tertiary activities, which, as revealed by the socio-economic survey, are a major source of employment and income in the project area, especially for women. However, potentially adverse impacts are numerous and should be considered by project stakeholders, including:

Competition for jobs: It flows from the above analysis that competition for jobs in the zone between migrants (possibly endowed with more suitable skills) and the local labor force might be significant.

Physical and social infrastructure bottlenecks: According to the information provided to the team, housing of migrants employed in the zone factories would be primarily accommodated by the establishment of a dormitory type "Working Center" in the vicinity of the site. Land has already been cleared for this purpose and, according the private developer, the Working Center could accommodate up to 5,000 workers. In the Project Investment Master Plan for Koh Kong Province (2002-2007) plans are mentioned for government construction of a community health center, and elementary school and an office of the District Education Office, within the Nearng Kok Village, Bak Khlang Commune. However, the capacity of the existing and planned physical and social infrastructure (water supply, electricity supply, health services, educational facilities as well as facilities for human waste disposal) may appear limited in the event of large inflows of migrants. As observed in other areas of significant in-migration in Cambodia, there is a risk of informal settlements, especially by migrants waiting for jobs in the EPZ, with possible adverse consequences on residents' living conditions as well as on overall health conditions in the project area.

Spread of HIV/AIDS: As emphasized earlier, a major feature of the project area is that it is characterized by a high prevalence of HIV/AIDs, although the situation is reported to have improved in the recent period. Remarkably, of respondents in the project area, 81.1% reported that people in their community have been affected by HIV/AIDS. HIV/AIDS has now started to outpace malaria as a major cause of serious illness and death in the project area. This situation adds to the concerns surrounding the event of large scale, mainly female in-migration flows to the project area. From this point of view also, the contiguity of resort – based tourism development area and possible expansion of commercial sex activities might be of concern. It has been observed elsewhere in the country that after quitting their jobs in garment factories, young women were likely to turn to prostitution as a means to maintain their incomes.

3.4.3.4 Potential for backward linkages

In Cambodia, except for labor supply, foreign invested companies generally have weak links with the local economy. Increasing the potential for supplier/backward linkages between foreign and domestic companies and local contents of production for exports is considered as important so that FDI may contribute to sustainable growth and poverty reduction objectives.

[49] According to the surveyors, the decision to move to Nearng Kok was not specifically linked to the IZ/EPZ project, but rather to the overall development which took place in the area over the last two years, coupled with decreasing land availability for settling in other parts of

Mundul Seima and Smach Mean Chey districts

In the case of the Koh Kong IZ/EPZ, several local stakeholders met during the study team field missions in 2003 and 2005 stressed the potential value of agro-processing and / or fish processing firms locating the zone because of the backward linkages which would arise with local industries. However, project information gathered from relevant line departments (Rural Development, Agriculture and Fisheries) suggests that the potential supply of raw products (fish, agriculture) at the provincial level is too limited and raises significant sustainability concerns.

The potential seemingly exists for the supply of fish products from the Koh Kong area into fish-processing IZ/EPZ firms which would use fishery products as inputs, but this is the only foreseeable example.
The Fishery Department of the Koh Kong government cites declining fish catches extending over several years, since the early 1990s, because of over-fishing. In the years 2000 and 2001 the total catch was indeed 75 per cent of its level a decade before. According to the Department, this dramatic decline is due to the increased number of fishing vessels (4,105 in 2003), the loss of mangrove areas due to the construction of shrimp farms,[50] and water pollution from these farms.

The Feasibility Study reports a substantial increase in the quantity of marine fish landed at major ports in Koh Kong in the recent period, from 17,400 tons in 2002 to 29,200 tons in 2003. Over-fishing is currently considered as a major problem and the provincial government wishes to reduce it. From the viewpoint of this SIA, adding to the demand for fish and fish products through its processing in the IZ/EPZ, risks exacerbating this problem. Moreover, the fish catch in the area is strongly seasonal (mackerel in November and shrimp from April to May). The continuity of supply which is required by industrial processing operations may not be achievable. Quality is also an important issue. Low grades of fish, comprising No. 3 quality (the lowest) and fish used for fertilizer account for the bulk of total production.[51]

As regards agro-processing, it should be noted that Koh Kong is presently an importer of fruits and vegetables and there are no significant agricultural export commodities from the area. The future identification of crops capable of successful processing for export in the zone cannot be ruled out. Nevertheless, the Rural Development Department of the Koh Kong provincial government was unaware of any local agricultural commodities which have this potential, while land availability for agriculture in the province is a major constraint.

Other light manufactured intermediate inputs required by the firms are not currently available in the Koh Kong area in the quantities that would be required and while the emergence of these industries is not impossible, once the zone begins operations, it presently seems unlikely.

However, processing activities using agricultural raw materials originating from elsewhere in Cambodia (shrimp, rubber, rice, corn, palm as well as livestock products) is mentioned as a potential in the Feasibility Study of the zone and this possibility certainly exists.

3.4.3.5 Environmental impacts: initial assessment

Given the project's location, it is obvious that the development of the IZ/EPZ site and related infrastructure projects will have a significant impact on the activities and quality of life of the population living in the project area (mostly fishermen) as well as on tourism development. Environmental and social impacts might be closely related in many ways.

- IZ/EPZ impacts

Liquid industrial waste: Liquid industrial pollutants will be generated by the manufacturing firms expected to locate within the zone. The information provided to the study team was that, consistent with the Cambodian law, liquid industrial waste from the zone will be treated appropriately. The zone will have its own large-scale water treatment, garbage and Industrial Waste Incinerator system, see Project Brief, Annexe III- and the treated effluent would then be discharged into the stream adjacent to the northern and eastern borders of the EPZ. This stream is a tributary of the Koh Por River. The northeastern boundary of the zone directly adjoins the western bank of the Vong Katak River, which is lined on both sides with dense mangrove forests.

[50] Currently, there is however only 4 shrimp farms in the province, covering a total farm area of 62 ha and with a total production of 27 000 tons in 2003.

[51] A substantial fish processing plant once existed in Koh Kong town but ceased operations several years ago. The operation was a state owned enterprise and produced fish powder. Its closure occurred because the firm required only low-grade qualities of fish, not higher qualities. Local fishermen preferred to sell their catch in Thailand because they were then able to sell their entire catch in one location. Sale to the Koh Kong factory required grading their catch and then selling higher quality fish elsewhere. The factory site, located adjacent to

the Koh Kong port area, is now occupied by the local office of the Ministry of Tourism.

According to the Environment Department of the Koh Kong Province Government, these mangrove wetland areas are protected under Cambodian law. Furthermore, the Vong Katak River flows into the Kaoh Por River, and both rivers are fishing areas for local residents. The Kaoh Por River empties into the Pream Krasaop Wildlife Sanctuary, 17 kilometers downstream. This sanctuary is recognized under both Cambodian law and the Ramsar International Convention of Wetlands, which protects areas of special importance for biodiversity under the Global Network of Wetlands of Planetary Importance.

The aim of treatment facilities will be to minimize the extent of pollution discharged into the river, but it is inevitable that some pollutants will enter the river. As noted earlier in the report, the proposed water treatment system described in the Feasibility Study is a closed biological treatment system using a Sequence Batch Reactor (SBR). This system may be capable of treating organic pollutants appropriately, but the possible change in the proposed industrial composition of the zone suggests that inorganic chemical pollutants may become important as well and this presents a serious potential problem.

During the rainy season, fresh water flows past the project site towards the sea outlet. But according to the information provided in Koh Kong, during the dry season the flow of fresh water is minimal and salt water from the sea flows up the river, making the water brackish. These water flow issues will influence the impact of industrial pollutants which reach the stream.

During the rainy season pollutants would flow downstream, reaching the sea around 10 kilometers from the project site. Effects on local fishing would be limited to this 10 kilometer stretch of river. Information provided by the Fisheries Department in Koh Kong indicated that fishing does occur in this area during the wet season, both by commercial fishermen and by local people, but that the volume of fish caught is small. During the dry season, pollutants could flow upstream, affecting a longer stretch of river, possibly affecting the fish catch of a larger number of local people than occurs during the wet season. These effects would be concentrated, because of the low rates of water flow that occur in the dry season. The diluting effects of the high rates of flow occurring in the rainy season would not operate.

Thus, the importance of environmental impacts during construction and/or operation will clearly depend on the quality and timeliness of the mitigation practices that are implemented, especially regarding wastewater treatment.

Air pollution. Existing levels of air pollution in Koh Kong are minimal. The zone will inevitably add some air-borne pollutants, but so long as the intended focus on light industry remains in place, these effects should be small.

Road congestion. The zone area is roughly 4 kilometers from the Thai border and a further 6 kilometers from Koh Kong town. Truck traffic servicing the zone will come primarily from Thailand. The materials used to construct the factories, the capital goods used for production and the intermediate inputs used in the production process are all expected to be sourced heavily from Thailand. In addition the output from the EPZ will be exported, again primarily through Thailand. The road connecting the zone to the Thai border will thus become more heavily congested. Koh Kong town itself should not be greatly affected because it lies beyond the EPZ site. A sealed road is already in place, extending from the border, past the project site and into Koh Kong town. The road seems capable of handling the increased traffic.

Human waste: Expansion of waste disposal facilities will of course be required in view of the potential demographic impact of the EPZ (see above). Any waste products which do reach the local watercourses will have effects similar to those described above under "liquid industrial waste".

- EPZ Related infrastructure impacts

Workers center and market servicing the zone: The main environmental impacts will relate to human waste disposal, discussed above.

The Stoeng Russey Hydropower Scheme. The information provided to the study team was that because the proposed site of the hydropower scheme is far from potential tourist sites and far from existing human settlements, its impact should be minimal. However, the dam constructed to serve the hydroelectric plant will affect the flow of water in the river, with implications for fishing and irrigation.

- Impacts on Tourism Development

Environmental impact issues generally point to the potential trade-offs between industrial and tourism/ ecotourism development in the project area. The proposed IZ/EPZ/project promises social benefits in the form of employment opportunities for Cambodian people, especially women. These jobs are badly needed and if the zone is successful they could be achieved within a relatively short period of time. But they come at a potential long-term cost. The Koh Kong area has clear potential for eco-tourism development (see below). Eco-tourism would also generate local benefits, including employment, but these benefits would take longer to be realized.

Other things equal, the potential for eco-tourist development in the project area relates to:

- unspoilt and beautiful beaches;
- river scenery including the waterfall up-river from the zone site;
- coastal mangrove forests; and
- unspoilt visual impact of the Koh Kong area.

Each of the above will be affected negatively by the zone, but to varying extents. Data from the Tourism Department of the Koh Kong provincial government indicate an increase in tourist arrivals to Koh Kong from just under 2,000 in 2001 to about 4,000 in 2002. The potential is clearly much larger.

Beaches. The Koh Kong area possesses beautiful unspoilt sandy beaches, which have few equals across the border, along the Eastern Seaboard of Thailand. The Thai island of Koh Chang is one of the few such examples. There is clear tourist potential for this beach area of Koh Kong, from both Thai tourists and tourists from other countries. To realize this potential, substantial investment in tourist facilities would be required.

The impact of the zone may occur primarily through industrial pollutants and human waste discharged into the river, subsequently reaching the sea (17 kilometers downstream) and polluting the beach area. The extent of this impact will depend on the quality of waste treatment at the zone site, at the point of discharge into the river.

River scenery. The river area close to Koh Kong has clear potential, including natural river scenery and a spectacular waterfall. As noted above, industrial pollution from the zone will inevitably reach the river system and thus reduce its eco-tourism potential. During the wet season, this effect will occur only downstream from the project site. During the dry season, some of these effects will occur in the opposite direction as well, depending on rates of flow. It is unclear how far up the river these pollutants could reach.

Coastal mangrove forests. Along the Eastern Seaboard coast of Thailand, mangrove forests have been substantially degraded, through pollution, cutting for charcoal production and clearing to make way for shrimp farming. This has occurred to a much smaller extent in the Koh Kong area of Cambodia and gives the area a further natural advantage for eco-tourism development. It is possible that the employment opportunities created by the zone would reduce somewhat the extent of mangrove cutting for charcoal production, thus helping to preserve the mangrove forests. This point was emphasized by government officials in Koh Kong. Pollutants reaching the coastal area would have the opposite effect. Its magnitude would depend on the sensitivity of mangroves to the particular forms of pollutants produced in the zone and their concentrations when they finally reach the coastal area.

Visual impact. A further impact will be visual. Because the site is just inside the border, located on the main road, visitors arriving by road from Thailand would have to pass the industrial zone on the way to any eco-tourism site. It is obvious that the sight of a large industrial area close to eco-tourism venues will reduce the attractiveness of the latter.

3.5 Implications and Recommendations

In light of the above findings, project key stakeholders may wish to consider the following recommendations for enhancing (mitigating) expected positive (negative) impacts of Koh Kong IZ/EPZ project.

3.5.1 Management of social and environmental impacts

- Investing in the development of industrial human capital

In view of the demographic and educational conditions prevailing in the project area this is a critical issue to be considered by project stakeholders and developers, both public and private. To enhance the positive impacts of the project on the local population in the short term/medium term, expansion of vocational training opportunities and facilities will be necessary to maximize the employment of the local labor force in the zone. In this regard, and given the project status, it seems critical to assess requirements and needs in terms of vocational training development in the project area and to tailor vocational training programs to anticipated industrial and related service requirements of the zone.

While there is a strong case for scaling-up training efforts[52] targeted towards on young females, uncertainty regarding the types and gender mix of industries to be located in the zone notably implies that vocational training provision in the project area should be broadened to cover skill-upgrading needs of the male population, especially fishermen.

The zone development plan currently provides for the establishment of a Vocational Training Center inside the zone (See Feasibility Study), but there is no clear information yet concerning the capacity and programs of the proposed vocational training facility. As mentioned earlier, the Provincial Planning Department also plans to set up a Vocational Training Center with a view to further enhancing employability of the local population in the zone. But as discussed later in the report, the lack of timely information on the IZ/EPZ development status, notably regarding the types of factories that will locate in the zone however acts as a major barrier to planning for training provision. In other words, the human capital development strategy in the project area needs to be backstopped by a suitable communication strategy regarding project developments.

As a complement to the development of vocational training facilities, and given uncertainties regarding investments and skill requirements in the zone, it is recommended that government and private stakeholders involved in the development and management of the zone actively encourage investing firms to provide on-the-job training to local employees, through suitable regulations or incentives. Their participation in the provision of continuing education programs should also be encouraged. Stakeholders may notably consider the possibility of resorting to public-private partnerships to encourage human capital formation, as experimented with in the context of Malaysian EPZs, for instance. The Malaysian government set up a Human Resources Development Fund to subsidize the training or retraining of workers. EPZ firms are expected to contribute to the Fund whose resources are used to set up training centers for specific industries both in and around the zones.

Mitigating potentially unfair competition from outsiders will be an issue here. The zone Labor Office is advised to provide for consultation and negotiation mechanisms between labor and management, as well as mechanisms to resolve disputes. As recommended earlier, local populations should also be provided with adequate training (see recommendation1). As regards the protection of labor standards, the establishment of an inspection office of the Ministry of Social Affairs, Labor and Vocational Training could also be an option. Again, addressing those issues will help preserve the reservoir of goodwill.

- Establishing a fair and participatory employment and labor management system

In view of people's concerns but also, suggestions, it is strongly recommended that zone developers and managing authorities concentrate not only on the infrastructure, incentives and logistics of the zones but also seek a careful management of employment and labor issues. Cambodia already has a good record in terms of linking trade with labor standards and enforcing labor standards. The Koh Kong IZ/EPZ should keep the momentum in this particular area. Setting of an adequate Labor law enforcement mechanism for the zone will be critical. It is planned that the zone will have its own Labor Office. Given people's particularly strong concerns about transparency in recruitment procedures, the study team recommends the establishment of effective consultation mechanisms between the zone office and the Provincial Labor Office.

[52] Those are currently limited to the training (sewing) of groups of 40 females by the Department of Women's affairs, twice a year)

- Developing physical and social infrastructure beyond the project site area

There is a need for carefully anticipating and planning for the absorption of the flows of migrants through adequate measures. Critically, expansion of physical and social infrastructure would be required beyond the Nearng Kok village to accommodate the flow of migrants. The probability of substantial in-migration into the project area is high in the current context of Cambodia, regardless of the number and activity profile of factories that may actually locate in the zone. Potentially high in-migration may be disruptive in many respects and create tensions. Social and environmental impacts of in-migration in the project area are also likely to be significant. As revealed by the survey, people already feel concerned by these impacts.

Development and improvement of the existing social and economic infrastructure, especially housing facilities, vocational training, health services, as well as waste disposal facilities should be addressed carefully by local community development master plans, as soon as investment commitments in the zone are confirmed. This also underscores the need for a timely provision of information regarding the project status to local planners, as addressed below. As part of the planning process, existing problems regarding access to land for social infrastructure development (notably in the vicinity of the project site) should also be addressed carefully.[53]

From an equity viewpoint, expansion of physical and social infrastructure beyond the Nearng Kok village will also be required for improving poor and remote households' access to the IZ/EPZ area. Remoteness coupled with low educational attainments may indeed prevent people in some rural/fishing communities in the project area (especially Koh Por, Peam Krasaob, Tuol Kokir) from accessing jobs and off-site business opportunities, but also, and more critically, social infrastructure services that might be generated by the project in the area. The upgrading of communication infrastructure (roads/bridges) and the reduction of transportation costs are critical issues to be considered.

- Balancing industrial development requirements with other key development priorities, with a particular focus on vulnerable communities

More generally, the consultation findings underscore the need for carefully balancing planning for IZ/EPZ-specific infrastructure with surrounding physical and social infrastructure. This is especially important in view of the goodwill of people, even in the most vulnerable and disadvantaged communities, regarding industrial development prospects and the IZ/EPZ project. In addition to an adequate communication strategy (see below), protecting this goodwill strongly calls for ensuring that the development of the IZ/EPZ project will not conflict, and ideally, will also contribute to meeting people's other key development priorities and concerns. Indeed, although the area influenced by the project is not very wide, development priorities and expectations are not homogenous across communities. As mentioned above, it is most likely that the project will induce a rise in inequality, as some communities (especially the rural communities of Peam Krasaob, Koh Por, Tuol Kokir) are more likely than others to be excluded from employment, business and other opportunities generated by the project.

The recommended development of health and education facilities as well as communication infrastructure (bridge/roads) beyond the project site area, in consideration of accessibility/affordability issues (see below), is clearly paramount in this regard. Finally, an adequate management of expectations within the context of project implementation would also require paying greater attention to meeting the particular needs and development priorities of these communities. In view of the survey and consultation results, it seems especially important to address the constraints and sustainability of fishing and agricultural activities. Those activities are almost the unique sources of livelihood for people in those communities and are still considered top development priorities.

- Monitoring the situation and addressing needs of resettled people

Resettlement has not been associated with a significant improvement of resettled people's living conditions. The study team strongly recommends a careful and on-going monitoring of the situation of this particular group and the provision of adequate afterwards support.

[53] Some stakeholders mentioned that access to land for social infrastructure development in the project area (Mundul Seima district) has become more difficult, as more land is being allocated by the district to the private sector for industrial development

- Strengthening HIV/AIDS awareness and prevention

Although awareness about HIV/ AIDS is high in the area, as revealed by the survey, potentially high in-migration might call for further communication and prevention efforts. The number of brothels in the project area is especially high and the experience shows that it is likely that that more brothels open as a result of a population increase.[54] The development plan of the zone should incorporate specific provisions for improving awareness about trafficking of women and children, spread of HIV/AIDS and related prevention, building upon a strong partnership with provincial institutions (Provincial Aids Secretariat), local NGOs (CARE) and communities.[55] Information and education campaigns on these issues could be provided for in contracts for construction workers during the factory and other facilities construction phase as well as to workers in the factory, especially targeting migrant workers during the operating phase. Condom distribution and other preventive interventions at the work place should be considered by developers and managers of the zone.[56] From this viewpoint also, a strategic link could be established between the development of the zone and the recently started ILO HIV/AIDS Programme in the Workplace. Such a mitigation practice is consistent with the Cambodian National Strategic Plan (NSP) for a Comprehensive and Multi-sectoral Response to HIV/AIDS (December 2001), which advocates a broadening of the national approach and response from a primarily health sector-based disease model to a holistic development-linked approach, with greater reliance on strong partnerships between Cambodian civil society and government, capacity- building approaches versus knowledge-focused interventions, as well as integrated, decentralized, and participative approaches to HIV/AIDS.

- Mitigating industrial pollution from the zone

Given the particular location of project, pollution arising from the development of the IZ/EPZ site and related infrastructure projects will have a significant impact on the quality of life of many people living in the project area (especially the most vulnerable rural/fishing communities, Koh Por, Peam Krasaob). People's concerns over pollution and related health impacts further strengthen the case for proper and timely mitigation.

This is the responsibility of the Ministry of Environment. Laws already exist within Cambodia requiring industrial firms to construct effluent treatment facilities and to use them. International experience however suggests that the existence of such laws is not sufficient in itself to ensure that the laws are observed.

First, inspections will be required prior to the commencement of industrial production, to ensure that the water treatment facilities mandated by the law are in place. Given the current status of investment applications in the zone, the timing of the establishment and the overall adequacy of the proposed biological water treatment system should be carefully addressed by zone development stakeholders.

Second, ongoing monitoring and inspection will be required to demonstrate that the facilities are in fact utilized appropriately. It must be recognized that even when effluent treatment facilities are constructed it is still costly to operate them and cheaper simply to bypass the treatment facilities and discharge untreated effluent. Unless regular monitoring and inspection occurs, there is therefore a temptation for industrial firms to discharge untreated effluent, which would reach the adjacent river.

Third, a clear system of penalties must be in place to be applied when unacceptable levels of pollutants are in fact discharged into local watercourses. It is therefore recommended that the zone development authorities establish suitable monitoring and control systems for the zone as well as a specific structure dealing with environmental law enforcement.

Finally, gaps relating to the local technical capacity for adequate monitoring of environmental impacts should be addressed carefully.

[54] (see for instance, UNDP South East Asia HIV and Development Programme)
[55] The number of brothels in the project area suggests a relationship with trafficking of sex workers into Thailand.
[56] The 100% Condom Use Program is on-going in Koh Kong Province

3.5.2 Cross-cutting recommendations

- Establishing a suitable communication strategy

The IZ/EPZ project generally appears to match the development priorities of most government stakeholders and people in the surveyed area. However, it is obvious that people's expectations regarding the expansion and diversification of job and income earning opportunities are excessively high and that they should therefore be managed carefully. This adds weight to observations above on the importance of measures aimed at maximizing employment and more specifically, at enhancing the employability of the local population. However, managing expectations will require a better management of information and communication needs. A major finding from the consultations is that, for a project which has already become a tangible reality, people's knowledge is far too low. This information gap, identified both at the stakeholder and household level, needs to be closed as soon as possible.

Providing information is not costly and would contribute to reduce information asymmetries and rumors as well as maintaining the goodwill of people. This would more generally help reaching a greater involvement of both local government officials and local communities in mitigating potentially adverse impacts of the project and enhancing its benefits. As mentioned earlier, for many provincial departments, the lack of timely information on the zone development status acts as a major barrier to effective planning for training and social infrastructure development.

While significant support from the central and local government may be required to leverage and secure benefits for the local population, it is clear also that with more timely information, people in the project area would be in a better position to adjust their expectations to the real impacts of the project. Critically, perceptions and expectations of both the male and female population regarding employment opportunities do not fully[57] integrate either the "gender/age bias" nor the "skill gap" that surround the project impact. Raising people's information and awareness on the nature of the project activities could also lead to more pro-active individual strategies, notably in the area of skill upgrading.

As knowledge about project characteristics increases (especially information relating to the type of factories that are likely to be located in the zone) the study team strongly recommends that project key stakeholders improve information flows to all local officials, community leaders and other key informants, so that they can develop suitable communication strategies.

Information collected during the February 2005 consultation round suggests that one mechanism to achieve this and to keep the local government and others involved in the planning of the zone itself would be to institute a "Management Committee" for the EPZ/IZ, including the private developer, (the Duty Free Co., Ltd.), representatives of both the central government and the Koh Kong provincial government, along with some other relevant stakeholders. More specifically, this may be achieved through expanding the membership and role of the "working group" that already exists. The latter has so far dealt with issues of land acquisition and resettlement of previous residents. The current membership was reported to include the private developer of the Industrial Estate, ,the representative of the Koh Kong governor, the Ministry of Commerce and the Ministry of Industry. The working group met several times in 2002 but has not met since except for June 2004. The role and membership of this group could be extended to include the Womens' Affairs Department, the Social Affairs Department and the Planning Department. Its powers of oversight of the IZ/EPZ development might also be extended.

The creation of such an expanded "working group"/"management committee" would automatically enable the members of the committee to become aware of firms who had been granted licenses to operate in the zone, and could then inform others of these developments. Information could thus flow to local authorities on a more regular and timely basis and allow them to plan accordingly. The powers of this committee would have to be established by the Cambodian government in conjunction with other relevant stakeholders. If this committee was to meet regularly, say once a month, this would be a vehicle for concerned stakeholders for their voice to be heard in decisions relating to the zone.

[57] As mentioned above, while expectations regarding employment opportunities are high, most suggestions made by respondents reflect concerns and some awareness that the local population, especially the poorer segments, may not benefit from the project.

The mechanism would also feed into a more effective communication strategy at the community/village level. During the February 2005 mission, the SIA study team was informed that an information meeting has been organized in November 2004 by the provincial government in partnership with the governor of Mundul Seima district to brief village chiefs and other community leaders on the status of the IZ/EPZ project – more specifically to inform community leaders/village chiefs that the "fenced area" would host factories -. Recalling that at the time the SIA Household Survey was conducted in May 2003, only 44% of surveyed households knew about the Industrial Estate Project, the meeting was an important step forward in filling the knowledge/information gap of local people. It is further recommended that the proceedings of such meetings (including expectations/ concerns expressed by village chiefs and other community leaders about zone impacts) be conveyed to the aforementioned "management committee" meetings for discussion and relevant mitigation/action.

- Rationalizing the investment promotion strategy for the zone

In view of current educational attainments in the project area of influence, and in order to secure immediate benefits from the project for people living in the area, the type of enterprises to be encouraged in the zone is also an issue. This is clearly also an important issue with regard to environmental impacts.

In its "Marketing Plan", the Feasibility Study of the zone calls for a partnership between the private developer, the Cambodian government and the Thai Government in organizing investment promotion events for the zone (including, seminars for Cambodian and Thai industrial groups, export product exhibitions, site visits etc..), with a focus on attracting textile, clothing and garment industries as well as agro-processing industries.

Currently, however, the promotion of the zone appears to lie in the hands of the private developer on a day-to-day basis, with seemingly limited involvement/coordination with other relevant government stakeholders. This increases the probability of having more capital/skill-intensive and potentially more polluting factories locate in the zone, which, as discussed earlier, would conflict with maximizing employment benefits, whether at the local or national level as well as with environmental protection requirements.

There are clearly trade-offs between speeding up investment and job creation in the zone through adopting a non- selective approach to investment promotion on the one hand, and targeting industries (such as light industries and fish/agro-processing) that would be better suited to local/national conditions (skills, input supply potential, but also, critically, environmental conditions). However, short term (opportunity) costs of the current, seemingly ad-hoc promotion strategy should be weighted against the long term benefits of a more strategic approach to investment promotion.

Thus, the SIA study team recommends that relevant government stakeholders rapidly engage in an active investment promotion strategy for the zone targeted towards those industries that best fit existing local/national comparative advantages as well as ecological conditions. It flows also that, in line with current regulations, approval of upcoming applications for investment in the zone should pay particular attention to environmental impacts.

- Examining the conditions of private sector participation in the financing of mitigation measures and investments

At least in the short term, the zone is unlikely to generate significant fiscal resources for financing the mitigating measures and investments suggested above. While private financing will be secured for the zone itself and closely related physical and service infrastructure, there is nevertheless a danger that the IZ/EPZ could be a net drain on the fiscal resources of the local government because the zone will increase maintenance costs on local roads, generate pollution abatement costs, and require policing services from the district government, other things equal. Attention may be given to the possibility of raising modest amounts of revenue at the local level from the firms operating in the zone in order to meet these costs.
Further, the Feasibility Study "Marketing Plan" recommends that within 6 to 10 years the private developer of the zone "construct living quarters for zone employees and to coordinate with the government "to improve the living standard of people in Koh Kong, such as providing places for education and health services". The recommendation actually appears to match expectations of many government stakeholders in the project area given past experience.[58] This has however several implications: on the one hand, given strains on local public finance, private financing of social infrastructure may provide some financial leverage; on the other hand, in the absence of a fully-fledged institutional framework for private financing of infrastructure or public-private partnerships in this area, there are risks that social benefits from infrastructure development (health, education) under such a scheme

may be limited, for instance if the new educational and health facilities are only accessible or affordable by the people/families working in the Zone. As confirmed by stakeholders met during local consultations, availability of suitable health services, especially for poor and vulnerable communities is an issue in the project area as well as at the provincial level. The study team thus strongly recommends to carefully addressing the potential social impacts of private participation in the financing of physical and social infrastructure in the project area.

3.5.3 Suggestions for further research

- Conducting an in-depth Environmental Impact Assessment

While both ecological and social conditions of the project area call for effective and timely mitigation of pollution impacts, especially water pollution (see above), the volume and composition of liquid pollutants cannot be known in detail at this stage of the planning process because it will depend on the number and types of firms which actually decide to locate in the zone. It was originally intended that heavy industries and chemical industries would not be accepted in the zone. The potential broadening of the intended industries makes the case for a detailed professional assessment of the environmental impact of the zone and the adequacy of planned mitigation practices all the more compelling.[59] The study team urges project developers to launch as soon as possible an in-depth environmental impact assessment of the IZ/EPZ project. The observations of the SIA study team, as well as the initial environmental examination provided in the Feasibility study could provide a starting point. The results of the EIA should be incorporated and translated into relevant measures within the planning/development process of the zone.

- Further assessing the potential for backward linkages with the provincial and national economy in consideration of sustainability issues

In the project area, where livelihoods are still significantly dependent on fishery activities, the processing of fishery products within the zone (or possibly outside) can be viewed as a potential option to increase incomes and reduce poverty.

However, in view of the numerous sustainability concerns expressed by government stakeholders, the study team recommends further assessment of the feasibility of this option, in light of current practices with export-oriented fish-processing activities elsewhere in Cambodia as well as abroad, with a particular focus on supply and quality requirements. The study team further recommends project stakeholders to consider measures for maintaining and improving the quality of fishery products (which appears to be an issue), to improve handling practices as well as marketing of fishery products in the project area.

The study team also recommends stakeholders to assess the potential for supplying a broader range of intermediate inputs from other parts of the country (agricultural crops, fruits) to the zone agro-processing factories, again, in due consideration of sustainability and land management issues. It is worth recalling that the development of Road No 48 has already reduced greatly the geographic isolation of Koh Kong. This will not only facilitate population movement to the project area but could also help the development of potential backward linkages from the zone to the rest of the Cambodian economy.[60]

[58] The private developer of the zone already constructed a bridge (completed in 2002) crossing the Prek Khao Pao Riverwhich establishes a land link into Thailand, as well as a tourist area.

[59] For instance, the Feasibility Study recommends monitoring twice a year of the water quality at three locations close to the zone, including testing for the levels of various biological pollutants as well as nitrates, phosphates, chlorine, iron, copper, nickel, zinc, cadmium, chromium, lead, mercury, arsenic and cyanide. According to the Environment Department of the Koh Kong Province Government this testing should however be done monthly, rather than just twice a year. However, the capacity to test for these pollutants does not presently exist in the area.

[60] In addition, any output from the zone which is approved for sale in the Cambodian market (i.e. not exported) could be transported to other regions of Cambodia along this road.

With a view to broadening the scope for backward linkages between the zone and the local economy, project developers may consider the replicability of the Special Promotion Zone (SPZ) concept currently advocated by the JICA team for the Sihanoukville EPZ, whereby EPZ activities would be supported by a "Promotion Zone", i.e a "promotional area for industrial servicing, commercial trading, agro-industrial, tourist/recreational, real estate and financial development for general purposes" where enterprises whether domestic or foreign would be granted a limited range of preferential fiscal and non fiscal privileges.[61]

- Further investigating the potential and impact of eco-tourism development in the project area as well as potential trade-offs between eco-tourism development and IZ/EPZ development

Given potential long-term benefits for local communities, there is strong a case for further assessing opportunities and constraints pertaining to eco-tourism development in the project area, which was beyond the scope of this SIA. For instance, some stakeholders in Koh Kong mentioned to the study team that current regulations restrict the number of tourists in ecologically sensitive/protected areas. Other potential obstacles to eco-tourism development include conflicting plans to establish hydro-power stations in several sites (waterfalls) of interest for eco-tourism.

The study team thus strongly recommends the conduct of an "eco-tourism assessment". The recent study of "Conservation International" – Cambodia (" A rapid ecotourism assessment of the Thmar Bang District, Koh Kong province, 2004) may provide a suitable methodological framework.

Also, while the ecological sensitivity of the project area generally makes a strong case for eco-industrial development in the Koh Kong IZ/EPZ, the possible trade-offs between the zone development and tourism are likely to be important and warrant more specialized professional expertise than is possessed by the study team. Assessment of potential trade-offs between development of the industrial zone and tourism development could also be part of the EIA and should be mainstreamed in the planning process/promotion strategy (see below) of the zone.

[61] (See The Study on Regional Development of the Phnom Penh – Sihanoukville Growth Corridor in the Kingdom of Cambodia, Draft Final Report, 2003).

CONCLUSIONS AND LESSONS LEARNT

Conclusions and Lessons Learnt

While the set of recommendations for mitigation made in this report generally followed the order of identified social/environmental impacts, meeting informational and communication needs of government stakeholders involved in local planning and as well as of local communities appear both as the most urgent and the least costly interventions, given the current status of project. For proper implementation, most of the proposed suggestions and recommendations for enhancing project benefits and mitigating negative impacts will in the first place require that relevant planning departments at both the central and local level be provided with consistent and timely information on the status of project and, especially, the type of industries that will locate in the zone and related employment creation, other things equal. In view of the consultation results, it is clear also that the communication strategy should as much as possible seek to embrace concerns expressed by people about environmental/health impacts and labor hiring and management issues.

Generally, the project appears to meet people's expectations and development priorities through expanding job and business opportunities and raising household incomes in the project area. However, for this positive effect to materialize in the near term, vocational training provision should reach a reasonable scale and target disciplines that are most likely to be needed in the zone. Improving the employment status of females is an urgent matter in the project area and the study team recommends that training provisions efforts especially target the young female population, even if the industrial profile of the zone remains uncertain. During the course of project development, the strategy should actively seek to involve foreign investors in both financing and delivery of training, and further promote private-public partnerships in this area.

So long as industrial development triggered by the IZ/EPZ project is intended to become a sustainable contributor to socio-economic development in the area, and not merely a footloose process, development of industrial human capital in the project area should be seen as a long term strategy, starting with strengthened efforts to fill existing and significant educational gaps at the primary level. From this viewpoint also, the study team strongly recommends further investigation of the existing potential for supplier linkages between the zone, the provincial economy (fishing activities) and the rest of the country, in due consideration of sustainability and land management issues.

It flows from the SIA findings that in order to maximize project benefits on an equitable basis, physical and social infrastructure development efforts in the project area of influence, including the above mentioned interventions in the area of vocational training and education, should actively target households in remote and more vulnerable communities (Peam Krasaob, Koh Por). Finally, in view of peoples' concerns over hiring and labor conditions within the zone, the study team strongly recommends the establishment of effective consultation mechanisms between the zone labor office and the provincial labor office for dealing with the recruitment of workers both at the construction and operation stage, supported by an effective inspection system. Enforcement of labor standards in the Koh Kong IZ/EPZ should be seen as a priority, sustaining Cambodia's significant achievements in this area.

In addition to the measures needed to remove constraints on the employability of the local population, and, more generally, to secure long term benefits for the population, several interventions will be required to minimize the project's likely negative impacts, as identified by the Study team or embedded in people's concerns.

Among identified adverse impacts of projects, in-migration related impacts should be carefully addressed by provincial/community development master plans, through extending the provision of adequate physical and social infrastructure beyond the immediate area surrounding the project site. From the perspective of this participatory SIA, the case for carefully anticipating potential social and physical infrastructure bottlenecks and requirements is further compounded by the fact that education, health and communication infrastructure remain the top development priorities for the population. The whole project strategy should generally help meeting these priorities.

While further private participation in the financing of necessary physical and social infrastructure may be an option, given strains on public finance, the study team however recommends that possible accessibility/ affordability constraints for the most vulnerable communities living in the project area be duly taken into consideration.

The project area of influence differs from other possible locations for IZ/EPZs by a high prevalence HIV/ AIDS both among rural and urban communities. The situation is most likely to worsen in the case of high in-migration. In this regard, existing awareness and prevention efforts should be strengthened, with additional awareness, education and prevention schemes established and developed on an on-going basis at the workplace, from the construction to the operation stage of the zone. The development of partnerships with local NGOs and establishment of strategic linkages between the zone management and provincial and national initiatives for HIV/AIDS prevention is strongly recommended.

Given the project's environmentally sensitive location, another urgent recommendation is to conduct an in-depth Environmental Impact Assessment that would cover both the development of the zone (construction and operations) and related infrastructure development. As part of this assessment, potential adverse effects on the potential for tourism development in the project area should be duly considered. Findings should be mainstreamed in a timely way in on-going plans for mitigation and management of environmental impacts. Strict enforcement of the existing environmental regulation will be required, through the development of an adequate monitoring and penalty system as well as through properly addressing technical capacity gaps at the local level. The mitigation strategy should ideally seek the involvement of all stakeholders (Zone management authorities, companies and affected communities and relevant locally active NGOs).

Finally, the activation of a clear investment promotion strategy for the zone, in line the country's industrial strategy and sensitive to local socio-economic and ecological conditions (i.e targeted towards labor-intensive/resource-based/non-polluting industries) would also reduce uncertainty and support local planning initiatives for mitigation, whilst generally enhancing potential benefits.

When considering the lessons learnt from this SIA, it is important to keep in mind that this exercise is a pilot one in the Cambodian context. Conducting social impact assessments of large industrial projects is not a common practice worldwide. Underlying this SIA, the Cambodian government's effort and commitment to promote such an innovative practice should be further encouraged. This is all the more valuable as the IZ/ EPZ is itself a new concept for Cambodia. Lessons learnt from this SIA should be primarily viewed as practice recommendations for similar exercises.

The regulatory and incentive framework for IZ/EPZs is not fully developed, while private financing of large infrastructure or industrial projects also lacks a transparent and up-to-standard legal and regulatory basis. The implementation framework and process of the Koh Kong IZ/EPZ project is reflective of these governance gaps with particular implications regarding the timing and scope of this SIA. Clearly, just as with the feasibility study of the project, this SIA might have started earlier, once the location of the project was known, so as to encompass issues relating to resettlement and compensation schemes and fully integrate them to the mitigation strategy and later on, in the SIA monitoring process. More generally, project stakeholders would certainly have had more time to discuss findings and ways to maximize benefits and minimize negative impacts and time for prevention, and planning for the monitoring of the SIA process.

This SIA otherwise confirms the importance of collecting accurate and updated information on socio-economic characteristics of directly or indirectly affected communities and households. For such "localized" projects as IZ/EPZs, the survey work proves especially critical for getting a more realistic picture of potential positive or negative impacts and for a better tailoring of mitigation measures. This SIA also corroborates the importance of consulting the people who are directly or indirectly affected by large and innovative projects. In this particular instance, local consultations conducted in the course of this SIA proved particularly useful in gauging informational gaps, identifying and differentiating people's development priorities and particular concerns, and, ultimately, in further informing the proposed mitigation strategy. The SIA survey and consultation process also acted as an important interface, in terms of information provision and awareness-raising.

As regards process dimensions, the experience with this SIA suggests that the whole survey exercise should rely upon a strong national ownership in setting objectives, designing survey questionnaires and discussing findings.

In this particular instance, the SIA survey objectives and the questionnaire design have been discussed and addressed through regular consultations involving international consultants, the national team of surveyors (CAS) and the Ministry of Commerce, and, critically a continuous and timely collaboration between international consultants and the national team leaders and supervisors of the survey work.

Finally, the experience with this SIA suggests that such an exercise could be achieved within a reasonable period of time and with a reasonable amount of resources, both financial and human. In view of the particular constraints and unforeseen contingencies faced during the course of this SIA, the dedication, commitment, and flexibility of the SIA team of consultants, surveyors and government partners again deserve special acknowledgements.

ANNEXES

I. Survey Methodology

1. Methodology

1.1 Location

The household survey covers the project area and contiguous areas/communities (areas falling within a 10 to 15 kilometer perimeter around the project site) including:

q Bak Khlang commune (rural area[1]), Mundul Seima district, where the project is located as well as the following neighboring communes:

- Peam Krasaob commune (rural area), Mundul Seima district
- Tuol Kokir commune (rural area), Mundul Seima district
- Smach Mean Chey commune (urban area), Smach Mean Chey district
- Dang Tong commune (urban area), Smach Mean Chey district
- Stueng Veaeng (urban area), Smach Mean Chey district

1.2. Respondents

The survey gathered data through face-to-face interviews with productive adults (between 18 and 60 years old). The unit of analysis is the household. Information gathering took a census approach in some villages and a representative approach in the rest. At the level of individuals within the household, stratified sampling and subsequent weighing ensured representative data for sex and age categories. The total number of households and respondents surveyed is 1231.

2. Sampling method

2.1 Sample sizes and error margins

The indicator of data quality used is the standard error of the estimate. Survey statistics are mostly proportions, which means that the key measure of data precision is the standard error of a proportion taken from a sample. Its formula is:

$$\pm Z \sqrt{\frac{p(1-p)}{n}}$$

Z = 1,96 (confidence level 95%)
p = sample proportion estimate
n = sample size

For the overall sample size of 1231 respondents this means that the maximum error margin at a 95% confidence level, assuming a simple random sampling design, is approx. ± 3%. This margin increases to ± 4%, respectively ± 6% when disaggregating the data in two (e.g. sex) or 4 (e.g. age) categories. However, somewhat higher error margins are expected because the sampling design is not simple but multi-stage; the associated design effect is not readily measurable through established statistical software. On the other hand, for the areas in which a census approach was followed, the error margins for the household information can be expected to be lower.

[1] According to the rural/urban classification as used in the 1998 census.

2.2 Sampling scheme

Criteria for Sampling: census versus representative sample
The sampling location, consisting of two districts (rural Mundul Seima district and urban Smach Meanchey district) within Koh Kong province, was divided into areas that were covered with a census approach (including all households) and areas that were covered by a representative sample of households. The census approach was applied to the following areas within Mundul Seima district:

- Nearng Kok village (Bak Khlang commune): the project site is within its boundaries so its respondents can be considered the most directly affected, and it includes most of the households that have been resettled from the walled industrial zone land.
- Koh Poa village(Bak Khlang commune): a traditional fishing village upstream of the Koh Poa river. This is a relatively remote location, the smallest community of the whole area, (poor) and potentially affected by environmental effects of the industrial zone.
- Peam Krasaob commune: according to WFP poverty mapping the poorest community within the project area, of the remoter locations the largest, and an established fishing commune.

The fourth community to be covered 100% is the resettled households. As these are identified as forming a hamlet within Nearng Kok, this is expected to be automatically taken care of.
The rest of Mundul Seima district (the 5 remaining villages of Bak Khlang commune and Tuol Kokir commune) and all of Smach Meanchey district were covered by interviewing representative samples of households. Table 1 summarizes he resulting sample of H/H interviewed, indicating the planned and the actual samples.

Table 1: Sample of H/H interviewed

	Number of families	Total population	Sample of H/H planned	Actual Sample of H/H
Mundul Seima district (rural)	2,746	13,821		
Bak Khlang commune	2,347	11,708		
Village Bak Khlang 1	215	1,135	320	322
Village Bak Khlang 2	505	2,848		
Village Bak Khlang 3	228	1,247		
Village Boung Kar Chang	112	527		
Village Cham Yeam	913	3,900		
Tuol Kokir commune	171	974		
Village Nearng Kok (Bak Khlang)	286	1,682	286	291
Village Koh Poa (Bak Khlang)	88	342	88	62
Peam Krasaob commune	228	1139	228	196
Smach Meanchey district (urban)	5,375	30,059		
Smach Meanchey Commune	2,199	14,258	360	360
Dang Tong Commune	2,694	13,293		
Stueng Veaeng	482	2508		
TOTAL			1282	1231

Source: *Ministry of Planning office, Koh Kong (January 2003 data)*

2.3 Characteristics of respondents

Within the household an adult member was chosen between 18 and 60 years of age. To ensure adequate coverage of sex and age categories the *within*-household selection of interviewees was stratified with the objective to have a 50/50 representation of females and males and a 25/25/25/25 representation of 18-25, 26-35, 36-45, 46-60 age categories.

Table 1A: Household respondents – Rural, Urban; Gender*

	Rural		Urban	
	Number	Percentage	Number	Percentage
Male	402	46.1	176	48.9
Female	469	53.9	184	51.1

Male respondents are mainly fishermen (32.4%). Female respondents are predominantly engaged in small business activities at the village level (24.2%) or housewives (18.7%). 6.5% of male respondents were civil servants (5.4%) or moto-dop drivers.

The number of respondents who indicated having a second occupation (16%) was not very high: animal raising, occasional fishing, vegetable garden/fruits, selling in the village, Moto-dop driver, construction worker, or selling lottery tickets. For analytic purposes this means that information regarding the main occupation was given priority.

Table 1B: Main Occupation of respondents*

	Whole Project area%	Male	Female
Housewife/duties	19.2	0.5	18.7
Fisherman	18.5	32.4	5.7
Seller in the village	15.2	5.4	24.2
Unemployment	5.3	5.8	4.0
Police/ army/gendarmerie	3.1	6.5	0.0
Construction worker	2.9	5.2	0.7
Civil servant	2.7	4.9	0.7
Moto-dop	2.6	5.4	0.0
Vegetable garden/fruits	2.6	2.2	3.0
Seller in a market	2.5	2.7	2.2
Still at school	1.8	1.9	1.6
Agricultural day laborer	1.7	1.9	1.6
Transporting goods within and between the village	0.9	1.4	0.5
Rice Agriculture	0.7	1.2	0.2
Private company staff	0.6	0.5	0.0
Others	6.1	7.9	4.5

**Weighted data*

2.4 Problems with the criteria for sampling: census versus representative sample

Suggestions for sampling were based on field observation during the scoping mission in February 2003 as well as on 1998 census data and data provided by local authorities. The fieldwork did not undermine the potential importance of the criteria for choosing sites for a census approach. Having a closer look at the community most affected because it is closest to the project site, the poorest community, and a small remote fishing community, all make evident sense. However, the in-depth reality check of the survey necessitates certain qualifications:

- Nearng Kok, was identified as being the most affected community, and surveyed using a census approach, but field reality showed that parts of randomly sampled Cham Yeam village are also very near the project site. Cham Yeam actually consists of two villages, Spean Yol and Phum Tmei. Phum Tmei is a resettlement area[2] for households removed from the coastal area that is now occupied by the casino at the border (the poorest of these households ended up in Spean Yol). The residents of Phum Tmei are very unsure about their future as they are again scheduled for resettlement (to the same location as the EPZ re-settlers). Especially Phum Tmei is *closer* to the projected zone than some parts of Nearng Kok, but also Spean Yol is still very close to the project site. A dummy variable for "proximity to the project site" was constructed to deal with this issue (see section on statistical analysis).

[2] This resettlement was effected several years earlier than the EPZ resettlement, and is unrelated.

- As expected, Peam Krasaob turned out to be a poor community. According to many of the indicators used it occupies the bottom of the scale with Koh Poa. However, our income and expenditure data did not fall in line with this picture. Also, ownership of productive assets did not fit the picture. However, both of these "discrepancies" are explained by the main source of income of the majority of villagers: fishing on open sea[3]. The issue of determining "poor" communities is discussed in more detail in paragraph 7 of this methodology section. Here we limit ourselves to observing that field work resulted in a more diversified picture of poverty than the WFP map[4]. Differences between the level of poverty of Peam Krasaob and parts of randomly sampled Cham Yeam village (especially Spean Yol) and Bak Khlang villages (especially the living areas of day laborers dependent upon transporting good for the market), as well as large sections of urban Smach Meanchey – be it in terms of field observations or in terms of the indicators we used in the survey turned out to be less extreme than the WFP map suggested. All of this did not disqualify our decision to single out Peam Krasaob for a census approach, because its other characteristics, being the largest of the remote communities, depending to a much larger extent than any other of a particular type of fishing make for very interesting comparisons. And those comparisons were borne out by the opinion data.
- Koh Poa was indeed a fishing community but not homogeneously, part of its outlying residents turned out being cultivators. However, these were so far removed from the main village that they could not be interviewed. The other reasons to go for a census approach, it being the smallest rural community, living directly nearby the river, very poor and pretty much isolated from urban centers, were validated and reflected in the pattern of opinions of its residents.

The fourth community to be covered 100% also turned out to be problematic. According to government sources, there are 118 families with land titles or certificates, 48 of which know where their land is located within the site, and part of which used to own a house within the site. These households were assumed to have been resettled in the same location. However, the resettlement area identified in the first phase in fact consisted of two parts, a previously existing hamlet and the new resettlement along the road to the market place, called Can Reah. Can Reah only housed 20 households. The survey encountered another 21 physically resettled households in other parts of Nearng Kok, bringing the total to 43 within the census area, still very much in line with the original estimate. However, the fact that 5 resettled households were among the randomly sampled Cham Yeam interviewees indicates that part of the resettled population ended up close to the project site (as described above Cham Yeam is closer to the site than parts of Nearng Kok) but not within the village of Nearng Kok. Cheam Yeam not being a sampling unit of its own but being part of a larger geographic unit makes it impossible to give an accurate estimate of the resettled households within its borders.
This means that we cannot be sure that we actually covered them all, but assuming that most are still close to the project site (especially Cham Yeam re-settlers indicated that they were going to move again) the survey can still be expected to have covered most.
Also, the Bak Khlang, Dang Tong and Smach Meanchey samples contained one household each that had an ongoing compensation dispute with the government and identified themselves as re-settlers. However, these households probably never lived within the project site, and only owned land. It is not impossible[5] that also some of the households in Nearng Kok and/or Cham Yeam that identified themselves as having been re-settled from the site did not in fact permanently live on the site but only owned land. If this is the case, the actual number of physically resettled households would be very close to the official figure and we can be even more sure to have covered (nearly) all re-settled households.

2.5 Criteria for Sampling: multistage probability sampling for the representative samples

The first sampling stage was to take representative samples of both districts around the project site: Mundul Seima (excluding Nearng Kok, Koh Poa and Peam Krasaob) and Smach Meanchey. The reason not to conflate the non-census areas of both districts was that Mundul Seima is rural and Smach Meanchey is urban according to baseline 1998 census information (but see below). Within each district all villages were included. Identification of households was done on the basis of village maps made with the help of the village chief. A random starting point was chosen on the map and households were contacted along a route that ensured coverage of the whole village according to an interval proportionate to the size of the village.

[3] "Fishing at open sea" is not to be confused with "deep sea fishing" (with industrial trawlers as used by e.g. the Thai) but refers to fishing on the sea with bigger boats than the small boats that estuary subsistence fishers use, staying away by periods of a week or so at the time, reaching out to islands as far as Koh Sdach.
[4] on which Peam Krasaob is extremely poor compared to all other locations
[5] We only have the respondents' self-description as re-settlers to work with, and lack an objective check. In general self-description is considered valid. E.g a self-described relocation date before the decree on the EPZ had been officially signed (Feb. 2002), as was encountered in some cases is believable because resettlement procedures will have started before all official procedures were concluded.

Obviously, the combination of maps and knowledge of the approximate total number of households is second best to using up to date lists of all households as the basis for sampling. However, such lists did not exist. The census time required to produce them as a preparatory step in the fieldwork process was not available. Care was taken to query village chiefs about houses occupied by more than one household in order to take account of the most usual bias of using maps and houses as the basis of intervals[6].

The team encountered a minor problem regarding the definition of "household". In Cambodia, it is customary research practice to include long-term non-family household members, e.g. servants, in the household. The team found that some households in fishing communities had migrant adolescent boys, living on the boats. However, these were (self-)described as very mobile and considered short-termers. The team decided to *not* include these migrant youngsters in the survey because the purpose of the survey was to gather opinions of those who are "settled" enough to make the expectation that they have opinions on development priorities for the area realistic and meaningful.

2.6 Problems with the criteria for sampling: multistage probability sampling for the representative samples

The rural/urban classification is based on the 1998 census. This classification does not adequately reflect reality (anymore). The *urban* Smach Meanchey district contains several *semi-rural* areas. Especially Preaek Svay, parts of Stueng Veaeng and a Khmer Rouge resettlement village called Smach Ngam are semi-rural rather than urban. However, given their proximity to urban facilities they can be considered urban outskirts.

Equally, the *rural* Mundul Seima district contains *urbanized* areas, i.e. Bak Khlang 1 to 3, which have electricity, piped water, a very urban market, and most residents using electricity or gas for cooking. Also educational and health facilities are available. For Nearng Kok with its easy access of urban facilities the outskirts classification is most appropriate which leaves only Peam Krasaob, Tuol Kokir and Koh Poa as "*real*" rural areas.

The conclusion to be drawn is that the rural/urban background variable has its limits in analysis. To improve the analytic toolbox for distinguishing between opinions of rural and urban households we decided to introduce a weighted dummy variable for "real rural households" covering Peam Krasaob, Tuol Kokir and Koh Poa. That two of these three villages had been covered by a census approach made this dummy variable much more powerful.

The stratification procedure did not fully succeed in producing the aimed for proportions of sex and age categories. For sex this was to be expected. With fishing being such a dominant income earner and fishing being near exclusively male, many more women than men were expected to be at home. The under-representation of young and old adults was not anticipated. To ensure a maximum number of under-represented categories the within-household sampling procedure was not random (i.e. a random choice from the list of household members) but purposively.

Through this procedure enough individuals were interviewed within each age category to enable statistical analysis of the effect of age on opinions. Also, enough under-represented categories were in the sample to provide a solid basis for weighing the data according to the actual population pyramid of the area in order to ensure representativeness of the sample[7]. Regarding age, the youngest category (18-25) was expected to stand out in terms of their opinions. Therefore a dummy variable for that category was included.

A last issue that has to be mentioned is the difference between listed numbers of households/village and actual numbers. Obviously, this is only an issue for the areas that were surveyed using a census approach. But in reality, there were more (Nearng Kok) or less (Peam Krasaob) or inaccessible (Koh Poa) households to deal with.
Inaccessibility refers to remote agriculturalist households located up to 10 km away from the main village in the forest. Given the unavailability of local guides the team decided to skip these.

[6] During the fieldwork a list of houses per village was made to have a check on the list provided by the village chief.
[7] The lists of household members, a part of the questionnaire that is not affected by the sex and/or age of the respondent, provide the basis for the population pyramid.

The bigger or smaller number of households as compared to the lists reflects two local realities. First it indicates the extent of semi-permanent population of villages in this area. Many households, although owning houses, are in fact migrating with the seasons – e.g. spending the dry season as fishermen in the village – but moving to another place (often far away, e.g. Beantey Meanchey) during the rainy season, e.g. to cultivate their rice field. More prosaically it reflects the constant shifting of administrative boundaries, changing names and new settlements in this very migratory area. To give but two one pregnant example: nobody, including local authorities, was familiar anymore with the name Cham Yeam (even though the local school was called that way) that indicates a large village in the 1998 census. Today, this area is understood as being divided between two villages called Spean Yol and Phum Tmei[8].

In general the actual number of households currently present in the villages was somewhat smaller than the number of households on the lists. This implies that the intervals used for the random sampling of households in the non-census areas were always on the safe side. Thus the differences did not constitute a sampling problem.

3. Research Methodology

3.1 Questionnaire design

The first draft was produced by Dr. Hean Sokhom of CAS and refined in collaboration with the international consultants. The final draft consisted of three modules: 1/ The general view of interviewees on development alternatives for their area, 2/ Specific questions about the EPZ, and 3/household information.

3.2 Pre-testing and finalizing the questionnaire

The draft was pre-tested on 20 respondents from three different locations: eight from Nearng Kok Village including from the settlement area, six from Bak Khlang village 3, (fishermen and traders/shopkeepers), and six from village 3 of Smach Meanchey commune (many government staff and ex-Khmer rouge soldiers). The pre-test also considered sex and age. Apart from the usual objectives of questionnaire pre-tests (see below), a specific goal of this exercise was to determine the best sequencing of the three modules that the questionnaire consists of. This was done using a split-sample methodology.
Table 2 summarizes the respondent characteristics and version of questionnaire used in the pre-test:

Table 2: Sample of the pretest

Questionnaire version

Age of respondents / Location	Starting from EPZ Module				Starting from general H/H information Module			
	18-25	26-35	36-45	46-60	18-25	26-35	36-45	46-60
Nearng Kok	1M		1F		1F	1M		
Resettlement area		1F		1M		1F	1M	
Bak Khlang	1F	1M	1M			1M	1F	1F
Smach Mean Chey		1F	1M	1F	1M		1F	1M

\M=Male; F=Female

The general aims of the pre-test were:

- Determine the time necessary for the interview (aiming for one hour, see below)
- Improve the wording of the questions, if necessary
- Eliminate unnecessary questions or add new items, as the case may be
- Test question sequence and identify biases (see below)
- Correct and improve translation
- Change open-ended questions into multiple choice questions (e.g. development priorities, reasons for choosing particular options, potential benefits, and other EPZ related opinions)
- Find out which items are conceptually vague

[8] Another example is the EPZ zone resettlement area that turned out to consist of a new village (Can Reah) and an old village.

- Check accuracy and adequacy of the questionnaire instructions (e.g. general introduction – see below – and instructions not to read out multiple choice options but only use them for recording respondents answers)
- Determine whether the focus of the question is clear
- Identify interviewer's recording difficultiesApart from the general feedback on time needed (this resulted in cutting down the number of background variables included, i.c. the battery on health was reduced), wording and pre-coding input, the pre-test indeed clarified the best sequence for the three modules. Starting with the H/H module turned out to result in insufficient time and attention left for the crucial EPZ module. However, starting directly with this module very much influenced the mind set of interviewees and compromised their answers on development priorities in general. Therefore, the optimal sequencing involved splitting the H/H module into a short household member inventory, necessary to chose the actual interviewee, and all the other, time-consuming questions regarding income, jobs and expenditure of the household.

The questionnaire as actually used in the survey starts with the short inventory, followed by the (short) module on general development priorities, then continues with the crucial EPZ module, and finishes with the remaining household information.

3.3 Training of interviewers

Before the pre-test a first interviewer training was organized. But not all team members participated in the pre-test, and the questionnaire was revised n the basis of the pre-test so a second training was necessary. Training objectives were:

- Familiarize the team members with the format of the questionnaire, including the interrelationships between various questions;
- Ensure good understanding of the exact meaning of all questions and answer codes, including probing options and understanding of the relevance of each question in light of the general objectives of the survey;
- Ensure good understanding of how to record the information and opinions received.
- A reminder (all team members were experienced data collectors from CAS regular pool of enumerators) of proper behavior in the field.

The training made ample use of role-plays Two team members play the roles of interviewer and interviewee, while the others listen and record the answer individually. After the role play they exchange their work and verify each others questionnaires. Mistakes are counted and recorded for each individual from one role-play to another. This procedure enables the trainer to spot and work on the weaknesses of each enumerator and provides an objective indicator of both individual and group improvement. A mistake free last round at the end of the training is regarded as the first step in the process of quality control of the field work.

4. Data collection

4.1 Survey team and supervision

The team consisted of 12 members: two teams of five enumerators and one supervisor each. The size of the teams enabled the supervisor to sit in on approx. two interviews per enumerator per three days, making for a high number of observed interviews (approx. 20%). In addition to the regular supervision, the research coordinator conducted two spot checks of three days each. The supervisors also ensured proper execution of the household sampling procedure.

4.2 Contact with local authorities

Local authorities were informed about the work undertaken from the provincial level downwards to village level. At village level, the help of the village chief was asked to draw maps and indicate number and location of households in the village. In order to avoid any interference care was taken to ensure that the interviews themselves were always conducted without local authorities being present. Without exception, the team managed to avoid accompaniment of village chiefs or other government officials.

4.3 Quality control

Supervision is a crucial but not the only aspect of quality control. The other elements are:

- The questionnaire contained detailed interviewer instructions, spelling out what to do;
- A crucial part of this refers to the pre-coded (multiple answer) questions. Where appropriate the instructions explicitly remind the interviewer not to read out the options; full understanding and rehearsal of these instructions was part of the interview training;
- Where relevant, the interviewer training included concrete examples for non-suggestive probing and where possible, these were included in the above-mentioned instructions;
- Field editing: each enumerator was required to check completeness of the questionnaire before leaving the household. A second check was performed by the supervisor, and if necessary the enumerator was send back to clarify or complete information.

4.4 Replacement of households

Replacement of households proved only necessary in some cases in the outlying village of Tuol Kokir. When enquiries with neighboring households revealed that absent households were not expected to return the team had to go for replacements. In the other locations, where revisiting the selected households was possible, replacement could be avoided. The procedure followed to chose replacements was chose a new random starting point and repeat the interval procedure from there until the required number of households was covered.

As described earlier, in the village of Koh Poa it proved impossible to survey remote agriculturalist households in the forest.

5. Data coding and data entry

5.1 Data coding

Because coding of the data requires intimate understanding of the objectives of the survey this was done in-house before the questionnaires were handed over to the National Institute of Statistics (NIS) that took care of data entry. On the basis of the first batch of questionnaires returned to Phnom Penh a team of three researchers under the guidance of the research coordinator developed a detailed coding system for all open-ended questions.

5.2 Data entry

Data entry was outsourced to the NIS, that took care of the 1998 census and the regular Socio-Economic Household Surveys (that most important data-sets for the yearly UNDP country reports). The NIS has been the recipient of long-term capacity building and is equipped with professional material facilities by various major donors and shares its facilities with the Technical Unit of the Ministry of Planning, a major partner of UNDP for building local capacity to deal with research issues relating to poverty.

CAS and NIS collaborate with each other on a regular basis (CAS out-sources all its larger surveys to the NIS) and have established a tested working relationship.

The NIS performed a third editing check on the questionnaires before entering them into a database, using a data entry template specifically programmed for this questionnaire. The normal quality control instrument of double data entry was applied. The data set was only regarded as cleaned after two checking procedures, the first by the NIS and the second by CAS (using cross-tabulations on a selected set of variables to detect odd patterns).

5.3 Deletion

The strict quality control procedures ensured that all questionnaires collected were fit for inclusion in the data set. This means that the number of interviews conducted and the sample number of the dataset is the same.

6. Statistical analysis

Respondent opinions (and to a certain extent respondent knowledge) about the EPZ are analyzed in terms of their relationship with respondents' background. Where appropriate, the statistical significance of differences along the lines of major background variables is indicated. For some of the core opinions the interrelationships

between various backgrounders was further probed by regression analysis[9]. These relationships are reported upon in the section detailing the knowledge and opinion results.

The major background variables are:

- Sex of respondent (females constitute 4201 or 52.1% of the weighted total and males 3867 or 47.9 %)
- Rural/urban, based on the 1998 census classification but, as described above, replaced by a (weighted) dummy variable identifying "real rural households" (the respondents from Peam Krasaob, Koh Poa and Tuol Kokir, weighted number of respondents = 431 or 5.3% of the weighted total)
- Age of respondent. As described earlier, the youngest category (18-25 years) is singled out by constructing a dummy variable (1873 or 23.3% of the weighted total).
- Proximity to the site. A weighted dummy variable is constructed for those living closest to the site (the respondents of Nearng Kok and Cham Yeam, representing 1210 or 15% of the weighted total).
- Occupation of the respondent. A dummy variable is created to single out those whose main occupation is fishing or agriculture (1940 or 21.3% of the weighted total of respondents).
- Length of residence. A dummy variable is created to single out those that have lived in the project area always (2644 or 32.8 of the weighted total).
- Educational attainment of respondent. A dummy variable is created to single out those that have completed primary school or more (2747 or 34.1% of the weighted total).

Simple correlation analyses were performed for checking the reliability of various backgrounders (e.g. income expenditure, income and a limited number of consumer goods, income and education and income and housing characteristics). These are reported upon in the section on assets, income and expenditure.

7. Difficulties in generating a poverty profile of the project area and differentiating opinions according to poverty status

For Cambodia[10] the ongoing debate about how best to capture socio-economic inequalities is unresolved.

A first measure we have taken to deal with this problem was to go for a census approach of two remote rural communities that were identified by the WFP poverty map and observations in the field during the first mission as being poor. This in order to boost the number of rural poor and ensure adequate numbers in the total sample.

However, we were not in a position to follow the general trend to deal with the difficulties associated with identifying poor households. That trend is to include more and more household information in the poverty indicators but given our constraints on interview time (one hour/interview) this was a road we could not take. We had to rely on using a single per capita (food and non-food) expenditure indicator, based on a question that asked for expenditures over the last months for a list of 15 expenditure items. In order to improve the validity of the expenditure information enumerators were carefully instructed how to score respondent answers[11] and how to use information on income as a benchmark for the expenditure information and in case of a discrepancies resort to probing.

Also the resulting income and expenditure profiles were checked by regressing them on some basic backgrounders like education and main occupation.

[9] The regressions were done using the un-weighted dataset because the increased sample size of the weighted dataset implied that very small effects would still appear as significant. Where appropriate, dummies, continuous variables and both linear and non-linear assumptions were tested for.

[10] This is true for many countries and for countries where it is less of a problem there is still a fair level of arbitrariness involved.

[11] E.g. the previous month being April, the month of the Khmer New Year when households buy new clothes for the next year (i.e. this is a once-a-year purchase) , enumerators were instructed to divide the answers provided for the expenditure "clothing" by twelve.

The decision to tap expenditure information by asking for expenditure for the *previous* month was based on the generally accepted fact that both questions requiring respondents to estimate *average* monthly expenditure or *yearly* expenditure are notoriously unreliable. The essential pre-condition for extrapolating from thus generated monthly expenditure is that the month probed can be expected to represent an average figure for the household in question. Unfortunately this pre-condition was not met for all of the locations surveyed. Given the sources of income of the majority of households in Smach Meanchey, Nearng Kok, the other villages of Mundul Seima, and Koh Poa, the data generated allow us to calculate poverty incidence figures. However, for Peam Krasaob this proved not possible. A major reason is that sea fishing is a very seasonal source of income with related (very high) expenditures, e.g. for diesel, for food and other production related costs. The month probed, April, is a very high income and expenditure month that is in no way representative for other months[12]. Peam Krasaob is dominated by households that are involved in sea fishing.

The issue of sea fishing as the major explanatory variable for the un-representativeness of especially Peam Krasaob income and expenditure patterns has been checked by various means:

- Sea fishing presupposes (larger) sea worthy vessels. Field observations confirmed that the subsistence fishers of Koh Poa (selling any surplus on the local market) own small boats with which they can only fish the estuary[13]. This fishing is year round. Peam Krasaob and Bak Khlang (sea) fishers owned larger boats[14] that go out to sea and sell their catch directly to Thailand rather than on the local market. These boats are only in the water for approx. 6 months and are taken out for the remainder of the year.
- Cross-tabulation of high income/expenditure and fishery as primary occupation confirmed that income and expenditure patterns of sea fishers of Peam Krasaob and Bak Khlang matched and differed substantially from that of subsistence fishers.
- Cross-tabulation of high income/expenditure fishermen and indebtedness confirmed that the ownership of the productive asset "big boat" is closely associated with a high incidence of indebtedness. This shows that such "ownership" should not be equated with the absence of poverty, which is confirmed by the earlier described similarity between Peam Krasaob en Koh Poa in terms of non-monetary indicators of poverty. Table 3 below summarizes these similarities:

Table 3: Summary of non-monetary indicators of poverty

Non-monetary indicator of poverty	Nearng Kok	Koh Poa	Peam Krasaob	Other villages of Mundul Seima	Smach Meanchey
Rainwater as source of drinking water in the wet season	3	1	1	2	2
Pond as the source of drinking water in the dry season	4	5	1	2	3
Battery or kerosene lamp as lighting	3	1	2	4	5
Thatch roof house	2	1	1	2	3
Male educational attainment[15]	3	1	2	3	4
Female educational attainment	3	2	1	3	4
Access to health facilities	2	1	1	3	3
Ownership of TV	4	1	2	3	5
Totals	24	13	11	22	29

The figures in the table represent rank orders, the lower the number the more disadvantaged the community

[12] Information from fishermen, confirmed by the Ministry of Planning office, Koh Kong.
[13] Unfortunately, the question on assets did not distinguish between big and small boats with motor so that we cannot distinguish sea fishers from subsistence fishers in a straight forward way.
[14] Our questionnaire only probed the ownership of boats "with" and "without" motor. In other words, from our data we cannot deduce directly who owns a big boat or is employed on a big boat (which also generates high income and associated high expenditure because joining a sea fishing expedition is normally remunerated with a share of the profit of the catch). Therefore we used an income threshold of $ 200, which cannot be generated by subsistence fishing as a proxy and then checked if patterns of expenditure and indebtedness matched the assumption of sea fishing (and owning a bigger boat).
[15] Never went to school and/or primary incomplete

Obviously this table is just indicative and limited by what we measured, but, nevertheless, it shows the similarities between Koh Poa and Peam Krasaob and the extent to which these two stand out from the rest.

For the locations that the expenditure data can be expected to represent a yearly average, we have computed poverty incidence using the 1999 CSES food and non-food expenditure per capita poverty lines[16]. These are in need of revision but at present the best available.

The 1999 CSES used three poverty lines: Phnom Penh, other urban and rural. Other urban referred to the districts containing the provincial capitals. This matched reasonably well with population density figures, a good indicator of urbanization. As mentioned earlier, non-critically applying this classification at the scale of our project area results in a distorted picture of reality. Especially the classification of Nearng Kok and Bak Khlang as rural under this classification does not reflect the actual situation, neither in terms of access to urban facilities (educational and health, markets, electricity, piped water, etc.) nor in terms of population density. Therefore, In calculating the poverty incidence for Nearng Kok, we decided to use the "other urban" poverty line. For other villages of Mundul Seima we stuck to the rural classification because the contribution to the total of urbanized Bak Khlang alone is not sufficient reason to reclassify this whole area as urban because it is counterbalanced by rural Cham Yeam.

8. Sources of bias

To summarize the above in terms of possible biases, the following can be said:

- Interference of local authorities was successfully avoided.
- The unavailability of household lists as a basis for sampling is a potential source of bias because of the possibility of two households sharing one house. In as far as possible this source has been controlled by explicitly checking for this possibility with village chiefs.
- The decision not to include live-in migrant youngsters in fishing communities as members of the household is arbitrary and may be questioned.
- The rural/urban classification of the 1998 census is imprecise; use of this background variable has been limited.
- Calculating a single poverty indicator as a background variable proved impossible. We have limited ourselves to describing the project area in terms of available data and not attempted to relate poverty across the total sample as such to respondents' knowledge and opinions. However, the analysis by location (made possible by the application of a census approach to Peam Krasaob, Koh Pao and Nearng Kok) does generate a lot of relevant insights that can partially be related to the SES of their residents.

None of the difficulties described with the villages surveyed using a census approach influence the representativeness of the total sample. To ensure overall representativeness the following weighing factors are used:

- The sample village data are weighed with a factor proportionate to their contribution if they had been surveyed using a census approach.
- The actual current population pyramid of the area, as derived from the household information gathered by the survey, is used to weigh the answers of females/males and the various age-categories. (See annex: Weighting procedure)

[16] See poverty methodology section in the appendix

9. Collaboration UNDP consultants, CAS and NIS

Based on two meetings with UNDP consultants in week 8, and their detailed input regarding issues to be addressed by the survey instrument, sampling etc., CAS prepared a proposal for the household survey. This proposal was adjusted on the basis of a further meeting on March 26, and details regarding the pretest (e.g. split sample testing of different sequences for the various modules), sampling procedures, dealing with local stakeholders, etc. were agreed upon. Questionnaire design and adjustments on the basis of the pretest were dealt with through e-mail communication. Data-entry arrangements with experts from NIS were made by CAS and data-entry and cleaning supervised by the research coordinator. Analysis instructions of the UNDP consultant have been converted into dummy tables by CAS. In week 27, after completion of data entry, the UNDP consultant and CAS collaborated face to face over three sessions on optimizing the readability of the tabulations, on the selection of background variables to be used in analysis and the construction of appropriate dummies. One of the sessions included experts from NIS to establish a common understanding on all issues around tests of significance and regressions.

During week 33 and 34 the UNDP consultant, CAS and the NIS closely collaborated over a series of intensive meetings to clarify the data, analysis and arguments contained iin the preliminary draft of the Household Survey report. This resulted in a series of revisions of tables, additions of new tables, additional analyses to check for reliability and validity of certain assumptions and better understanding of particular findings (e.g. relating to poverty incidence in various locations).

II - HOUSEHOLD POPULATION

This survey collected information from the households living within a 15 kilometer distance from the area fenced in for the future Export Processing Zone (EPZ) in Koh Kong Province (including the provincial town) about their demographic and socio-economic characteristics and their knowledge and opinions on development priorities in general and issues surrounding the EPZ in particular. The survey covered a total of 1231 households by interviewing one respondent from each household. A household was defined as a person or group of persons who live together in the same dwelling unit(s) or in connected premises, who acknowledge one adult member as the head of the household, and who have common arrangements for cooking and eating meals. A person only occasionally and/or short-term staying within a household (e.g. looking for a job opportunity) was not considered a member of that household.

All tables in this report refer to weighted data to enable combining the information gathered in the three locations that were covered by a census approach and that collected from random samples in all other areas. To avoid the suggestion that "persons" are "respondents" (while they actually represent a weighted number of persons) we decided to report percentages in the tables. However, the first table below (table 4) shows the weighted numbers of people that these percentages refer to in order providing the reader with location specific bases of percentage references.

1. Demographic characteristics of households

Table 4 : Household population, by age group, sex and location

Percent distribution of the household population by five-year age group, sex and location. The totals by sex per location are also given in terms of weighted respondent numbers

Age Group	Whole Project Area				Age Group	Smach Meanchey			
	Male	Female	Total	Sex ratio		Male	Female	Total	Sex ratio
0-4	10.5	10.0	10.2	1.03	0-4	11.2	11.2	11.2	0.99
5-9	12.6	13.8	13.2	0.89	5-9	12.9	14.9	14.0	0.85
10-14	14.9	15.2	15.1	0.97	10-14	15.7	16.9	16.3	0.91
15-19	16.2	15.4	15.8	1.03	15-19	17.4	15.7	16.5	1.08
20-24	9.2	7.8	8.5	1.16	20-24	8.5	7.0	7.8	1.19
25-29	3.8	4.4	4.1	0.84	25-29	2.5	3.7	3.1	0.65
30-34	6.1	6.9	6.5	0.87	30-34	5.7	6.2	6.0	0.90
35-39	7.3	6.8	7.1	1.06	35-39	6.4	6.0	6.2	1.05
40-44	5.3	5.6	5.4	0.93	40-44	5.2	5.3	5.3	0.97
45-49	3.8	4.8	4.3	0.78	45-49	3.8	4.5	4.2	0.83
50-54	2.8	3.2	3.0	0.88	50-54	2.5	3.1	2.8	0.79
55-59	1.4	2.0	1.7	0.69	55-59	1.2	1.6	1.4	0.73
60-64	1.0	1.4	1.2	0.70	60-64	1.1	1.4	1.2	0.80
65-69	2.1	0.7	1.4	3.10	65-69	2.3	0.7	1.5	3.35
70-74	1.0	1.2	1.1	0.81	70-74	1.2	1.1	1.1	1.06
75-79	1.0	0.4	0.7	2.54	75-79	1.2	0.3	0.7	3.93
80 and over	0.9	0.5	0.7	1.79	80 and over	1.2	0.6	0.9	1.94
Total	100	100	100	0.98	Total	100	100	100	0.98
Total	21062	21444	42506		Total	14856	15174	30030	
Koh Kong province[17]	49.5	50.5		0.98					
Cambodia[18]	48.5	51.5		0.94					

[17] Ministry of Planning office, Koh Kong, as per January 2003

[18] National Institute of Statistics, *Population Projections for Cambodia, 2001 to 2021*, Phnom Penh

Age and sex are demographic attributes that are basic backgrounders for understanding social and economic conditions as well as people views on the world. For determining ages of household members the respondent was asked about their members' age in completed years. When the age was unknown, interviewers solicited the date of birth using the Khmer and the Gregorian calendars and subsequently calculating the age using conversion charts.

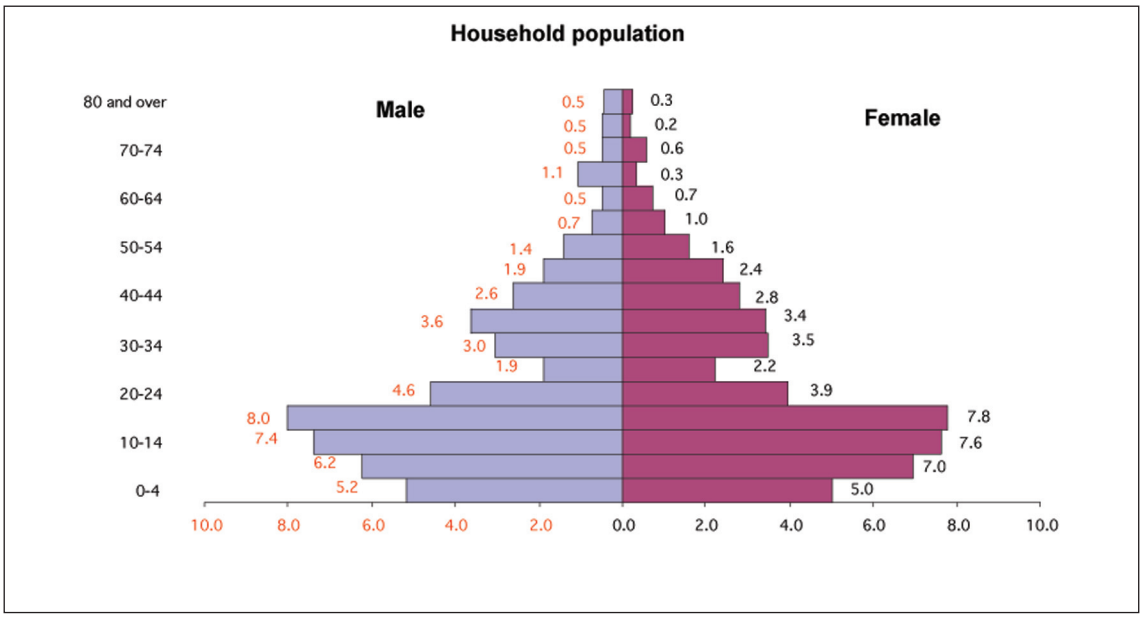
The total household population for the project survey area as generated through our weighing procedure is 42,506, a 3% decrease from the 43,880 observed by the provincial statistics in 2003. Sex ratios are quite similar across all locations and match the provincial figures (0.98%) which show less female surplus than the Cambodian average (0.94). The only outlier is Peam Krasaob which has a male surplus.

Age Group	Nearng Kok				Age Group	Other villages of Mundul Seima			
	Male	Female	Total	Sex ratio		Male	Female	Total	Sex ratio
0-4	12.8	10.5	11.7	1.21	0-4	7.3	5.7	6.5	1.28
5-9	15.2	12.1	13.6	1.23	5-9	11.2	10.7	10.9	1.03
10-14	12.3	15.5	13.9	0.78	10-14	13.1	10.0	11.5	1.29
15-19	10.2	12.0	11.1	0.84	15-19	14.5	15.6	15.0	0.92
20-24	10.0	9.7	9.8	1.01	20-24	11.0	9.8	10.4	1.11
25-29	5.3	6.2	5.8	0.85	25-29	7.0	6.4	6.7	1.08
30-34	7.5	7.4	7.5	1.00	30-34	7.1	9.0	8.1	0.78
35-39	8.6	6.1	7.3	1.40	35-39	9.9	9.4	9.6	1.03
40-44	6.1	7.0	6.6	0.87	40-44	4.8	5.9	5.4	0.80
45-49	5.1	6.3	5.7	0.79	45-49	3.6	5.4	4.5	0.65
50-54	3.7	2.4	3.1	1.50	50-54	3.9	3.7	3.8	1.03
55-59	1.9	1.9	1.9	1.00	55-59	2.2	3.5	2.8	0.62
60-64	0.7	1.1	0.9	0.63	60-64	0.6	1.5	1.1	0.38
65-69	0.3	0.8	0.5	0.33	65-69	2.1	0.7	1.4	2.94
70-74	0.1	0.5	0.3	0.25	70-74	0.7	1.8	1.2	0.38
75-79	0.0	0.1	0.1	0.00	75-79	0.7	0.7	0.7	0.97
80 and over	0.1	0.1	0.1	1.00	80 and over	0.4	0.3	0.4	1.00
Total	100	100	100	0.99	Total	100	100	100	0.98
Total	732	741	1473		Total	4807	4881	9688	

Age Group	Koh Poa				Age Group	Peam Krasaob			
	Male	Female	Total	Sex ratio		Male	Female	Total	Sex ratio
0-4	17.5	14.0	15.8	1.25	0-4	11.9	13.4	12.6	0.93
5-9	7.9	11.4	9.6	0.69	5-9	12.5	14.1	13.3	0.92
10-14	7.0	14.0	10.5	0.50	10-14	15.3	14.3	14.8	1.12
15-19	8.8	12.3	10.5	0.71	15-19	9.2	11.1	10.1	0.86
20-24	8.8	14.0	11.4	0.63	20-24	11.0	8.7	9.9	1.33
25-29	9.6	3.5	6.6	2.75	25-29	7.6	4.9	6.3	1.62
30-34	10.5	8.8	9.6	1.20	30-34	6.1	6.8	6.5	0.94
35-39	7.0	3.5	5.3	2.00	35-39	9.4	8.9	9.1	1.11
40-44	9.6	7.0	8.3	1.38	40-44	8.5	7.9	8.2	1.12
45-49	6.1	5.3	5.7	1.17	45-49	2.7	3.4	3.0	0.83
50-54	3.5	2.6	3.1	1.33	50-54	2.3	2.8	2.6	0.87
55-59	0.9	1.8	1.3	0.50	55-59	0.9	1.5	1.2	0.63
60-64	1.8	1.8	1.8	1.00	60-64	1.3	1.1	1.2	1.17
65-69	0.9	0.0	0.4		65-69	0.7	0.4	0.6	2.00
					70-74	0.2	0.6	0.4	0.33
					75-79	0.0	0.2	0.1	0.00
					80 and over	0.4	0.0	0.2	
Total	100	100	100	1.00	Total	100	100	100	1.04
Total	114	114	228		Total	554	531	1085	

What is most striking from a demographic point of view is the female deficit across the whole project area in the age category 15-24. An explanation would be that the dominant occupation across the area, fishing (see paragraph 3 below), is male dominated. Also other important employment options (armed and unarmed civil service, construction work, driving a car- boat- or moto-taxi) are mainly open to males. Major female niches have natural limits on their absorption capacities, e.g. looking after the house or selling. This means that young females looking for work are likely to consider out-migration as an option. The assumption of a fair bit of out-migration is supported by the finding that 15.5% of households reported that one of their members had worked outside their area during the last three months (see table 8), but the assumption of female out-migration is not supported by the finding that more males than females have worked elsewhere.

Figure 1: Population Pyramid



More than half of the household population (57.7%) is in the 15-64 age cohort. Nonetheless, the surveyed area continues to have a large dependent population of children and adolescents with about 38.5% being under 15 years.

The age structure of the households reflects the pattern evident in the 1998 census, with a distinct gap in the 25-29 year olds (the gap was in the 20-24 year-old group in 1998) - the cohort born between May/July 1973 and May/July 1978 when the country was in a state of civil war (Figure 1). During this time there were few births and there was unusually high infant and child mortality. The depressed numbers of males and females in this 25-29 cohort concomitantly distort several important demographic indicators, e.g. fertility, maternal mortality, and infant mortality.

A noteworthy difference per location is the ratio of young children (0-14 years): Smach Meanchey, Nearng Kok and Peam Krasaob are very close to the average of 39.2% but Koh Poa (35.9% and especially the other villages of Mudul Seima (28.9%) are below the average.

2. Household composition and summary characteristics

Table 5A: household composition summary table

		Survey area	Koh Kong[19]	Cambodia[20]	Cambodia[21]
Male household head		85.9	74.7	74.3	80.4
Female household head		14.1	25.3	25.7	19.6
Average of Female members		2.6	2.6	2.7	
Average of working members		2.4	2.1	2.2	
Male household head who completed primary education+		11.8	NA	NA	
Female household head who completed primary education+		1.9	NA	NA	
Disability		1.3			1.5
Average size of the household		5.3	5.2	5.2	5.3
Language spoken in the household	Khmer	93.4			
	Thai	1.6			
	Vietnamese	1.4			
	Chinese	0			
	Cham	3.6			

Households are predominantly male-headed in the whole project survey area (85.9%, see Table 5). Among the female-household heads 70.5% are widows. There are slightly more female-headed households in rural areas than in urban areas (see table 5A in the appendix I). The survey area has more male-headed households than the 1998 census for both the province as a whole and Cambodia.
Average household size is 5.4, a figure that is very close to the one of the 1998 population census (5.2). The average of working members is 2.4, slightly higher than the 1998 figures. Single-person households are uncommon at 1.6% (although more common than the 0.6% given in the 1999 CSES). The average number of female household members does not differ from the 1998 figure for the province.

Adopted or foster children are uncommon. Khmer is the common language spoken in the household (93%), with only a small proportion speaking other languages at home.

Noteworthy differences across locations are the below average sizes of households in Koh Poa (3.7) and the other villages of Mundul Seima (4.5), the average being 5.4 members per household, and the decreasing ratio of working members per household, the more urban the location becomes (From 58% of Peam Krasaob en 57% for Koh Poa, via 51% for Nearng Kok to only 41% for Smach Meanchey), a finding that reflects the larger proportion of working age people still at school in urban(ized) areas.

3. Employment and Migration

3.1 Main occupation of heads of households

Examining household heads' occupation (Table 6A) as a measure of socio-economic status, findings reveal that fisherman constitute a very dominant majority (27.9%), followed by working for government, selling, occasional day labor and other precarious jobs and transport and construction work. However, this profile is very much influenced by the fact that the overwhelming majority of household heads is male (85.9%, see table 5A). Male- and female household heads are characterized by quite different occupational profiles, with females predominantly active as sellers (35.1%) and looking after children and the house (30.5).

[19] 1998 census data. [20] 1998 census data
[21] 1999 CSES data

The vast majority of household heads (78.4%) said that they have no second occupation, which is considerably lower that the Cambodian average for the working population (35.5%)[22]. Amongst those who had a second

occupation, the majority mentioned occasional day labor, construction work or fishing, fruit /vegetable gardening as well as private transportation service (table 6E).

By location the survey reveals that fishery is the leading occupation of the male household head everywhere, but overwhelmingly so in Peam Krasaob (72.4%) and Koh Poa (67.7%).

As the occupation of the household head is a very strong determinant of the "kind" of household, this indicates the dominance of fishing in these two remote communities even better than the figures for the main occupation of the working population as a whole (see tables 6B-D). Geographical location is a main factor of differentiation between main occupations of household heads. For example, in urban Nearng Kok, besides fisheries (19.9%), taxi-driver (11.3%) construction work (9.6%), government service (9.6%) and vegetable/fruit gardening (9.6%) are the dominant occupations. In Smach Meanchey the number of armed and un-armed civil servants (13.8%) is even higher, but the proportion of taxi drivers (0.6%) and construction workers (4.7%) is much lower, while in the other villages of Mundul Seima, construction work is particularly dominant with 11.8%.

3.2 Main occupation of the active working population

The data on the main occupation of the total working population by and large confirms the picture that we derived from the main occupation of the heads of households. Looking after children and the house, be it as the partner of the household head ("housewife/man") or otherwise ("stay at home/home chores") is the most frequently mentioned occupation (17.4%, table 6B), but obviously with a very strong gender bias: 32.9% for females (6D) as opposed to only 1.3% for males. The most dominant occupations outside the home sphere are fishing (15.7%, 6B) and selling (13.4%), again with an evident gender bias: 26.3% of all males are fishermen (against only 5.6% of females), while 22% of females engage in selling activities (as against only 4.4% of males). Significant occupations for males are work in the transport sector (being a motor-taxi, car-taxi or boat-taxi driver: 6.8%), construction work (6.2%) and work for the government (in the civil service, with or without arms, 8.4%) Farm work and related activities is somewhat less important for males than for females (5.5% and 7.7% respectively), while females are a little less involved in very precarious income earning activities like occasional day labor, transporting goods around the village or between villages etc. (7% as against 9.3%).

Looking at the proportion of the working age population that is not engaged in income earning activities, it is interesting to note that this is considerably higher for males than for females (27.8% versus 19.7%) This is near totally caused by the proportion of young males of working age still at school. The male proportion of non-working individuals is so high that t significantly influences the percentages if these are recalculated taking only working individuals as their basis. E.g. the proportion of fishermen suddenly jumps from 26.3% to 33.6%, very comparable to the figure (31.2%) of male heads of household. This should be kept in mind when looking at table 6C.

As young females are expected to constitute the main labor force for the future EPZ we also had a closer look at their profile of occupations (6E). It is evident that quite a few are still at school (24.5%), that they are relatively less involved in home work (21.5% as opposed to 32.9% for females overall) and in selling (14.1% versus 22%). However, their unemployment figure is much higher that that of the whole female population of working age (11.3% versus 5.8%).

Second occupations (see tables 6F-H in the appendix I) are even more rare for the general population of working age than for household heads (for only 12.6% of males and 8.4% of females a second occupation was mentioned as opposed to the 21.6% of household heads). Given the 1999 CSES figure of 35.5% this leads to the conclusion that the survey area is significantly different in this respect. Looking at those who mentioned second occupations, two things warrant pointing out.

First of all, the importance of fishing for Koh Poa and Peam Krasaob is evident in the figures for second occupations as well. 9.3% of male Koh Poa working age residents and 4.6% of those in Peam Krasaob mentioned fishing. Even more remarkable is the fact that Koh Poa stands out from all the rest by its much higher percentage of working age residents mentioning a second occupation (44% of males and 21.7% of females mentioned one). The major reason for this is the importance of farming related activities for Koh Poa. 26.6% of the males are engaged in those as a second occupation, much more than the 14.7% that mentioned it as their main occupation. This finding is significant in light of the importance attached to agricultural extension as a development priority in Koh Poa, reported upon later.

[22] 1999 CSES.

Table 6A: main occupation of Household head

Main Occupation	Total	Male	Female	Nearng Kok	Koh Poa	Peam Krasaob	Other villages of Mundul Seima	Smach Meanchey
House wife/man	3.4	0.2	22.8	3.8	0.0	3.6	3.7	3.3
Stay at home/home chores	1.5	0.5	7.6	1.7	0.0	3.1	1.5	1.4
Home work	**4.9**	**0.7**	**30.5**	**5.5**	**0.0**	**6.6**	**5.3**	**4.7**
Fisherman	**27.9**	**31.2**	**7.8**	**19.9**	**67.7**	**72.4**	**31.0**	**25.0**
Seller in the Thai market	0.1	0.1	0.1	0.7	0.0	0.5	0.3	0.0
Seller in a market	2.8	3.1	1.1	0.0	0.0	0.0	0.9	3.9
Seller in the village	8.4	4.3	33.2	7.6	1.6	4.6	8.4	8.6
Food preparation and selling	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Sell lucky draw lottery	0.2	0.2	0.6	0.0	0.0	0.0	0.9	0.0
Selling	**11.6**	**7.7**	**35.1**	**8.6**	**1.6**	**5.1**	**10.6**	**12.5**
Agricultural day laborer	2.1	2.1	1.8	2.1	3.2	6.1	0.6	2.5
Animal raising	0.4	0.4	0.2	1.7	3.2	0.5	0.3	0.3
Rice Agriculture	1.2	1.2	1.3	0.0	1.6	0.0	3.7	0.3
Vegetable garden/fruits	3.2	3.4	2.5	9.6	1.6	0.5	3.1	3.0
Charcoal maker	0.6	0.6	0.7	0.3	1.6	0.0	1.5	0.3
Common property resource gathering	0.3	0.2	0.7	0.7	0.0	0.5	0.9	0.0
Farming and related activities	**7.8**	**7.9**	**7.2**	**14.4**	**11.3**	**7.7**	**10.3**	**6.4**
Civil servant	7.1	8.0	1.9	4.8	1.6	3.6	2.8	9.2
Police/ army/gendarmerie	5.4	6.3	0.0	4.8	4.8	0.5	3.4	6.4
(Un)armed govt employee	**12.5**	**14.2**	**1.9**	**9.6**	**6.5**	**4.1**	**6.2**	**15.5**
Moto-Dop	5.5	6.4	0.1	5.8	0.0	0.0	4.1	6.4
Taxi Boat	1.5	1.8	0.0	1.0	0.0	1.0	0.6	2.0
Taxi	0.8	0.9	0.0	11.3	0.0	0.0	0.0	0.6
Transport	**7.8**	**9.1**	**0.1**	**18.2**	**0.0**	**1.0**	**4.7**	**8.9**
Construction worker	**6.6**	**7.3**	**2.7**	**9.6**	**1.6**	**0.0**	**11.8**	**4.7**
Other worker in Casino	0.9	1.0	0.0	1.7	0.0	0.0	3.1	0.0
Private company staff	0.8	0.9	0.0	1.0	0.0	0.0	0.6	0.8
Carpenter	0.8	0.9	0.6	0.7	0.0	0.0	0.9	0.8
Craft work	0.9	1.1	0.0	0.0	0.0	0.0	0.0	1.4
Money lender	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Electronic repair	0.3	0.4	0.0	0.0	0.0	0.0	0.6	0.3
Casino dealer	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.0
Sewing at home	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Beauty shop/barber	0.3	0.3	0.0	0.0	0.0	0.0	0.3	0.3
Mechanical repair	0.2	0.3	0.0	1.0	0.0	0.0	0.0	0.3
Electrician	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Traditional metal tool maker	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.3
Sewing at a workshop	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Metal works (welding etc)	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.0
Music	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.8
Other occupations	**5.2**	**6.0**	**0.6**	**5.5**	**0.0**	**0.5**	**6.2**	**5.0**
Seller in someone else's business	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Transporting goods within and between the village	1.3	1.5	0.0	0.3	0.0	0.5	0.6	1.7
Recycle business	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.8
Others = occasional day labor	8.1	7.8	10.0	4.8	8.1	0.5	3.7	10.3
Beggar	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.0
Day laborer at the border	0.7	0.7	0.6	0.7	0.0	1.0	2.5	0.0
Precarious labor situation	**10.7**	**10.8**	**10.6**	**5.8**	**8.1**	**2.6**	**7.1**	**12.8**
Unemployment	1.2	1.3	0.6	1.0	1.6	0.0	2.2	0.8
Remittances from relatives	0.8	0.4	2.6	1.0	0.0	0.0	0.6	0.8
None	1.0	1.1	0.0	0.0	1.6	0.0	1.5	0.8
Labor reserve	**2.9**	**2.9**	**3.3**	**2.1**	**3.2**	**0.0**	**4.3**	**2.5**
Unable to work	2.0	2.3	0.2	0.7	0.0	0.0	2.5	2.0
Not on the labor market	**2.0**	**2.3**	**0.2**	**0.7**	**0.0**	**0.0**	**2.5**	**2.0**

Table 6B: main occupation of the active working population: both sexes aged 15-59

Main occupation	Nearng Kok	Koh Poa	Peam Krasaob	Other villages of Mundul Seima	Smach Meanchey	Whole project area
House wife/man	15.8	11.1	14.3	15.9	12.3	13.4
Stay at home/home chores	4.3	10.4	15.4	3.7	3.6	4.0
Home work	**20.0**	**21.5**	**29.6**	**19.7**	**15.9**	**17.4**
Fisherman	**12.7**	**42.4**	**42.9**	**18.2**	**13.6**	**15.7**
Seller in the Thai market	0.5	0.0	1.1	0.3	0.4	0.4
Seller in a market	1.3	0.7	0.0	1.4	4.3	3.3
Seller in the village	7.0	0.7	6.6	10.0	9.5	9.4
Food preparation and selling	1.0	0.0	0.2	0.0	0.1	0.1
Sell lucky draw lottery	0.5	0.0	0.0	0.6	0.1	0.2
Selling	**10.2**	**1.4**	**7.9**	**12.2**	**14.4**	**13.4**
Agricultural day laborer (regular)	2.0	3.5	4.6	0.5	2.5	2.0
Animal raising	1.4	1.4	0.2	0.2	1.6	1.1
Rice Agriculture	0.2	6.3	0.3	2.3	0.2	0.8
Vegetable garden/fruits	6.6	2.8	0.5	3.0	1.6	2.1
Charcoal maker	0.7	0.7	0.0	1.0	0.1	0.4
Common property resource gathering	1.3	1.4	0.2	0.5	0.0	0.2
Farming and related activities	**12.1**	**16.0**	**5.8**	**7.4**	**5.9**	**6.6**
Civil servant	2.2	1.4	1.6	1.3	3.8	3.0
Police/ army/gendarmerie	2.2	2.1	0.2	1.1	2.2	1.8
(Un)armed govt employee	**4.4**	**3.5**	**1.8**	**2.4**	**6.0**	**4.8**
Moto-dop	2.5	0.0	0.0	2.0	2.9	2.6
Taxi Boat	0.3	0.0	0.2	0.4	0.6	0.5
Taxi	4.3	0.0	0.0	0.0	0.2	0.3
Transport	**7.1**	**0.0**	**0.2**	**2.5**	**3.6**	**3.3**
Construction worker	**5.8**	**0.7**	**0.0**	**6.8**	**2.3**	**3.5**
Restaurant and service industry	0.1	0.0	0.3	0.2	0.0	0.1
Other worker in Casino	1.4	0.0	0.0	2.0	0.1	0.6
Private company staff	0.5	0.0	0.0	0.6	0.4	0.5
Carpenter	0.3	0.0	0.0	0.3	0.3	0.3
Craft work	0.0	0.0	0.0	0.0	0.5	0.3
Money lender	0.3	0.0	0.0	0.0	0.3	0.2
Entertainment dancing and music	0.0	0.0	0.2	0.1	0.2	0.2
Electronic repair	0.0	0.0	0.2	0.3	0.1	0.2
Casino dealer	0.7	0.0	0.2	0.4	0.1	0.2
Sewing at home	0.3	0.0	0.2	0.2	0.4	0.3
Beauty shop/barber	0.3	0.0	0.3	0.4	0.1	0.2
Mechanical repair	0.6	0.0	0.0	0.0	0.1	0.1
Electrician	0.1	0.0	0.0	0.0	0.1	0.0
Traditional metal tool maker	0.0	0.0	0.0	0.0	0.1	0.0
Sewing at a workshop	0.6	0.0	0.2	0.0	0.1	0.1
Metal works (welding etc)	0.0	0.0	0.0	0.1	0.1	0.1
Other occupations	**5.3**	**0.0**	**1.4**	**4.6**	**2.9**	**3.4**
Seller in someone else's business	0.2	0.0	0.3	0.2	0.4	0.3
Transporting goods within and between villages	0.1	0.0	0.3	0.5	0.9	0.7
Recycle business	0.0	0.0	0.3	0.0	0.3	0.2
Others = occasional day labor	5.2	4.9	1.6	4.0	6.8	5.9
Beggar	0.0	0.0	0.0	0.1	0.0	0.0
Day laborer at the border	2.0	0.0	0.6	2.5	0.4	1.0
Precarious labor situation	**7.5**	**4.9**	**3.2**	**7.3**	**8.8**	**8.2**
Unemployment	4.4	2.8	2.2	8.1	4.1	5.1
Remittances from relatives	0.2	0.0	0.0	0.3	0.4	0.4
None	2.6	2.8	1.3	1.4	2.7	2.3
Labor reserve	**7.2**	**5.6**	**3.5**	**9.8**	**7.2**	**7.8**
Unable to work (disability or age)	0.3	0.0	0.6	1.6	1.0	1.1
At school	7.4	4.2	3.0	7.6	18.5	14.7
Not on the labor market	**7.7**	**4.2**	**3.7**	**9.2**	**19.5**	**15.9**

Table 6C: main occupation of the active working population: Males aged 15-59

Main occupation	Nearng Kok	Koh Poa	Peam Krasaob	Other villages of Mundul Seima	Smach Meanchey	Whole project area
Fisherman	**20.3**	**58.7**	**75.5**	**31.5**	**22.3**	**26.3**
Civil servant	4.0	2.7	2.5	2.1	5.9	4.7
Police/ army/gendarmerie	4.2	4.0	0.3	2.3	4.4	3.7
(Un)armed govt employee	**8.2**	**6.7**	**2.8**	**4.5**	**10.2**	**8.4**
Moto-dop	5.1	0.0	0.0	4.3	5.9	5.2
Taxi Boat	0.7	0.0	0.3	0.9	1.1	1.0
Taxi	8.6	0.0	0.0	0.0	0.4	0.6
Transport	**14.5**	**0.0**	**0.3**	**5.2**	**7.4**	**6.8**
Agricultural day laborer (regular)	2.1	5.3	2.8	0.4	2.6	2.0
Animal raising	0.7	1.3	0.3	0.2	0.1	0.2
Rice Agriculture	0.2	5.3	0.3	3.0	0.0	0.8
Vegetable garden/fruits	7.2	1.3	0.6	2.8	1.3	1.9
Common property resource gathering	0.9	0.0	0.3	0.4	0.0	0.1
Charcoal maker	0.7	1.3	0.0	1.1	0.1	0.4
Farming and related activities	**11.9**	**14.7**	**4.3**	**7.8**	**4.2**	**5.5**
Construction worker	**9.1**	**1.3**	**0.0**	**11.9**	**4.1**	**6.2**
Seller in the Thai market	0.2	0.0	0.3	0.4	0.0	0.1
Seller in a market	0.2	0.0	0.0	0.4	2.4	1.7
Seller in the village	2.3	0.0	1.5	2.4	2.5	2.4
Food preparation and selling	0.5	0.0	0.0	0.0	0.0	0.0
Sell lucky draw lottery	0.0	0.0	0.0	0.4	0.1	0.2
Selling	**3.3**	**0.0**	**1.9**	**3.5**	**5.0**	**4.4**
Money lender	0.2	0.0	0.0	0.0	0.0	0.0
Sewing at a workshop	0.2	0.0	0.3	0.0	0.0	0.0
Sewing at home	0.2	0.0	0.0	0.0	0.0	0.0
Casino dealer	1.2	0.0	0.3	0.2	0.0	0.1
Other worker in Casino	1.4	0.0	0.0	2.3	0.0	0.7
Beauty shop/barber	0.5	0.0	0.0	0.4	0.1	0.2
Entertainment dancing and music	0.0	0.0	0.3	0.2	0.4	0.3
Private company staff	0.9	0.0	0.0	1.1	0.8	0.9
Electronic repair	0.0	0.0	0.3	0.5	0.3	0.3
Mechanical repair	1.2	0.0	0.0	0.0	0.1	0.1
Electrician	0.2	0.0	0.0	0.0	0.1	0.1
Carpenter	0.7	0.0	0.0	0.4	0.6	0.5
Traditional metal tool maker	0.0	0.0	0.0	0.0	0.1	0.1
Metal works (welding etc)	0.0	0.0	0.0	0.2	0.1	0.1
Craft work	0.0	0.0	0.0	0.0	0.6	0.4
Other occupations	**6.8**	**0.0**	**1.2**	**5.2**	**3.3**	**3.9**
House wife/man	0.2	0.0	1.5	0.7	0.4	0.5
stay at home/home chores	1.9	1.3	1.2	0.9	0.7	0.8
Home work	**2.1**	**1.3**	**2.8**	**1.6**	**1.1**	**1.3**
Beggar	0.0	0.0	0.0	0.2	0.0	0.1
Others = occasional day labor	5.1	8.0	1.9	3.5	7.5	6.2
Recycle business	0.0	0.0	0.0	0.0	0.4	0.3
Seller in some else's business	0.5	0.0	0.3	0.5	0.4	0.4
Day laborer at the border	2.3	0.0	0.9	3.3	0.3	1.2
Transporting goods within and between villages	0.2	0.0	0.6	0.5	1.6	1.2
Precarious labor situation	**8.2**	**8.0**	**3.7**	**8.0**	**10.1**	**9.3**
Unemployment	4.2	4.0	0.9	7.9	3.3	4.4
Remittances from relatives	0.2	0.0	0.0	0.4	0.1	0.2
None	2.3	1.3	1.9	2.2	3.1	2.8
Labor reserve	**6.8**	**5.3**	**2.8**	**10.4**	**6.5**	**7.4**
Unable to work (disability or age)	0.2	0.0	0.6	1.6	1.0	1.1
At school	8.6	4.0	4.0	8.8	24.7	19.3
Not on the labor market	**8.9**	**4.0**	**4.6**	**10.4**	**25.7**	**20.4**

Table 6D: main occupation of the active working population: Females aged 15-59

Main occupation	Nearng Kok	Koh Poa	Peam Krasaob	Other villages of Mundul Seima	Smach Meanchey	Whole project area
House wife/man	30.8	23.2	27.9	29.8	23.9	25.8
Stay at home/home chores	6.6	20.3	30.6	6.3	6.5	7.1
Home work	**37.4**	**43.5**	**58.5**	**36.1**	**30.3**	**32.9**
Seller in the Thai market	0.7	0.0	2.0	0.2	0.9	0.7
Seller in a market	2.3	1.4	0.0	2.3	6.1	4.8
Seller in the village	11.6	1.4	12.0	16.8	16.3	16.1
Food preparation and selling	1.6	0.0	0.3	0.0	0.1	0.2
Sell lucky draw lottery	0.9	0.0	0.0	0.8	0.0	0.3
Selling	**17.0**	**2.9**	**14.3**	**20.1**	**23.5**	**22.0**
Agricultural day laborer	1.8	1.4	6.6	0.6	2.3	1.9
Animal raising	2.0	1.4	0.0	0.2	2.9	2.1
Rice Agriculture	0.2	7.2	0.3	1.6	0.5	0.8
Vegetable garden/fruits	5.9	4.3	0.3	3.1	1.9	2.4
Charcoal maker	0.7	0.0	0.0	1.0	0.0	0.3
Common property resource gathering	1.6	2.9	0.0	0.6	0.0	0.2
Farming and related activities	**12.2**	**17.4**	**7.3**	**7.1**	**7.6**	**7.7**
Fisherman	**5.2**	**24.6**	**8.0**	**6.1**	**5.1**	**5.6**
Money lender	0.5	0.0	0.0	0.0	0.6	0.4
Private company staff	0.0	0.0	0.0	0.2	0.0	0.1
Sewing at a workshop	0.9	0.0	0.0	0.0	0.3	0.2
Sewing at home	0.5	0.0	0.3	0.4	0.7	0.6
Casino dealer	0.2	0.0	0.0	0.6	0.1	0.3
Other worker in Casino	1.4	0.0	0.0	1.7	0.1	0.6
Beauty shop/barber	0.2	0.0	0.7	0.4	0.1	0.2
Carpenter	0.0	0.0	0.0	0.2	0.0	0.1
Craft work	0.0	0.0	0.0	0.0	0.4	0.3
Restaurant and service industry	0.2	0.0	0.7	0.4	0.0	0.1
Other occupations	**3.9**	**0.0**	**1.7**	**4.0**	**2.4**	**2.9**
Civil servant	0.5	0.0	0.7	0.6	1.8	1.4
Police/ army/gendarmerie	0.2	0.0	0.0	0.0	0.0	0.0
(Un)armed govt. employee	**0.7**	**0.0**	**0.7**	**0.6**	**1.8**	**1.4**
Construction worker	**2.5**	**0.0**	**0.0**	**2.1**	**0.5**	**1.0**
Others = occasional day labor	5.2	1.4	1.3	4.5	6.2	5.6
Day laborer at the border	1.6	0.0	0.3	1.7	0.5	0.9
Recycle business	0.0	0.0	0.7	0.0	0.1	0.1
Transporting goods within and between the village	0.0	0.0	0.0	0.4	0.1	0.2
Seller in some else's business	0.0	0.0	0.3	0.0	0.3	0.2
Precarious labor situation	**6.8**	**1.4**	**2.7**	**6.6**	**7.4**	**7.0**
Unemployment	4.5	1.4	3.7	8.3	4.9	5.8
Remittances from relatives	0.2	0.0	0.0	0.2	0.7	0.6
None	2.9	4.3	0.7	0.7	2.3	1.8
Labor reserve	**7.7**	**5.8**	**4.3**	**9.2**	**7.9**	**8.2**
Unable to work	0.5	0.0	0.7	1.6	1.1	1.2
At school	6.1	4.3	2.0	6.6	12.5	10.3
Not on the labor market	**6.6**	**4.3**	**2.7**	**8.2**	**13.5**	**11.5**

Table 6E: main occupation of the active working population: Females aged 15-24

Main occupation	Nearng Kok	Koh Poa	Peam Krasaob	Other villages of Mundul Seima	Smach Meanchey	Whole project area
House wife/man	15.3	12.5	19.3	16.4	8.8	11.2
Stay at home/home chores	5.3	21.9	30.7	7.7	10.7	10.3
Home work	**20.6**	**34.4**	**50.0**	**24.1**	**19.5**	**21.5**
Seller in the Thai market	0	0	3.5	0.0	1.3	0.9
Seller in a market	1.8	3.1	0.0	2.7	4.8	4.1
Seller in the village	4.7	0.0	6.1	10.7	8.3	8.7
Food preparation and selling	0.6	0.0	0.0	0.0	0.3	0.2
Sell lucky draw lottery	1.2	0.0	0.0	0.5	0.0	0.2
Selling	**8.2**	**3.1**	**9.6**	**13.9**	**14.7**	**14.1**
Agricultural day laborer	2.9	0.0	9.6	1.0	3.6	3.0
Animal raising	2.4	0.0	0.0	0.0	2.6	1.9
Rice Agriculture	0.6	3.1	0.0	0.0	0.0	0.0
Vegetable garden/fruits	2.9	3.1	0.0	2.4	0.9	1.4
Charcoal maker	0.6	0.0	0.0	0.5	0.0	0.2
Common property resource gathering	1.2	3.1	0.0	0.5	0.0	0.2
Farming and related activities	**10.6**	**9.4**	**9.6**	**4.4**	**7.1**	**6.6**
Fisherman	**5.9**	**34.4**	**9.6**	**5.3**	**5.2**	**5.5**
Sewing at a workshop	1.2	0.0	0.0	0.0	0.3	0.3
Sewing at home	0.6	0.0	0.9	0.5	1.3	1.0
Casino dealer	0.6	0.0	0.0	0.5	0.3	0.4
Other worker in Casino	3.5	0.0	0.0	2.4	0.3	1.0
Restaurant and service industry	0.6	0.0	1.8	1.0	0.0	0.3
Beauty shop/barber	0.6	0.0	0.9	0.5	0.3	0.4
Craft work	0.0	0.0	0.0	0.0	0.6	0.4
Other occupations	**7.1**	**0.0**	**3.5**	**5.0**	**3.2**	**3.8**
Construction worker	**4.1**	**0.0**	**0.0**	**3.2**	**0.7**	**1.4**
Civil servant	0.6	0.0	0.9	0.5	1.0	0.9
Police/ army/gendarmerie	0.6	0.0	0.0	0.0	0.0	0.0
(Un)armed govt employee	**1.2**	**0.0**	**0.9**	**0.5**	**1.0**	**0.9**
Seller in some else's business	0.0	0.0	0.9	0.0	0.7	0.5
Transporting goods within and between the village	0.0	0.0	0.0	0.0	0.3	0.2
Day laborer at the border	3.5	0.0	0.9	2.7	1.3	1.7
Others = occasional day labor	6.5	0.0	0.9	4.4	4.4	4.4
Precarious labor situation	**10.0**	**0.0**	**2.6**	**7.0**	**6.7**	**6.7**
Unemployment	11.2	0.0	6.1	17.7	9.2	11.3
Remittances from relatives	0.0	0.0	0.0	0.0	0.7	0.5
None	5.3	9.4	1.8	1.2	3.1	2.7
Labor reserve	**16.5**	**9.4**	**7.9**	**18.9**	**13.0**	**14.5**
At school	15.9	9.4	5.3	16.5	28.6	24.5
Unable to work	0.0	0.0	0.9	1.0	0.3	0.5
Not on the labor market	**15.9**	**9.4**	**6.1**	**17.6**	**28.9**	**25.0**

3.3 Migration and labor mobility

People were asked how long they have been living in their current location. Only one third of the population said that they had always been here. Another large proportion has been residing in the area for 5 years or more (51.8%). The proportion of newcomers (less than two year in the surveyed area) is quite small (7%). Newcomers reported that they moved to Koh Kong for work (either business or employment). About 2.1% moved to the locality to gain access to land.

Table 7: Length of residence and reasons for immigration to Koh Kong

	Nearng Kok	Koah Poa	Peam Krasaob	Other villages of Mundul Seima	Smach Meanchey	Whole project area
Length of residence in Locality (Q401)						
Have always lived here	31.6	37.1	30.6	29.5	34.2	32.8
5 years or more	45.0	41.9	50.0	47.8	53.9	51.8
Two years or more	10.7	6.5	12.8	12.4	6.7	8.5
Less than two years	12.7	14.5	6.6	10.3	5.3	7.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Reason of Immigration (Q 402)						
Employment/Business	64.8	59.0	73.5	79.7	80.6	79.4
Family reasons	22.1	28.2	22.8	16.3	15.6	16.3
Loss of land	4.5	0.0	0.0	2.2	0.0	0.8
Acquisition of lands	6.0	12.8	0.0	1.3	2.1	2.1
Others	2.5	0.0	3.7	0.5	1.7	1.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

People were also asked (see table 8A) whether they or some of their family members had temporarily worked elsewhere in the last 3 months. Fifteen percent of respondents claimed temporary out-migration, with reportedly more male (59.7%) than female household members (20.4%) moving. Although this does not match the earlier indicated assumption of young females out-migrating our limited probing of labor migration does not allow for in-depth conclusions. E.g we do not know the sex distribution of the duration for which household members migrated out. Among those who migrated, a large proportion (54 %) went to Thailand, followed by Phnom Penh and other provinces. More than 30% of respondents said that their household members worked outside Koh Kong province for more than two years already, while 41.2% had been working outside for less than 12 months (see table 8B).

Table 8A: H/H members having worked outside during the last three months (out-migration)

	Nearng Kok	Koah Poa	Peam Krasaob	Other villages of Mundul Seima	Smach Meanchey	Whole project area
Yes	24.4	6.5	14.8	20.5	13.3	15.6
No	75.6	93.5	85.2	79.5	86.7	84.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Male	46.5	75.0	58.6	60.6	60.4	59.7
Female	35.2	0.0	24.1	27.3	14.6	20.4
Both	18.3	25.0	17.2	12.1	25.0	19.9
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table 8B labor mobility of household members, per location by destination

Location	Phnom Penh	Other provinces	Thailand	Vietnam	Other places	Total
Whole project area	17.1	25.3	54	1	2.5	**100**
Nearng Kok	4.6	5.0	6.5	-	3.1	5.6
Koh Poa	-	1.3	-	-	-	0.3
Peam Krasaob Commune	2.3	1.9	2.5	-	3.1	2.4
Other villages of Mundul Seima district	31.0	35.5	36.2	100.0	-	34.9
Smach Meanchey District	62.0	56.3	54.9	-	93.8	56.9
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
II Duration of work						
1-3 months	27.3	24.8	30.7	-	-	27.5
3-6 months	0.5	5.3	17.0	-	46.9	11.8
6-12 months	0.5	5.0	1.0	-	-	1.9
1-2 years	50.0	28.0	21.3	-	-	27.1
+2 years	21.8	36.8	30.0	100.0	53.1	31.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Percentages in this table refer to the 15.6% of households that indicated out-migrating family members

Some 34.5 % also mentioned that their household members had looked for a job during the last 12 months, especially the residents of Nearng Kok and Cham Yeam, the villages nearest to the EPZ site. (See table 8C in the appendix I).

4. Education and Health

4.1 Availability and Access to schools

All villages have primary schools but all remoter rural locations (Peam Krasaob, Koh Poa, and Tuol Kokir) lack primary schools that go beyond grades 3 or 4.

In the whole survey area there is only one secondary school, in urban Smach Meanchey.

Table 9: Schools in the project area by location and type

Location	Primary Schools				Secondary school
	Up to Grade 2	Up to Grade 3	Up to Grade 4	Up to grade 6	
Nearng Kok				1	
Peam Krasaob	1		1		
Koh Poa		1			
Other villages of Mundul Seima	2 (1)		1 (2)	2 (3)	
Smach Meanchey		1		5	1(4)

(1) = in Tuol Kokir *(2) = in Tuol Kokir*
(3) = In Cham Yeam and Bak Khlang *(4) = lower and higher*

For the schools that are within reach, many are within walking distance so that more than half of children go to school on foot (62.2%). The proportion of children who walk to school is higher in Peam Krasaob, Koh Poa and other villages of Mundul Seima. Bicycle is also an important means of transportation for children (40.8%). A smaller number used a motorcycle (9.9%). Using a Motor-taxi to go to school is not common for children in the surveyed area (see table 9B in the appendixI).

4.2 Educational attainment

Table 10A: Educational attainment of household population: male

Background Characteristics	Level of education							
	Never went to school	Primary incomplete	Primary complete	Lower secondary incomplete	Lower secondary complete	Higher secondary incomplete	Higher secondary complete	Total
Age								
6- 9	28.4	71.3	0.3	0.0	0.0	0.0	0.0	100.0
10 – 14	3.1	86.6	6.6	3.6	0.1	0.0	0.0	100.0
15 – 19	5.5	43.3	21.8	20.4	3.0	4.5	1.3	100.0
20 – 24	9.3	36.8	18.6	14.5	6.2	6.0	8.6	100.0
25 – 29	15.3	38.2	18.6	11.1	3.4	5.3	8.2	100.0
30 – 34	10.2	40.5	16.1	9.4	9.5	1.6	12.8	100.0
35 – 39	11.2	39.3	14.7	9.4	10.9	4.6	9.8	100.0
40 – 44	17.3	45.9	6.8	15.1	7.8	2.1	5.0	100.0
45 – 49	14.4	54.9	12.7	14.7	3.1	0.0	0.3	100.0
50 – 54	14.9	55.1	7.7	13.4	0.0	2.3	6.7	100.0
55 – 59	7.6	48.8	13.9	18.5	3.6	3.6	4.0	100.0
60 – 64	10.5	51.7	10.5	22.0	0.0	0.0	5.3	100.0
65+	65.3	34.5	0.1	0.0	0.0	0.0	0.2	100.0
Nearng Kok	15.8	55.5	8.9	13.3	2.5	2.6	1.5	100.0
Koah Poa	11.1	70.0	12.2	3.3	2.2	0.0	1.1	100.0
Peam Krasaob	24.4	54.3	6.3	6.1	3.6	2.3	2.9	100.0
Other villages of MundulSeima	14.7	58.9	10.9	9.5	2.6	1.5	1.8	100.0
Smach Meanchey	13.9	51.2	12.6	10.7	4.0	2.8	4.8	100.0
Whole project area	**14.4**	**53.4**	**11.9**	**10.4**	**3.6**	**2.5**	**3.9**	**100.0**
Koh Kong[23] province			**19.5**		**7.9**		**2.5**	
Cambodia[24]			**17.7**		**7.7**		**2.5**	
Cambodia[25]		**25.9**						

Education is an important determinant of socio-economic status because of the access it provides to knowledge and information and occupational opportunities. In Cambodia, low levels of education are a very widespread phenomenon.

Table 10A details the educational levels among the male household population. Findings show that some 14.4% of these household members do not have any formal education at all, while 53.4% attained primary levels of schooling without completing all six grades. Only 11.9 percent of them reported that they have finished primary school before dropping out. This is only half of what the 1998 census reported on Koh Kong. While 14% of them reported that they reach lower secondary levels, only some 6.4% advance to upper secondary levels.

[23] 1998 Census data.
[24] 1998 Census data
[25] 1999 CSES data

The proportion of male members with no education is quite comparable across locations. However, it is highest in Peam Krasaob (24.4%). Taking no formal schooling and primary not completed as the benchmark for a lack of educational attainment and a sign of vulnerability, Koh Poa and Peam Krasaob are the two communities standing out. Koh Poa has a primary school but only up to grade 3 which is reflected in a comparatively large number of children enrolling in school but a very high percentage of them not completing it. A noteworthy but not very large difference between localities is that in urban Smach Meanchey people attained higher grades of general education than in other places. Smach Meanchey being the seat of local government, with civil service requiring formal education, this makes sense.

By age, only 5.5% of male household members in the 15-19 year old age group did not have education. About 65% of them pursued primary levels of schooling (complete and incomplete), while 20.4% advanced to the lower secondary levels. However, only in the 20-24 age group, there were male household members (1.8%, not in the table) who continued studying at the university level.

Comparison with 1998 census data for Koh Kong province and Cambodia as a whole is somewhat flawed because the census reports educational attainment levels only for the literate segment of the population. The figures in the table are based on the above 6 years of age population, both literate and illiterate. The results from our survey seem consistent across locations and we believe that our figures for educational attainment, which are considerably lower than the census figures, especially for males, are a realistic assessment of the current status in the project area. To the extent that the census figures for educational attainment reflect 1998 reality in Koh Kong province this means that the project area is relatively less well educated[26].

When comparing the educational attainment data with the Cambodia figures for the 1999 CSES, it is noteworthy that the proportion of those not having completed primary school is much higher in our survey area (53.4 versus 25.9). This is somewhat balanced by the figure for those that never attended school (both male and female) which at 29.1 is considerably higher in the CSES than the 14.4 we found. The difference cannot be explained by the female contribution alone (which for our survey area is still below the Cambodia figure of the CSES – 27.4). Apparently, compared to the Cambodian average more children enter primary school but far less finish it.

Table 10B: Educational attainment of household population: Female

Background Characteristics	Level of education							
	Never go to school	Primary incomplete	Primary complete	Lower secondary incomplete	Lower secondary complete	Higher secondary incomplete	Higher secondary complete	Total
Age								
6- 9	23.8	76.3	0.0	0.0	0.0	0.0	0.0	100.0
10 – 14	4.6	89.9	3.8	1.9	0.0	0.0	0.0	100.0
15 – 19	8.6	59.5	11.1	14.5	1.2	3.6	1.4	100.0
20 – 24	17.0	51.3	11.7	7.9	5.2	4.2	2.6	100.0
25 – 29	28.7	47.0	8.9	8.0	4.7	1.3	1.4	100.0
30 – 34	20.1	48.7	12.4	9.8	7.4	1.6	0.0	100.0
35 – 39	32.8	44.1	10.8	3.8	6.4	1.3	0.8	100.0
40 – 44	36.1	54.4	3.9	1.8	3.2	0.6	0.0	100.0
45 – 49	34.8	53.2	5.5	3.3	0.0	3.1	0.0	100.0
50 – 54	47.5	40.3	5.7	6.3	0.1	0.0	0.0	100.0
55 – 59	55.6	39.6	4.6	0.0	0.2	0.0	0.0	100.0
60 – 64	64.8	31.2	4.0	0.0	0.0	0.0	0.0	100.0
65+	77.8	19.5	0.2	0.0	2.5	0.0	0.0	100.0
Nearng Kok	27.4	59.2	7.3	4.6	1.4	0.2	0.0	100.0
Koah Poa	32.6	62.1	3.2	1.1	1.1	0.0	0.0	100.0
Peam Krasaob	38.3	51.7	3.9	3.9	1.4	0.5	0.5	100.0
Other villages of MundulSeima	26.8	60.1	6.8	4.4	1.1	0.6	0.2	100.0
Smach Meanchey	21.1	59.9	7.2	6.0	3.0	2.0	0.8	100.0
Whole project area	**27.4**	**59.2**	**7.3**	**4.6**	**1.4**	**0.2**	**0.0**	**100.0**
Koh Kong[27] province			**9.6**		**3.1**		**< 1**	

[26] A possible contributing factor that we cannot control for is an out-migration surplus of educated job seekers during the last five years
[27] 1998 Census data.

The area female household population. Like everywhere in Cambodia, female household members have less opportunity to be educated then their male counterparts in that almost a fourth (27.4%) of them did not attend any formal general educational institution, and over half (59.2%) did not complete primary school. Only a few females advanced to higher levels with 6% reaching lower secondary schools, and hardly anyone completing upper secondary levels let alone advance to post-secondary education (0.1%, not in the table).

Looking at the educational attainment by age-category, things do not seem to not to have progressed during the last decade. Less than 12% of the female household members in the 15-24 year cohort completed primary levels. And although enrolment of 15-19 year olds moved up (never gone to school dropped from 17% to 8.6%), completion rates actually dropped.

By location, as with males, Peam Krasaob and Koh Poa stand out as the most disadvantaged communities. Table 10C in the appendix I gives the educational attainment results per location, broken down along age-categories.

Regarding education above higher secondary level, the survey results indicate quite low numbers. Table 10D in the appendix I gives the figures for holders of bachelor degrees and those having received certificates for vocational training courses of three months or more by location and sex. BA degrees are nearly absent, the percentage of male vocational training certificate holders varies between 1.3% for other villages of Mundul Seima to 3.9% for Smach Meanchey, with Nearng Kok, Koh Poa and Peam Krasaob in between. Female certificate holders hardly exist anywhere.

We also collected data on literacy that do not differ very much from the data one can derive from the census. In both cases a subjective measure of respondents' perceptions of households' members ability to read and write was used and the limited validity of that measure has be taken into account. About two-thirds of the total household population was claimed to be literate (36.6% males and 31.1% females). The literacy level of males in each location of the surveyed area is higher than that of their female counterparts, confirming the differences in educational attainment found in our survey (as well as in all other data on Cambodia). The literacy results are reported upon in table 10E in the appendix I.

4.3 Health and health seeking behavior

4.3.1 Disability

Table 11. Disability (Q 112)

	%Physically disable	Cause of disability				
		Birth	Illness	Landmine/ OXO	Accident	Other
Age group						
0-9	0.4	0.0	40.5	54.8	2.4	2.4
10-19	0.7	0.0	45.3	45.3	2.1	7.4
20-39	1.5	19.9	19.9	20.5	21.7	18.1
40-59	2.8	17.0	24.6	7.0	47.4	4.1
60+	3.3	0.0	25.7	0.0	15.7	58.6
Sex						
Male	1.7	15.7	23.6	16.6	36.2	7.9
Female	0.9	3.7	37.2	27.7	1.1	30.3
Whole project area	1.3	11.4	28.3	20.6	24.1	15.6
Nearng Kok	1.0	21.4	14.3	21.4	42.9	0.0
Peam Krasaob	0.9	50.0	0.0	50.0	0.0	0.0
Koh Poa	1.8	10.5	36.8	26.3	15.8	10.5
Other villages of Mundul Seima	1.6	14.6	38.0	7.6	20.9	19.0
Smach Meanchey	1.2	9.4	24.2	25.9	25.4	15.1

For the whole surveyed area, 1.3% of the household population was reported to have a physical disability, a slightly smaller proportion than the 1.6% observed in the Cambodia Demographic Health Survey 2000 for the whole of Koh Kong province. Illness (28.3%) is the leading cause of physical impairment among family members, especially for children aged 0 to 9 and 10-19, followed by disability from any kind of accident (24.1%) (Table 11). Also landmine/UXO accidents, reported by about 20.6%, continue to be a major cause of physical disability.

From the perspective of location, the causal pattern of Peam Krasaob stands out with impairment at birth appearing high (50% of physical impairment reported to exist at birth) and disability from landmine/UXO also higher than average. The proportions of 36.8% in Koh Poa and of 38% in other villages of Mundul Seima for illness are also noteworthy.

4.3.2 Availability of health facilities

Government health facilities in the project area are limited to the provincial referral hospital in Smach Meanchey and a health center in Bak Khlang (other villages of Mundul Seima). This is reflected in government facilities not being the preferred place of treatment (see 4.3.4). However,availability is surely only one of the factors because in Cambodia a strong preference for private clinics and pharmacies is documented for the whole country, also for locations with better availability that the area covered by our survey.

4.3.3 Access of health facilities

Table 12 : Time to reach place of treatment (Q413)

Reported time necessary to reach the preferred place of treatment for sick or injured household members

	Time				
	<30 mn	**30-59 mn**	**1-2 h.**	**> 2 h.**	**Don't know**
Nearng Kok	1.9	10.0	6.5	9.1	18.2
Peam krasaob	0.0	2.2	16.1	15.9	0.0
Koah Poa	0.0	0.0	1.6	0.0	0.0
Other villages of Mundul Seima	22.0	58.7	75.8	75.0	81.8
Smach Meanchey	76.1	29.1	0.0	0.0	0.0
Whole project area	**91.2**	**6.6**	**1.0**	**0.7**	**0.5**

For those seeking treatment, most (91.2%) were able to reach treatment facilities within 30 minutes, with another 6.6% taking 30 to 59 minutes of travel time, and 0.7% having to travel more than 2 hours. Comparing the surveyed area with the province as a whole and with Cambodia evokes a picture of relatively good access to health facilities because the proportion of those needing less than 30 minutes is much higher for the survey area[28]. However, one has to keep in mind that these percentages are based on a weighted data set. As is evident from the table the results reflect the ease of access of the high population concentrations of Smach Meanchey and Bak Khlang. Not looking at the results for the whole project area but examining the within location distribution of answers it is evident that the remote areas certainly have an access difficulty because the longer times are all reported in Peam Krasaob, Koh Poa and other villages of Smach Meanchey, which includes Tuol Kokir.

This conclusion is supported by the data on people's assessment of health service costs (see table 14 below), although that finding has to be interpreted in the context of a preference for private service providers (who are more expensive than public facilities) in these same locations (table 13 below).

4.3.4 Health seeking behavior

Cambodians are known to resort to treating themselves with home remedies or with medications purchased over the counter when they are ill, or to consult with sometimes poorly qualified but readily accessible traditional healers[29]. It is also well documented that when they consult a qualified practitioner, they have a strong preference for (usually more expensive) private providers, be it because of more flexible payment arrangements (i.e., paying in kind or by installment), be it because of confidentiality, or be it because of expectations regarding quality of services and/or being treated with respect[30]. This general pattern is quite evident in the surveyed area too[31].

[28] As is evident from the as yet unpublished data from the NHS 2002.
[29] E.g. see National Health Survey (NHS) 2002
[30] E.g see NHS 2002, and Collins, W. (2000) Medical Practitioners and Traditional Healers: A Study of Health Seeking Behavior in Kampong Chhnang, Cambodia. CAS
[31] The Cambodia figures of the 1999 CSES- which are for first consultation only – support this conclusion: when home treatment proves ineffective, households in our seem to resort to private health providers and pharmacies.

Table 13. Place of treatment

	Government Facility	Private Facility	Pharmacy	Kru Khmer	Magician	Patient's Home	Others	No treatment
Whole project area	24.8	51.2	17.0	0.5	0.2	3.9	2.4	0.1
Nearng Kok	27.1	54.3	10.7	0.3	0	1.0	6.5	0
Koah Poa	25.8	61.3	6.5	1.6	0	0	3.2	1
Peam krasaob	24	62.2	11.7	0	0	2.0	0	0
Other villages of Mundul Seima	23.9	50.3	18.6	0.9	0	1.3	4.7	7
Smach Meanchey	25	50.8	16.9	0.3	0.3	5.3	1.4	0
TOTAL	100	100	100	100	100	100	100	100
Cambodia[32]	23.9	34.8	8.1			28.8		

Almost all households who were ill sought treatments with one or another preferred service provider, with only 0.1% choosing not to see any health practitioner (Table 13). The proportion of households that did not seek treatment for their ailments is small, indicating that most family units' access is not totally curtailed by either distance or cost. The residents of more remote locations Peam Krasaob and Koh Poa have the strongest preference for private providers, while being very close to the average with their proportion of respondents that indicated a preference for the government sector. Although this seems paradoxical in light of these locations being classified as "disadvantaged", the pattern is not unusual at all for more remote locations. Especially for remoter locations costs of treatment have to be balanced against transportation costs and the loss of time involved. Also private service providers in the immediate neighborhood will often allow for delayed payment, while (government) facilities further away only treat against immediate payment.

The third preferred option for all locations are pharmacies, while traditional healers such as Kru Khmer and magicians do not seem to play a role in this area. Home treatment is most evident in urban Smach meanchey.

4.3.5 Assessment of health services

Table 14 Respondent opinions on access and quality of health facility

	Whole project area	Nearng Kok	Koah Poa	Peam krasaob	Other villages of Mundul Seima	Smach Meanchey
Enough health facilities						
Yes	29.4	3.4	6.5	1.0	13.1	38.6
No	69.2	93.8	88.7	99.0	84.8	60.3
Don't Know	1.5	2.7	4.8	-	2.2	1.1
Health care cost						
Expensive	49.2	44.7	54.8	54.6	49.4	49.2
Reasonable cost	32.3	39.9	29.0	37.2	27.0	33.9
Not expensive	16.6	14.1	12.9	6.6	21.1	15.3
Don't Know	1.9	1.4	3.2	1.5	2.5	1.7
	100.0	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Quality of health services						
Good	37.0	37.1	43.5	34.2	40.1	35.8
Moderate	56.4	58.8	50.0	59.7	53.1	57.5
Poor	3.8	3.8	3.2	5.6	3.4	3.9
Don't Know	2.8	0.3	3.2	0.5	3.4	2.8
	100.0	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Assessing the costs incurred by sick members of the household, 49.2% of respondents mentioned that it was expensive for them, 32.3% described the costs involved as moderate and only 16.6% mentioned that them being not expensive. More residents in Peam Krasaob and Koh Poa described costs as very expensive than anywhere else (54.6% and 54.8% respectively). Only 29.4 % of respondents said that there are sufficient health care facilities. The proportion of respondents who feel there are not enough health facilities is especially high in Peam Krasaob, Nearng Kok, Koh Poa as well as in other villages of Mundul Seima, with 99%, 93.8%, 88.7 and 84.8% respectively.

[32] 1999 CSES data for first consultation

Regarding the quality of services, most respondents assess quality of services provided as moderate (56.4%). 37% considered health services as good. Peam Krasaob stands out with most answers in the moderate and poor assessment categories but the overall differences are small.

4.3.6 Knowledge of HIV/AIDS

The human immunodeficiency virus (HIV) was first detected in Cambodia in 1991 and the first cases of acquired immune deficiency syndrome (AIDS) were diagnosed in 1993.

To determine levels of awareness on this disease, the survey asked two questions. The first, asking if people have heard about HIV/AIDS was meant as an entry to the second question that probed the extent to which the respondents are aware of their particular community being affected (or not) by HIV/AIDS. This strategy worked well because the second question usually evoked very concrete indications of particular households in their community (pointed out physically) that had one or more sero-positive members and/or experienced AIDS related death(s).

The entry question obviously does not reveal what exactly people know about HIV/AIDS. But as such, the very high percentage of respondents who claim to have heard about HIV/AIDS is not surprising. The (I)NGO Care is an active information disseminator and prevention and care provider in the project area, having sign boards up at all entries to the brothel areas of Stung Veang and Cham Yeam[33]. Leaflets are evident on restaurant walls. In combination with the national awareness campaigns through radio and TV the percentage of those "having heard about HIV/AIDS" is bound to be high. However, it is especially the responses to the follow up question that may explain the high awareness: The findings lay out how much is known about HIV/AIDS, as well as its impact to the local communities. On average four fifth of all residents can point out particular families that are affected by HIV/AIDS (only Koh Poa has a smaller proportion).

Table 15 : Knowledge of HIV/AIDS (Q417-418)

Percentage of respondents (%)

	Have heard about HIV/AIDS		Reported that people in community have been affected by HIV/AIDS	
	Yes	No	Yes	No
Whole project area	100	0	81.3	16.9
Nearng Kok	98.9	1.1	76.9	23.1
Peam krasaob	100	-	80.1	19.9
Koah Poa	100	-	56.4	43.6
Other villages of Mundul Seima	100	-	78.2	21.8
Smach Meanchey	100	-	88.8	11.2

5. ASSETS, INCOME AND EXPENDITURE

5.1 Housing characteristics

One of the household assets that is regularly used as an indicator of a family's SES is its dwelling. We have grouped the (observed) characteristics of the houses surveyed with some other commonly used indicators for SES into one table (table 16) of housing characteristics.

As can be seen from this table the predominant construction material for roofing used in the project area is galvanized iron (84.6%) followed by thatch/bamboo (9.2 %). In urban areas, i.e. in Smach Meanchey, Nearng Kok and Bak Khlang (part of the other villages of Mundul Seima) households are more likely to use corrugated iron or tiles/cement/ fibro cement for their roofs (see table 8). Peam Krasaob en Koh Poa stand out as the places where thatch is used for about a third of all roofs.

[33] The number of brothels in the survey area is surprisingly numerous and suggests a relationship with trafficking of sex workers into Thailand

Households' sources of water influence the health status of their members. Across the surveyed area, households

are likely to use different sources in the wet and dry seasons. Especially the use of pond water is problematic. Most households in Peam Krasaob have to resort to pond water in the dry season (70%). In the wet season the rely on rain water. Piped water only available in the most urban parts of Smach Meanchey (Dang Tong)

Koh Poa and Peam Krasaob stand out in their use of kerosene lamps and batteries for lighting, both explainable by their remote location.

Although fishing is the dominant source of income, land for cultivation is an additional source of subsistence and income earning in both urban and rural parts of the surveyed areas. 70.2% of households own a piece of land under cultivation. Renting and sharing arrangements are limited Surprisingly, if anything urban households are more likely to own a piece of land for cultivation than rural ones. Koh Poa has by far the highest percentage of households with a precarious access to land with two thirds of its households renting their land or having a sharing arrangement. The combination of this finding with the importance of farming related activities for Koh Poa residents is telling (see above).

Comparisons with 1998 census data are difficult because categories used in the census are often not comparable, e.g. not differentiating between wet and dry season sources of drinking water, and using different categories for electricity, or the census lacks information, e.g. regarding land holdings. Where comparisons can be made they reveal changes over time: the use of kerosene lamps for lighting seems on the decline, probably due to better access to electricity, and the use of firewood seems to be replaced by charcoal.

The 1999 CSES contains data for comparison of housing type: galvanized iron and aluminum are much more used in the survey area than in the rest of Cambodia. Tiles much less, and thatch also less although the remoter communities of Peam Krasaob and Koh Poa come closer to the national average.

Table 16: Percentage distribution of households by source of drinking water, main lighting used, main fuel cooking, land access, housing characteristics

	Cambodia	Koh Kong province	Whole project area	Nearng Kok	Koah Poa	Peam Krasaob	Other villages of Mundul Seima	Smach Meanchey
Drinking Water (Wet season)								
River			0.4	1.2	1.3	0.0	0.7	0.2
Pond			11.3	12.4	1.3	12.9	16.2	9.4
Rain water			67.7	62.6	82.7	85.3	67.4	67.4
Artesian well			14.8	22.1	14.7	1.3	14.9	14.7
Pied water faucet			5.5	0.7	0.0	0.0	0.4	8.0
Others			0.3	1.0	0.0	0.4	0.4	0.2
Drinking Water (Dry season)								
River			0.4	2.2	1.5	1.4	0.6	0.3
Pond			48.3	37.6	6.1	70.0	65.8	42.0
Rain water			1.5	4.1	3.0	0.5	1.2	1.5
Artesian well			35.9	51.4	86.4	26.1	30.7	36.7
Pied water faucet			13.2	3.4	1.5	0.0	1.2	18.8
Others			0.8	1.3	1.5	1.9	0.6	0.8
Light source								
Publicly provided electricity			14.6	8.9	0.0	0.0	8.4	18.1
Privately provided electricity			59.8	41.9	0.0	33.2	59.6	62.5
Battery	3.6	1	3.1	5.8	3.2	15.3	3.7	2.2
Kerosene lamp	80	59	22.3	43.3	96.8	49.5	28.3	16.9
Other			0.2	0.0	0.0	2.0	0.0	0.3
Cooking fuel								
Firewood	90	72	40.5	41.2	69.4	57.1	41.9	38.9
Charcoal	5.3	24	44.2	45.4	29.0	30.1	43.1	45.3
Gas	1.7	2.3	0.3	0.0	0.0	0.0	0.3	0.3
Kerosene	1.8	1.4	12.6	9.3	1.6	12.8	12.7	12.8
Electricity	0	0	2.5	4.1	0.0	0.0	1.9	2.8
Access to Land								
Own Land			70.2	61.2	32.3	67.9	71.1	70.8
Renting Land/Sharing Arrangement			28.7	37.8	67.7	32.1	28.3	27.8
Other			0.9	0.3	0.0	0.0	0.6	1.1
			0.2	0.7	0.0	0.0	0.0	0.3
Housing type								
Thatch	39.8		9.2	14.1	30.6	32.1	15.5	5.3
Tiles	29.1		1.5	2.1	0.0	0.0	0.3	2.0
Concrete	2.6		2.4	0.0	0.0	0.0	0.6	3.3
Galvanized Iron/ Aluminum	22.5		84.6	80.8	66.1	62.8	81.7	86.9
Salvaged Materials	0.3		1.6	2.1	0.0	1.0	0.9	2.0
Tent	0.1		0.2	0.0	0.0	0.0	0.0	0.3
Mixed but predominantly made of tiles and galvanized irons/Aluminum	0.7		0.1	0.3	1.6	0.0	0.3	0.0
Mixed but predominantly made of thatch and salvaged Material	0.3		0.5	0.7	1.6	4.1	0.6	0.3

5.2 Ownership of assets

Table 17: Percent distribution of households by assets by location

	Cambodia[34]	Whole project area	Nearng Kok	Koh Poa	Peam Krasaob	Other villages of Mundul Seima	Smach Meanchey
Sewing Machine		4.9	1.7	0	1.5	2.8	6.1
Plough for the Farm		2.2	2.7	1.6	0	3.7	1.7
Television	26.4	46.8	34.4	4.8	16.8	30.4	55.6
Car	1.4	4.4	17.9	0	0	0.3	5.6
Motorbike	24.9	30.3	23.4	0	0	12.1	39.4
Bicycle	64.5	42.0	45.7	0	0	18.3	53.3
Mechanical Farm Equipment		1.0	3.1	3.2	1.0	1.3	0.8
Fishing Gears		28.4	29.6	74.2	80.6	29.8	25.3
Boat with Motor	11.1	27.2	19.2	69.4	76.0	28.3	25.0
Boat without Motor		1.8	2.7	9.7	14.8	4.1	0.3
Cow/Buffalo		0.8	1.7	3.2	0.5	2.8	0
Chicken/Duck/Other live stocks		41.5	70.4	71.0	6.1	33.9	43.9

Table 17 reports on the results regarding other assets, both productive assets and luxury goods.

Ownership of key productive assets is evident in many Cambodian households. In the study area people mostly practice fishing, so ownership of fishing gears (e.g., seine nets, fishing rods) and boats with motors are very common and constitute the dominating assets in fishing communities like Koh Poa, Peam Krasaob and Bak Khlang commune (Bak Khlang villages 1,2,3 and Koh Kar Chang). Also, many households report owning chickens, ducks and pigs, an immediate source of food and/or income. Almost one third of households have access to a bicycle (18.2%), although only 13.1% of them own a motorbike. The only real luxury good in the list is a television. Not being a productive asset, it is a straightforward indicator of surplus income. Along this yardstick, Koh Poa is the most disadvantaged community, followed by Peam Krasaob. In general a higher proportion of households in urban areas than rural own a television (21.6% via 16.2%), and a motorbike (15.3% via 6.7%).

5.3 Households' incomes and expenditures

The difficulties of eliciting complete and reliable data on income in surveys is a common problem in the Cambodia. Under-reporting of incomes and over-reporting of expenditures is the rule. Numerators were trained to be very careful with the way the elicited income and expenditure information. First household incomes were probed, both those generated by main and second occupations, then only were expenditures addressed. In case of major discrepancies, i.e. a large negative balance, a common occurrence, enumerators went back to income and probed for additional sources. Probing resulted both in reporting additional income from main and second occupations, as well as revealing sources like property rents, interest from lending money to others, remittances from relatives, boarding fees, etc. Income and expenditure data in table 18A only refer to cash. Non-monetary sources of income (e.g. fish or agricultural produce produced and consumed by the household itself) are reported upon in table 18B.

[34] 1999 CSES data.

Table 18A: Income and expenditure per capita (in Riel)

	Total Income	Total Expenditure	Populat.	Average monthly income per person	Average monthly expenditure per person	Average daily income per person	Average daily expenditure per person	% of HH with debt
Whole project area	**5,987,741,400**	**4,424,760,000**	**43,380**	**138,030**	**102,100**	**4,601**	**3400**	**32.8**
Nearng Kok	234,251,119	251,441,110	1473	159,030	116,367	5,301	3,880	34.4
Koh Poa	28,728,000	22,161,600	228	126,000	97,200	4,200	3,240	38.7
Peam Krasaob	237,615,500	158,518,500	1085	219,000	146,100	7,300	4,870	49
Other villages of Mundul Seima	1,476,501,000	1,045,618,200	10926	135,000	95,700	4,500	3,190	33.9
Smach Meanchey	4,005,180,000	2,954,932,800	29668	135,000	99,600	4,500	3,320	31.7
Whole project area excluding Peam Krasaob					101,056			

US $ = 4000 Riel

When looking at table 18A is crucial to take account of the following:

Income and expenditure information was asked for the previous month, based on the generally accepted fact that questions requiring respondents to estimate average monthly expenditure or yearly expenditure are notoriously unreliable. The essential pre-condition for extrapolating from thus generated monthly expenditure to yearly income and expenditure levels is that the month probed can be expected to represent a average figure for the household in question. Unfortunately this pre-condition was only be met for certain of the locations surveyed: Smach Meanchey, Nearng Kok, the other villages of Mundul Seima, and Koh Poa. However, for Peam Krasaob it turned out to be impossible because the major source of income of Peam Krasaob households was very seasonal: sea fishing and the incomes and related (very high) expenditures (see table 18C), e.g. for diesel, for food and other production related costs of a high season month like April (the month probed in the survey) do not reflect the incomes and expenditures of low income months at all.[35]

The issue of sea fishing as the major explanatory variable for the un-representativeness of especially Peam Krasaob income and expenditure patterns has been checked by various means[36], amongst others by field observation and by comparing income and expenditure data for fishermen in Peam Krasaob and Bak Khlang, the only other village with sea fishers (but much fewer than in Peam Krasaob).

Table 18A contains some indicators of the fact that Peam Krasaob data for income and expenditure are not representative. One is its incidence of indebtedness that with 49% is considerably higher than for any other community. Another indicator is the much larger positive balance of income minus expenditure than for any other community which reflects the reality of sea fishers earning all of the yearly income in 5 to 6 months of the year.

This means that we do not consider the Peam Krasaob income and expenditure data a relevant indicator of anything (apart from reflecting sea fishing as the major source of income). They certainly are not a realistic reflection of the general SES of the village. Table 3 above, summarizing other non-monetary indicators of SES show that Peam Krasaob, in most respects resembles Koh Poa rather than the other communities.

When looking at non-monetary sources of income it is immediately evident that fishermen have access to sea produce: Peam Prasoab (90.3%), Koh Poa (88.7%)as well as other villages of Mundul Seima (31.1%) and Nearng Kok (39.5%) use fish and other sea products that they catch for household consumption. It is also evident that fish is the only edible consumer good that Peam Krasaob has access to, as opposed to e.g Koh Poa with a large proportion of households using vegetable and fruits collected in the forest or grown in their garden, but also households in Nearng Kok and even Smach Meanchey where home grown vegetables and fruits and chickens are important non-cash sources of income. This means that Peam Krasaob residents, to a larger extent than people in other communities are dependent upon their (seasonable) cash income.

[35] Information from fishermen, confirmed by the Ministry of Planning office, Koh Kong.
[36] For more detail on the checks, see the section on methodology.

Table 18B :% Households that have access to non-cash incomes by location and type of income

	Vegetable/fruits from the forest	Wildlife	Material for house construction	Resin	Home Veg./fruits	Chicken	Fish	Firewood	Other sea products	Others
Nearng Kok	13.4	0.3	6.2	0	40.9	60.5	39.5	49.5	2.1	0.6
Koh Poa	35.5	1.6	27.4	4.8	40.3	43.5	88.7	72.6	0	0
Peam Krasaob	1	0	17.3	0	3.1	1.5	90.3	51.5	0.5	0
Other villages of Mundul Seima	7.6	0	4	0	20.8	25.8	41.9	47.5	0	0
Smach Meanchey	3.9	0	1.7	0	25.6	31.4	31.1	33.9	0	0
Whole project area	5.4	0	3	0	24	30.3	36.2	38.8	0.1	0

When looking at the expenditure profiles of the various communities (tables 18C and 18D) comparison with the only available standard, the 1999 CSES data on expenditure shows above Cambodian averages for both HH and PP monthly expenditures: for HH our survey elicited 548,900 Riel while the CSES showed 361,735 Riel, per capita we got 102,100 Riel[37] as compared to 71,077.

However, the differences between the expenditure figures for 1997 and the 1999 CSESs were already considerable and only partly explainable in terms of depreciation of the Riel against the dollar within this two year period and other macro-economic factors. Without more detailed knowledge of current expenditure patterns across Cambodia the meaning of this difference is impossible to determine. Especially for an outlying province as Koh Kong's that is in the economic sphere of the Bath rather than the Dollar/Riel.

When comparing percentages spent on food versus non-food items as evident in our area compared to the CSES data the proportion spent on food, beverage and tobacco is not very far from the Cambodian average for "other urban" (58.4%) for Smach Meanchey (51.9%) and for partly urban "other villages of Mundul Seima which include Bak Khlang (52.7%), but in urban Nearng Kok substantially less is being spend on food (41.5%). This is largely caused by the very high percentage spent on house and boat repair in Nearng Kok (14.4%%), which in turn is largely due the richest decentile in Nearng Kok spending very much money on this one particular expenditure item[38]. The proportion of food expenditure for Koh Poa and Peam Krasaob (46.3% and 41.4% respectively) is considerably lower than the rural average as reported in the 199 CSES (69.4%). This probably reflects a greater share of productive expenditure related to their main source of income, fishing, as is evident in urban and even above urban levels of expenditure on water, light and cooking fuel, transport and communication, boat repair, etc.

It is noteworthy that overall, education is a significant expense, especially caused by its prominence for Smach Meanchey residents[39], transport is costly , caused by the necessity of using expensive boats, and, like everywhere else in Cambodia, medical expenses are significant.

Looking at the absolute levels of expenditure the sea fishing related expenses (i.e expenses caused by being out of the village for up to a week or even more, on a boat or on an island elsewhere) of Peam Krasaob residents are evident. All food categories are higher than those of any other community, water, light & cooking fuel, also, transport and communication (diesel for the boats) is more than twice the amount of any other community. Apart from the outlying figure for Nearng Kok (which refers to building and repairing houses[1]) also house and boat repairing stands out, and that while boats where just being landed and prepared for the yearly repair when the survey took place (in other words, the expense for this item can be expected to be even much higher during the month of May/June).

[37] Taking out the non-representative figure for Peam Krasaob does not make a difference (it lowers the per capita average from 102,100 to 101,056, see table 18A) because of the small number of residents of Peam Krasaob (it is the population of the other villages of Mundul Seima and especially Smach Meanchey that determine the area average).
[38] As mentioned earlier, the figure reported does not even include the most extreme outlyer.
[39] Reflecting more children attending school and more continuing education beyond primary levels, an urban phenomenon, which is also evident in the relatively high share of education expenses for urban Nearng Kok.
[40] Checked with the responsible data collectors.

Table 18C: Household expenditure per item by location for HH/month and pp/month

E.xpenditure Items	Nearng Kok		Koh Pao		Peam Krasaob		Other villages of Mundul Seima		Smach Meanchey		Whole Project Area	
	HH	pp	HH	pp	HH	pp	HH	pp	HH	pp	HH	pp
Food	195300	38600	131600	35800	261100	47200	215500	42300	252000	45700	239700	44600
Beverage	33100	6500	18800	5100	40300	7300	22500	4400	17700	3200	20100	3700
Tobacco	15300	3000	15100	4100	33000	6000	19100	3700	15500	2800	16800	3100
Clothing	19200	3800	14500	4000	31600	5700	12600	2500	13100	2400	13600	2500
House Renting	2400	500	-	-	2400	400	5200	1000	7700	1400	6600	1200
House/Boat[41] repairing	84900	16767	21800	5900	57200	10300	22700	4500	14500	2600	30300	5600
Water, light & cooking fuel	31300	6200	25100	6800	76400	13800	35700	7000	37500	6800	37600	7000
Medical Care	33200	6600	26100	7100	37100	6700	27400	5400	37500	6800	34500	6400
Transport and communication	56700	11200	40700	11100	130300	23500	52900	10400	27200	4900	37700	7000
Education	44200	8700	4800	1300	34100	6200	25600	5000	49800	9000	38900	7900
Entertainment	3400	700	3000	800	3400	600	1800	400	2700	500	2400	500
Social and religious ceremonies	26400	5200	37600	10200	35400	6400	15800	3100	30800	5600	26700	5000
Tax	8700	1700	-	-	5900	1100	5500	1100	4600	800	4900	900
Telephone	11100	2200	1000	300	4700	900	9700	1900	12700	2300	11700	2200
Miscellaneous	23800	4700	17300	4700	56400	10200	15200	3000	25900	4700	23600	4400
Total	**589100**	**116367**	**357300**	**97200**	**809100**	**146200**	**487300**	**95600**	**5,9200**	**99500**	**548900**	**102100**

Table 18D: Expenditure per item by location pp/day and as percentage of total daily exp.

Expenditure Items	Nearng Kok		Koh Poa		Peam Krasaob		Other villages of Mundul Seima		Smach Meanchey		Total	
	Riel	%	Riel	%	Riel	%	Riel	%	Riel	%	Riel	%
Food	1290	33.2	1190	36.8	1570	32.3	1410	44.2	1520	45.9	1490	43.7
Beverage	220	5.7	170	5.3	240	5.0	150	4.6	110	3.2	120	3.7
Tobacco	100	2.6	140	4.2	200	4.1	120	3.9	90	2.8	100	3.1
Clothing	130	3.4	130	4.1	190	3.9	80	2.6	80	2.4	80	2.5
House Renting	20	0.1	-	-	10	0.3	30	1.1	50	1.4	40	1.2
House/Boat repairing	560	14.4	200	6.1	340	7.1	150	4.7	90	2.6	190	5.5
Water, light & cooking fuel	210	5.4	230	7.0	460	9.4	230	7.3	230	6.8	230	6.9
Medical Care	220	5.7	240	7.3	220	4.6	1.8	5.6	230	6.8	210	6.3
Transport and communication	370	9.5	370	11.4	780	16.1	350	10.9	160	5.0	230	6.9
Education	290	7.5	40	1.3	210	4.2	170	5.2	300	9.1	260	7.7
Entertainment	20	0.1	30	0.8	20	0.4	10	0.4	20	0.5	20	0.5
Social and religious ceremonies	170	4.4	340	10.5	210	4.4	100	3.2	190	5.6	170	4.9
Tax	60	0.2	-	-	40	0.7	40	1.1	30	0.8	30	0.9
Telephone	70	0.2	10	0.3	30	0.6	60	2.0	80	2.3	70	2.1
Miscellaneous	160	0.4	160	4.9	340	7.0	100	3.1	160	4.7	150	4.3
Total	**3880**		**3240**		**4870**		**3190**		**3320**		**3400**	

We have also looked at is the distribution of income and expenditure across locations to get a feel for local inequalities[42]. What is immediately apparent from table 18E below is that th inequality of income and expenditure distributions varies considerably across locations. If one compares the ratio of median to mean, for expenditure Koh Poa shows up as a much more equal (the mean and median being nearly the same) than Nearng Kok, with the other villages of Mundul Seima and Smach Meanchey in between. The percentile distribution shows that Nearng Kok's uneven distribution is caused by a very wealthy tenth decile, much more wealthy than the richest households in either Smach Meanchey or the other villages of Mundul Seima. Up to the 7th decile the distribution of Nearng Kok is very similar to these other locations. The latter two locations are quite similar but Smach Meanchey has a broader wealthy section, although this is compensated for the other villages of Mundul Seima by a wealthier tenth decile (residing in urbanized Bak Khlang).

[41] One very rich household in Nearng Kok reported an expense of US $ 40,000 in the previous month on house/boat repair; this expense distorted the average of Nearng Kok decisively and we decided to ignore this outlyer in the reporting for this location.

[42] It is important to note that these data and the following on poverty incidence cannot be compared directly because 18E reports on households (the average size of which varies substantially) and 18F is based on per capita data.

Table 18E Monthly Household income and expenditure distribution by location and percentile

	Nearng Kok		Koh Poa		Other villages of Mundul Seima		Smach Meanchey	
	Expenditure	Income	Expenditure	Income	Expenditure	Income	Expenditure	Income
Mean	8637	8168	3573	4663	4873	6887	5442	7565
Median	3600	4500	3277	3775	3895	5000	4335	5000
Ratio	41.7%	55.1%	91.7%	81%	79.9%	72.6%	79.7%	66.1%
Minimum	390	0	110	0	290	300	560	500
Percentiles								
10	1644	1900	1397	1530	1736	2000	2200	2110
20	2228	2800	2170	2000	2312	3000	2800	3000
30	2600	3200	2671	2980	2841	3485	3393	3630
40	3266	3900	2928	3300	3414	4200	3900	4416
50	3600	4500	3277	3775	3895	5000	4335	5000
60	4356	5700	3650	4900	4634	6000	5018	6000
70	5416	6880	4393	5550	5603	7500	5891	7000
80	7152	8240	4885	6600	6558	9000	7180	9000
90	11041	13588	6001	7835	8643	14136	10218	14990
100	808300	215000	10690	31600	46040	68000	35000	91500

Some limited statistical analysis was undertaken to control for the reliability of income and expenditure data generated by the survey. The statistical analysis found a positive and significant correlation between estimates of monthly per capita expenditure and monthly income per capita in both rural areas(r=0.5555, p=0.0000) and urban areas (r=0.6605, p=0.0000). See Appendix III. The correlation between monthly income and educational attainment of the head of household was only significant for urban areas and not very strongly at that (r=0.168, p=0.0005).

Some asset ownership correlated significantly with either income or expenditure: In rural areas, ownership of mechanical farm equipment (r=0.2, p=0.05), fishing gear (r=0.2, p=0.07) and boats without motor (r=0.24, p=0.003 correlated positively with income , and ownership of a TV (r=0.22, p=0.017), of fishing gear (r=0.26, p=0.0006) and of boats with motor (r=0.23, p=0.009) with expenditure. In urban areas, ownership of TV's (r=0.16, p=0.0000), cars (r=0.15, p=0.0001) and motorbikes (r=0.15, p=0.0002) correlated positively with income.

Although the (income and) expenditure levels of the surveyed are on average seem not very comparable to the 1999 CSES levels, we decided to calculate a poverty incidence figure for all locations except Peam Krasaob, i.e. those locations in which the income and expenditure patterns elicited for the month of April can be expected to be more or less representative for the whole year.

The baseline for poverty lines used was established a decade ago and the last indexing of them was done in 1999. Many argue that it high time to update the baseline and we agree. Be that as it may, the 1999 poverty lines are all we have as a reference and they are used in the calculations below. But the results have to be judged cautiously and not too much can be read into them. We strongly propose to only use the underneath in combination with the summary table of non-monetary indicators of poverty (table 3).

The poverty lines are defined as follows:
1. Poverty line for household consumption expenditure (Food+Non-food): is 2470 Riels per person per day for Phnom Penh, 2093 Riels for other urban areas, and 1777 Riels for rural areas.
2. The poverty line for food (including beverages and tobacco) is 1737 Riels per person per day for Phnom Penh, 1583 Riels for other urban areas, and 1379 Riels in rural areas.

We have used the poverty lines for other urban for Nearng Kok and Smach Meanchey[43] and the rural poverty lines for Koh Poa and other villages of Mundul Seima to produce a poverty head-count index. When individual consumption is compared with the corresponding poverty line value, those whose level of consumption is below the poverty line are classified as poor[44].

[43] See methodology section for the reasons to label Nearng Kok as "other urban".

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Table 18F Poverty incidence (head count index)

Urban poverty based on total household expenditure (food + non-food)	Poor	Non-poor
Nearng Kok	39.2	60.8
Smach Meanchey	33.1	66.9
Rural poverty based on total household expenditure (food + non-food)		
Koh Poa	24.6	75.4
Other villages of Mundul Seima	24.1	75.9
Urban poverty based on food expenditure (inc. beverages + tobacco)		
Nearng Kok	61.6	38.4
Smach Meanchey	51.9	48.1
Rural poverty based on food expenditure (inc. beverages + tobacco)		
Koh Poa	55.3	44.7
Other villages of Mundul Seima	43.0	57.0

III.Households' development priorities

Respondents were asked to mention two priorities that they think respond to the needs of their area and rank them as first and second priorities; the question was open and table 19A, 19B, 19C and 19D list the frequencies of the various answers provided.

Overall, the single most frequent answer was "development of any kind of factories/industry" (22.4%), closely followed by upgrading roads (21.7%). Improved educational and health facilities were also mentioned often, 18%, and this figure increases to 28.1% if improved access to clean water is defined as health related rather than just another physical infrastructure.

Respondents' priorities are dominated by considerations of improving their income earning. A total of 43.5% of them target this, be it through industrial development, farm or fishing development, or generally improving the economic environment and creating more jobs. However, the sum of priorities that refer to improved physical infrastructures and better educational and health facilities actually outweighs this figure (52.4%). Obviously some of the latter are perceived as being important because they improve respondents' access to the labor market and/or create a better environment for economic development so the categories are not mutually exclusive. Nevertheless it is clearly evident that respondents' development priorities go beyond just more (industrial) jobs.

Tourism is one of the possible development activities in Koh Kong province as it holds potential for eco-tourism, and has recently become accessible by road. However, people in the surveyed area do not put much emphasis on this kind development (0.9%). None in Koh Poa mentioned tourism as a development option that responds to the needs of their community, even though Koh Poa is already a minor tourist destination.

When looking at differences between locations several stand out very clearly:
"Any kind of factory" scores way above average (22.4%) in Nearng Kok (27.6%) the area closest to the project site, an way below average in Koh Pao (10.9%) and especially Peam Krasaob (2%), reflecting the non-industry oriented outlooks on the preferred development within these remote fishing communities. Education and health are the major development priority in Peam Krasaob (58.7%) with Nearng Kok (32.8%) and Koh Poa (33.6%) still much above average (18%). Especially the results of the area closest to the project site, Nearng Kok, are important because they show that, even if the community welcomes the industrial development (see above) they have *other* at least equally important development priorities. Last but not least, the high importance attached to "agricultural extension" in Koh Poa (30% against an average of just 3.7%) is noteworthy and reflects the importance of farming (often as a second occupation, see above) for this community.

In table 18A below, the percentages refer to the total number of priorities mentioned by all respondents, whether as first or as second priority. The second column indicates if the priority in question was more often mentioned as first or as second priority or to an equal extent.

Table 19A Development priorities by location

Development priorities	Whole project area	1st/2nd*	Nearng Kok	1st/2nd	Koh Pao	1st/2nd	Peam Krasaob	1st/2nd	Other villages of Mundul Seima	1st/2nd	Smach Meanchey	1st /2nd
Any kind of factory	**22.4**	**1**	**27.6**	**1**	**10.9**	**1**	**2**	**1**	**18.8**	**1**	**24.5**	**1**
Upgrading/build roads	**21.7**	**1**	**8**	**1**	**18.2**	**2**	**7.6**	**2**	**21.8**	**1**	**23**	**1**
Improved educational facilities	9.5	1	18.3	1	19.1	1	34.6	1	12.4	1	6.9	1
Job training opportunities	2.3	2	2.4	1	3.6	1	2.9	2	1.5	1	2.6	2
Human resource development	0	2	0	1=2	0	1=2	0.3	2	0	1=2	0	1=2
Improved health and medical facilities	6.2	2	12.1	2	10.9	2	20.9	2	8.8	2	4.3	2
Educational and health facilities	**18**		**32.8**		**33.6**		**58.7**		**22.7**		**13.8**	
Improved access to clean water	10.1	1	4.8	1	0.9	2	9	1	8.7	1	11.1	2
Improved access to electricity	2.6	2	2.8	2	0	1=2	3.5	1=2	1.5	2	2.9	2
Other physical infrastructure	**12.7**		**7.6**		**0.9**		**12.5**		**10.2**		**14**	
More job opportunities in general	**9.4**	**1**	**8.5**	**1**	**3.6**	**1**	**4.4**	**1**	**10.2**	**1=2**	**9.5**	**1=2**
Agriculture extension	3.7	1	2.4	1	30	1	1.2	1	3.8	1	3.6	1
Improved irrigation system	1.3	2	1.2	2	0	1=2	1.5	1	1.5	2	1.3	1=2
Animal farm development	0.1	2	0	1=2	0	1=2	0	1=2	0	1=2	0.2	2
Farm development	**5.1**		**3.6**		**30**		**2.7**		**5.3**		**5.1**	
Improved access to market	2.9	2	7.2	2	0	1=2	2.6	1	2.6	2	2.8	2
Improved access to finance	1.3	1	0	1=2	0	1=2	1.2	1=2	1.1	2	1.5	1
Economy in general	0.3	1	0	1=2	0	1=2	0	1=2	0.6	1	0.2	1
Commerce development	0.1	1	0	1=2	0	1=2	0	1=2	0	1=2	0.2	1
General business development	**4.6**		**7.2**		**0**		**3.8**		**4.3**		**4.7**	
More recreational facilities	0.5	2	1.6	2	1.8	2	0.6	1=2	1.1	2	0.2	2
Mosque for Muslim people	0.4	1=2	0	1=2	0	1=2	0	1=2	0	1=2	0.7	1=2
Buddhist development	0.3	2	0.4	2	0	1=2	2	2	0.4	1=2	0.2	2
Orphan center development	0.1	2	0.2	2	0	1=2	0	1=2	0.2	2	0	1=2
Casino	0.1	1	0	1=2	0	1=2	0	1=2	0.2	1	0	1=2
Sport	0	1=2	0.2	1	0	1=2	0.3	2	0	1=2	0	1=2
Other	**1.4**		**2.4**		**1.8**		**2.9**		**1.9**		**1.1**	
Preserve the environment	**1.2**	**2**	**0.2**	**2**	**0**	**1=2**	**0.3**	**1**	**0.8**	**2**	**1.5**	**2**
Fishery development	1	1	0.4	1	0.9	2	4.4	1	1.9	1	0.5	1
Fishery market development	0.1	2	0	1=2	0	1=2	0.3	1	0	1=2	0.2	2
Fisheries development	**1.1**		**0.4**		**0.9**		**4.7**		**1.9**		**0.7**	
Tourism for local and international visitors	**0.9**	**1**	**0.2**	**2**	**0**	**1=2**	**0**	**1=2**	**0.4**	**1=2**	**1.1**	**1**
Do not know 2nd priority	1.4	1	1.6	1	0	1=2	0.6	1	1.7	1	1.3	1

When looking at the relationship between the background of respondents and their development priorities several observations can be made:

Respondents in real rural areas (Koh Poa, Peam Krasaob and Tuol Kokir) were less likely than other respondents to mention "any kind of factory " as a development priority (Chi-square=106, p=0.000)[45]. They were also less likely to mention "upgrading of roads" (Chi-square=15.55, p=0.000). Both of these are upheld when the analysis controls for other background variables in probit analysis. On the other hand, rural respondents were more likely to mention "improved educational facilities" (Chi-square=117, p=0.000).

Gender differences for the two most important development priorities, "any kind of factory" and "upgrading of roads" are minor. The first does not test statistically highly significant (Chi-square=3.67, p=0.055). The probit regression of the gender (female) variable on the probability of mentioning "development of factories" however tends to corroborate a negative relationship (Appendix iii). The second is statistically significant (Chi-square=5.83, p=0.02) but not meaningful. However, the stronger female preference for improved educational facilities (11.3% versus 7.7%) does not even need statistical testing to be considered relevant.

Younger respondents (the age group from 18 to 25) do not stand out from the whole sample in terms of the dominant development priorities (both "any kind of industry", Chi-square=0.73, p=0.39, and "upgrading roads", Chi-square=0.037, p=0.85, are statistically insignificant). The only noteworthy differences are less emphasis on "access to clean water" (7% versus 10.1% overall) and more emphasis on "improved educational facilities", both obviously statistically significant.

Proximity to the project site (Nearng Kok and Cham Yeam communities) is reflected in a somewhat higher preference for "any kind of industry" (Chi-square=153, p=0.000). "Upgrading roads" scored substantially lower than average, reflecting the above average road facilities already in place. Other important differences between the communities closest to the site and the rest are strong preferences for improved educational facilities"(14.5% versus 9.5% overall) and "improved health and medical facilities" (14.3% versus 6.2% overall), both highly statistically significant.

[45] The statistical significance of differences between the bipolar values of the background variables was determined by applying a Chi square test to the proportions of the two values of respondents who mentioned a particular development priority (either as first or as second priority). The un-weighted dataset was used for this analysis to ensure that statistical significance reflects meaningful differences (for the weighted dataset, with its much larger number of cases, even the slightest difference would show up as being statistically significant). But even the un-weighted data-set contains a lot of cases and statistical significance does not automatically imply a meaningful difference.

Table 19B. Household's development priorities – by gender, young adults, real rural and proxy to the project site.

Development priorities	Whole project		Male		Female		18-25		Real rural		Proximity to project site	
	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd
Any kind of factory	22.4	1	23.5	1	21.5	1	20.0	1=2	5.1	1	24.1	1
Upgrading/build roads	21.7	1	22.4	1	21.1	1	21.6	1	12.2	1	13.2	1
Improved access to clean water	10.1	1	10.3	2	9.9	1	7.0	2	6.8	1	11.1	1
Improved educational facilities	9.5	1	7.7	1	11.3	1	13.6	1	27.2	1	14.5	1
More job opportunities in general	9.4	1	9.0	2	9.9	1	8.9	1=2	4.2	2	8.1	2
Improved health and medical facilities	6.2	2	5.5	2	6.9	2	8.7	2	11.9	2	14.3	2
Agriculture extension	3.7	1	4.8	1	2.8	1	0.4	1	12.7	1	3.6	1
Improved access to market	2.9	2	2.6	2	3.1	2	3.7	1	1.2	1	4.1	2
Improved access to electricity	2.6	2	2.4	1	2.7	2	2.4	1	1.6	1=2	1.0	2
Job training opportunities	2.3	2	3.1	2	1.6	1	3.8	2	1.8	2	2.2	1
Improved irrigation system	1.3	2	1.3	2	1.4	2	0.9	1	4.2	2	1.6	2
Improved access to finance	1.3	1	1.4	1	1.3	1	0.6	1	3.1	2	0.3	2
Preserve the environment	1.2	2	0.8	2	1.6	1	1.1	2	1.0	2	0	2
Fishery development	1.0	1	1.5	1	0.4	1			2.1	1	0.4	1
Tourism for local and international visitors	0.9	1	1.1	2	0.7	1	1.4	1=2				
More recreational facilities	0.5	2	0.5	2	0.5	2	0.2	1	0.5	2	0.7	2
Mosque for Muslim people	0.4	1=2	0.7	1	0.2	2	1.4	1=2				
Buddhist development	0.3	2	0.1	2	0.5	2			1.8	2	0.1	2
Economy in general	0.3	1	0.2	1	0.3	1						
Fishery market development	0.1	2	0.2	2	0.0	1=2	0.6	1=2	0.1	1		
Commerce development	0.1	1	0.2	1	0.0	1=2	0.5	1=2				
Animal farm development	0.1	2	0.0	1=2	0.2	2	0.5	1=2				
Orphan center development	0.1	2	0.0	1=2	0.1	2						
Casino	0.1	1	0.1	1	0.0	1=2	0.2	1=2			0.3	
Sport	0.0	1=2	0.0	1=2	0.0	1=2			0.1	2	0	
Human resource development	0.0	2	0.0	2	0.0	1=2			0.1	2		

Statistical analysis[46] showed significant differences in the preference for "any kind of factory" (Chi-square=24.11, p=0.000) but not a strong trend, i.e. there is some indication that the better educated the more interested in industrial employment as a development option (z=2.63, p=0.01) but it is not very strong. Looking at the data (see table 18C in the appendix I) it is evident that there is indeed not much of a straightforward trend because those who never went to school might favor "any kind of factory" less than nearly everyone else (16.6%), the respondents who entered higher secondary but did not or have not yet complete(d) it, are even less interested (13.6%). Probit analysis controlling for other background variables, like urban/rural location, sex and length of residence in the area does indeed not confirm an educational trend for this development priority. Development of industry and upgrading road infrastructure are the two most frequent choice of people regardless of level of educational attainment. However people who never went to school give less priority to the factory than to road infrastructure.

The second major development option, "upgrading roads" is not influenced by the respondents' level of education (Chi-square=6.35, p=0.385).

[46] For the multi-level variable of education, the Chi-square was complemented testing for a trend

When examining the relationship between households' length of residence in the area and respondents' preferences for development options (see table 18C in the appendix I) not much of relevance shows up: using the dummy variable which distinguishes those who have resided in the are five years or longer from the newcomers, a marginally stronger preference for upgrading of roads is evident (Chi-square=4.07, p=0.04) Development of industry is the most frequent option for all people with different length of residence.

After the open question, respondents were asked to choose one option among five development options: tourism, industry, tourism and industry, agriculture and fishery. Frequencies are reported in tables 19A and 19B below.

Results are generally consistent with households' opinions on development priorities reported above. Industry is the most frequently chosen option (44%) by people in the surveyed area. Development of fishery (19.7%) ranks second followed by the option combining industry and tourism (17%); Tourism on its own was chosen by only (9.7%) of respondents.

Differences across locations all make sense: development of industry is by far the most important option for Nearng Kok (54.6%), Smach meanchey (45%) and other villages of Mundul Seima (44.7%). In Peam Krasaob the fishery development option is chosen by three quarters of all respondents (73.5%). Respondents in Koh Poa prefer development of agriculture (41.9%) but also fisheries scores high (29%). Development of industry scores comparatively low in both of the latter locations, although still one out of five (Koh Poa) or six (Peam Krasaob) prefers this option above anything else. Probit analysis confirms the negative relationship between a preference for the development of industry and living in a remote rural area, as well as a positive relation with development of fishery (and a negative relationship with development of tourism).

Those residing closest to the project site, referred to as proxy location in table 19A (Nearng Kok and Cham Yeam village which is part of the other villages of Mundul Seima) differed significantly from others in several respects. A stronger preference for the development of tourism (Chi-square=12.8, p=0.000), a stronger preference for the development of industry (Chi-square=37, p=0.000), and a lower preference for fishery development (Chi-square=74.46, p=0.000).

Table 20A Development options: closed question in %

Development options	Whole project area	Nearng Kok	Proxy location	Koah Poa	Peam krasaob	Other villages of Mundul Seima	Smach Meanchey
Development of tourism	9.7	13.7	9.4	8.1	4.6	11.8	8.9
Development of industry	44.4	54.6	60.5	19.4	16.8	44.7	45.0
Development of both tourism and industry	17.0	12.4	18.4	1.6	2.6	12.7	19.7
Development of agriculture	7.9	11.7	9.4	41.9	2.0	9.3	6.9
Development of fishery	19.7	6.9	2.2	29.0	73.5	20.2	18.1
Don't Know	1.3	0.7	0.2	0.0	0.5	1.3	1.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

For respondents in "real rural areas" (Tuol Kokir, Peam Krasaob and Koh Poa) fishery and agriculture development (40.5%, Chi-square=204, p=0.000 and 30.1%, Chisquare=16, p=0.000) is significantly more important than for those residing elsewhere. This importance is quite outspoken because their preference for all other options is significantly lower than for those not living in rural areas:
Lower preference for development of industry option, Chi=square=81, p=0.000
Lower preference for development of tourism option, Chi-square=10, p=0.001
Lower preference for development of both industry and tourism option, Chi-square=34, p=0.000

Female and male preferences are very similar and all differences test non-significant[47]. The gender variable in the probit regression (Appendix III) was not discriminating either.

[47] The difference of half a percent point for the option "development of industry actually tested significant at p=0.03 (Chi-square=4.58) but, given the magnitude of the difference, this is meaningless.

Young adults tend to put a lower than average emphasis on industry (36.8% against 44.4 % for the whole sample) (Chi-square=5.25, p=0.02). Similarly they exhibit higher than average preference for the tourism development option (15%), and for development of both industry and tourism (Chi-square=5.01, p=0.025 and Chi-square=5,21, p=0.02 respectively). These differences are generally supported by the regression analysis (Appendix III)."

Preference for economic development options also differed along the lines of level of educational attainment. For the purposes of this analysis we split the respondents into two: those who did not progress beyond primary school and those that entered and/or finished secondary school (or above) and included the results in table 19B below. The results for all levels of education are summarized in Table F in the appendix I. The more educated had a lower preference for development of industry (Chi-square=14.8, p=0.000), a higher preference for development of tourism (Chi-square=5.77, p=0.016), and a higher preference for developing both industry and tourism (Chi-square=32.4, p=0.000). Both the negative relationship of better educated with development of industry and its positive relationship with development of tourism were upheld in probit analysis.

Table 20B. Development options by gender, young age group, rural households in %

Percentage	Whole project area	Male	Female	Age 18-25	Real Rural	Secondary Education And above
Development of tourism	9.7	8.3	11.0	15.0	3.2	18.8
Development of industry	44.4	44.1	44.6	36.8	21.3	26.6
Development of both tourism and industry	17.0	17.7	16.4	21.2	3.0	30.4
Development of agriculture	7.9	9.7	6.2	3.2	30.1	5.8
Development of fishery	19.6	19.2	20.1	22.5	40.5	16.2
Do not know	1.3	1.0	1.6	1.2	1.9	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

Differences in preferences according to length of residence are summarized in Table 19G in the appendix. Industry is the most common option of development for people regardless the length of settlement. The only patterns seems to be a somewhat more outspoken choice for either industry or tourism, rather than choosing both, for those living less than five years in the area as compared to those residing there longer, and a somewhat lower preference for industry amongst those who have always lived in the area (complemented by a somewhat higher preference for development of fishery). Especially the latter is understandable, because if there is one subgroup that can be expected to have an established base of livelihood, it is the long-term residents of the area.

Finally, in the probit analysis (Appendix III) the choice of industry was also found to be significantly and negatively influenced by the level of household expenditure (beta = -0.000, p.0.009). The regression results show that the probability of choosing industry is significantly higher for job seekers (beta = 0.42, p = 000), and those who already know about the project (beta =0.15, p= 0.000).

Respondents were also asked to explain why they chose a particular economic development option (open-ended question). Table 19E shows the percentages for the three most frequently mentioned reasons for particular development options.

Table 20C Reasons for choosing a particular economic development option (Q.103)

Reasons given for the choice	Whole project area	Priority given[1]
Tourism		9.7%
1st Easy to do the business	62.2%	
2nd More chance to get jobs	14.1%	
3rd Our life will be better off	13.1%	
Industry		44.4%
1st More chance to get jobs	57.0%	
2nd Our life will be better off	25.0%	
3rd Migrant to Thailand can return to seek job at home	5.0%	
Both tourism and industry		17%
1st More chance to get jobs	38.2%	
2nd Being easy to do the business	33.7%	
3rd Our life will be better off	12.2%	
Agriculture		7.9%
1st We have land and agricultural skills	56.4%	
2nd Easier to sell our products	15.7%	
3rd Easier in developing different agricultural products	9.8%	
Fishery		19.7%
1st Our daily job is fishing	68.9%	
2nd Easier to sell our products	11.0%	
3rd We want a local market for our product	2.8%	

Answers all make evident sense and largely refer to income earning opportunities. The most frequently chosen option, development of industry, was hoped to increase job opportunities (57%) and improve living standards generally (25%). Those who chose tourism, mainly looked for business opportunities (62.2%), while for those who went for the combination of industry and tourism, it was a combination of more jobs and more business opportunities.

The 5% who mentioned a preference for industrial development because this would enable family members who had migrated to Thailand to return home seems small, but It is important to keep in mind that of the 15.6% (Table 8A) of households who reported labor out-migration, half (54%, Table 8B) mentioned that their household member(s) worked in Thailand. In other words, for those with family members working in Thailand, this reason is very important.

The choices for agricultural and fishery development is clearly determined by respondents' being either farmers or fishermen themselves and looking for improvement of their current livelihood.

IV. Knowledge of EPZ

The walls bordering the EPZ project site have already been constructed and are visible for everyone who is on her way to and from the Thai border. However, the survey shows (Table 21A) that less than half of respondents (43%) know about the EPZ development. As is to be expected, people in Nearng Kok and Cham Yeam (62.9%) know significantly more about EPZ project than those in other places (40.2%). Nevertheless, keeping in mind that they live close to the wall it is still a concern that 37.1% do not know about the project. Another expected finding is that the number of people who don't know about the EPZ project is high in the more remote locations of Koh Poa (80.6%) and Peam Krasaob (76.5%). All relocated households know about EPZ.

Table 21A. Household's knowledge about EPZ (Q201) in %

Location	Yes	No
Whole project area	43.6	56.4
Nearng Kok+ Cham Yeam	62.9	37.1
Others places	40.2	59.8

[48] See table 19A

Respondents who had said that they knew about the project were subsequently probed for their source(s) of information through which they had acquired their knowledge (open ended question, two answers allowed). The main source of information about the EPZ project turned out to be "friends, family members and neighbors" (46.6%), followed by the commune council (3%) and office (2.8%). This is as true for respondents located in near proximity of the project site as for all others. The conclusion can only be that official information dissemination has been either very limited or absent. When reading table 21B it is important to keep in mind that the percentages refer to those that had indicated having heard about the EPZ, which is less than half of the total population surveyed overall and a good 60% of those living closest to the site!

Table 21B. How households obtained information about the EPZ in %

	Whole project area	Nearng Kok+Cham Yeam	Other places
TV	0.2	0.0	0.3
Radio	0.4	0.0	0.6
Newspapers	0.3	0.2	0.3
Group chief	0.2	1.1	0.0
Village chief	0.7	0.9	0.7
Commune council	3.0	2.4	3.1
Religious leader	0.2	0.0	0.2
Friends and family and neighbors	46.6	48.1	46.2
NGO	0.2	0.1	0.3
Office	2.8	3.6	2.6
Talking by radio with high rank official	0.0	0.0	0.0
Soldier along the Thai border	0.0	0.1	0.0
Party meeting	0.0	0.1	0.0
Billboard on the street	0.1	0.1	0.1
Someone who came to buy land	0.0	0.2	0.0
Government official	0.9	0.1	1.1
provincial and district official	0.4	0.2	0.4
Have seen the site by myself	0.0	0.1	0.0
No second answer	43.7	42.7	44.0
Total	100.0	100.0	100.0

Then respondents – again those that had indicated knowledge of the project! - were asked what exactly they knew about the project (Open ended, multiple answers allowed). The results in Table 21C show that most of these (79%) knew the EPZ would mean the building of factories, although more than half of them (53%), also those living closest to the site (Nearng Kok and Cham Yeam: 57%) don't know what kind of factory. About one out of six mentions garment factories. Overall, about 15% of respondents mentions other developments and 6% is unclear. Those residing closest only mention one other development: a market. This is understandable because the location for a market has indeed been marked off by a(nother) wall that is clearly visible. One has to conclude that knowledge about the EPZ is still quite limited. In fact, for many respondents, the enumerator became an important source of information on the project.

Table 21C. What households know about the EPZ project in %

	Whole project area	Nearng Kok + Cham Yeam	Other places
Factory, but do not know of types of factories that will be constructed	53.23	57.18	52.20
Garment factory	14.76	13.32	15.14
Light industries in general	5.79	2.98	6.53
Paper and plastic factory	1.44	1.42	1.45
Shoes factory	1.01	1.16	0.98
Conserves factory (fish-fruits)	0.93	1.68	0.74
Sugar factory	0.91	3.49	0.24
Drinking water factory	0.40	0.00	0.50
Blanket factory	0.37	0.91	0.24
Wheat factory	0.27	1.29	0.00
Fish sauce factory	0.03	0.13	0.00
Soap factory	0.03	0.13	0.00
Some kind of factory	79.17%	83.69%	78.02
Market	9.40	13.97	8.21
A zone will be developed but respondent is not clear about which kind of development	5.93	1.03	7.20
Tourist site	4.54	1.29	5.38
Golf court	0.59	0.00	0.74
Street	0.19	0.00	0.24
Casino	0.19	0.00	0.24
Total	100.00	100.00	100.00

Respondents were also asked when they had first heard about the project see Table 21D). 39.8% reported having heard about the EPZ project about one year ago. 24% reported having received first news about two years ago, while other 36.5% just recently heard about the project. Although more Nearng Kok and Cham Yeam respondents had heard about the site earlier (less only in the last six months and more one year and two years and more ago), what is most striking is the similarity between the these locations and other places. Even though they lived just next to the site, only 28.9 % of respondents in these communities were knowledgeable two years ago.

Table 21D. When had people first heard about the EPZ (Q205) in %

	Whole project area	Nearng Kok + Cham Yeam	Other places
Last month	8.6	4.7	9.6
Three months ago	11.7	7.1	12.9
Six month ago	15.8	14.0	16.3
Short term	36.1	25.8	37.8
One year ago	39.8	45.2	38.5
Two years ago	24.0	28.9	22.7
Three years ago	0.0	0.1	0.0
Total	100.0	100.0	100.0

V. Acceptance and perceived impacts of EPZ

1. Acceptance

When a respondent mentioned a lack of knowledge about the EPZ , the enumerator provided a brief introduction[49]. After that short introduction people were asked whether they welcomed the EPZ in order to assess their acceptance.

[49] It was explained that the EPZ site is in Mundul Seima district, near Nearng Kok village, and the enumerator referred to the existing wall fencing off the EPZ. It was explained that the zone was to host a lot of foreign factories, such as garment factories, shoe factories and toy factories, and that an expected number of 28,000 jobs were involved.

Despite different views of people about development priorities in their area, all people in the surveyed area expressed support for the EPZ project, regardless of proximity, sex, level of education, or urban/rural location. (See tables 22A and B below, and tables 22C and D in the appendix I). There are differences between the respective proportions that "strongly" welcome as compared to those that welcome the development "somewhat", but given that the lowest percentage for "strongly welcome" is still overwhelmingly high at 77.4% for the highest educated stratum (see Table 21D) the picture of very broad acceptance is pretty clear.

Table 22A Acceptance of EPZ, by location

Acceptance	Whole project area	Nearng Kok	Koh Poa	Peam Krasaob	Other villages of Mundul Seima	Smach Mean Chey
Welcome strongly	86.2	83.5	88.7	81.1	89.5	85.3
Welcome somewhat	12.3	13.7	6.5	16.8	9.3	13.3
Somewhat not welcome	1.0	1.7	1.6	0.5	0.6	1.1
Not welcome at all	0.0	0.3	1.6	1.0	-	-
Not care at all	0.4	0.7	1.6	0.5	0.6	0.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table 22 B: Acceptance of EPZ by sex, age, rural location, and higher education level , in %

	Whole project area	Male	Female	Age 18-25	real rural	Secondary education and above	Nearng Kok and Cham Yeam
Welcome strongly	86.2	82.9	89.3	87.5	78.9	84.7	88.9
Welcome somewhat	12.3	15.6	9.3	12.1	17.8	14.7	9.4
Somewhat not welcome	1.0	1.0	1.0	0.1	0.5	0.5	1.5
Not welcome at all	0.0	0.1	0.0	0.1	0.7	0	0.1
Not care at all	0.4	0.4	0.4	0.4	2.1	0.1	0.2
Total	100	100	100	100	100	100	100

2. Households' opinions on project impacts on the community and family

2.1 Perceived benefits from EPZ project

Respondents have high expectations regarding benefits from the project. In general, regardless their location and its proximity to the site, its urban or rural character, and regardless of respondents' sex, or age, benefits for their communities are expected by near all (97.5%, see Table 22B) and benefits for their families are expected by 89.7%. The difference between benefits expected for the community versus one's own family is statistically significant but does not make the extent to which benefits for one's own family are expected less prominent. Also, the somewhat lesser expectations of those living in real rural areas, especially Peam Krasaob are statistically significant, a finding in line with the opinions of these fishermen and farmers on development priorities reported above.

Table 23A: Respondents' opinion on project benefits

	Benefits for the community			Benefits for the family			Total
	Yes	No	Do not know	Yes	No	Do not know	
Nearng Kok	96.2	1.4	2.4	88.7	4.5	6.9	100.0
Koh Poa	98.4	1.6	0.0	90.3	8.1	1.6	100.0
Peam Krasaob	88.8	5.6	5.6	85.2	11.2	3.6	100.0
Other village of Mundul Seima	95.0	1.5	3.4	90.1	4.7	5.3	100.0
Smach Meanchey	98.9	0.6	0.6	89.7	5.8	4.4	100.0
Whole project area	97.5	1.0	1.5	89.7	5.6	4.7	100.0
Male	97.4	1.0	1.6	90.5	5.7	3.9	100.0
Female	97.6	1.0	1.4	88.9	5.6	5.5	100.0
Age 18-25	97.9	1.6	0.5	90.9	5.4	3.7	100.0
Real Rural	89.8	5.8	4.2	81.0	10.9	8.1	100.0

Those who indicated that they expected benefits from the EPZ project for their community and their family were then asked to specify what kinds of benefits that they expect (open ended questions, two answers possible).

With respect to benefits expected for their community (see Table 23B below, and Tables 23D and E in the appendix) overall, 90% of all answers referred to more jobs and a generally improved livelihood. Between locations there were no significant differences apart from an understandable somewhat lower expectation of increased business opportunities in the more remote villages of Peam Krasaob and Koh Poa. Also the expectations of sexes, age groups and rural versus urban location does not show much differentiation (Table 23D). The lower expectation regarding increased business opportunities evident in the table by location is matched by a similar finding for the real rural location. The absence of any difference between the young age group and the older respondents is noteworthy because one might have expected the young to be more eager for employment opportunities.

However, looking at respondents' expectations regarding their own family (see Table 23C), the assumed higher hopes of the young regarding jobs suddenly appears (73.6% versus an average of 57.3%; see Table 23F). Results for the family are all in all quite similar to those for the community as a whole. Job generation ranks first, followed by the expected general improvement of living standards and increase business opportunities. Nevertheless, the more concrete expectations regarding the own family do add some profile to the community data. Respondents in Koh Poa and Peam Krasaob mentioned the opportunity to change their current job significantly more often than those elsewhere (13.3 and 13.8% versus an average of 7.6%). Obviously this finding is confirmed by the dummy for real rural residents (12.5%). For both communities, the lower expectation regarding business opportunities (i.e. in this case "selling of food and other goods") evident in the community data was also visible at family level (5.6 and 8.2% versus an average of 21%), again confirmed by the rural dummy (7.9%).

Expectations were not differentiated along the dimension "length of residence", neither for community nor family (see Tables 23E and 23G).

Table 23B. Respondents' views on the kinds of benefit they expect for their community (Q210)

Kind of benefit	Whole project area		Nearng Kok		Koh Poa		Peam Krasaob		Other villages of Mundul Seima		Smach Meanchey	
	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd
Create more job opportunities	49.9	1	50.0	1	56.3	1	54.3	1	51.2	1	49.1	1
Reduce out migration	5.1	2	4.0	2	1.9	2	1.8	2	3.3	2	6.0	2
Women will have more job opportunities	3.0	1	1.2	1	0.0	1=2	1.1	1	2.2	1	3.5	1
Men will have more job opportunities	1.0	2	0.2	2	0.0	1=2	0.4	2	0.9	2	1.1	2
We will be able to improve through acquiring job experiences	0.2	2	0.0	1=2	1.0	2	0.0	1=2	0.2	2	0.2	2
More jobs	59.2		55.4		59.2		57.6		57.8		59.9	
The livelihood of people will be better than before	31.0	2	35.9	2	36.9	2	35.1	2	33.2	2	29.7	2
The price of local produce is lower than that of imported goods	0.4	2	0.2	2	0.0	1=2	0.0	1=2	0.4	2	0.5	2
General livelihood improvement	31.4		36.1		36.9		35.1		33.6		31.1	
Develop business and other services	4.1	2	3.6	2	2.9	2	2.8	2	3.3	2	4.5	2
We can do small-scale business there	1.6	2	1.6	2	0.0	1=2	1.1	2	1.4	2	1.7	2
When we have a market & many customers there-we can do business	0.1	2	0.0	1=2	0.0	1=2	0.4	2	0.2	2	0.0	1=2
The factory will by our produce for processing	0.0	2	0.2	2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2
We can make a benefit from selling the factory products	0.0	2	0.0	1=2	0.0	1=2	0.4	2	0.0	1=2	0.0	1=2
Business opportunities	5.8		5.4		2.9		4.7		4.9		6.2	
Koh Kong will become a prestigious province	1.1	2	0.2	2	0.0	1=2	0.4	2	0.4	2	1.4	2
Road infrastructure will be developed	1.0	2	1.0	2	0.0	1=2	0.0	1=2	1.4	2	0.9	2
Reduce illegal logging	0.9	2	0.6	2	0.0	1=2	1.1	2	0.5	2	1.1	2
Tourism will be more developed	0.4	2	1.2	2	1.0	2	0.7	1=2	0.9	2	0.2	2
To reduce bad activities of young people, e.g. illicit drug use	0.1	2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.2	2
School infrastructure will be developed	0.1	2	0.2	1	0.0	1=2	0.0	1=2	0.2	2	0.0	1=2
We will have modern products for use	0.0	2	0.0	1=2	0.0	1=2	0.0	1=2	0.2	2	0.0	1=2
Our community will have new development	0.0	2	0.0	1=2	0.0	1=2	0.4	2	0.0	1=2	0.0	1=2
Other benefits	3.6		2.2		1.0		2.6		3.6		3.6	
Do not know a second priority	0.1	1	0.0	1=2	0.0	1=2	0.4	1	0.2	1	0.0	1=2

Table 23C. Respondents' views on the kinds of benefit they expect for their family (Q212)

	Whole project area		Nearng Kok		Koh Poa		Peam Krasaob		Other villages of Mundul Seima		Smach Meanchey	
	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd
Have more job opportunities	48.3	1	48.5	1	52.2	1	50.6	1	53.2	1	46.3	1
We can change our current job	7.6	2	7.7	2	13.3	2	13.8	2	3.9	2	8.7	2
The next generation will have a job	0.9	2	0.5	2	-	1=2	1.1	2	2.0	2	0.5	2
We can have a job here-not necessary to work in Thailand anymore	0.3	2	-	1=2	1.1	1	-	1=2	0.4	2	0.4	2
Daughters will have a job here so no need to work far away	0.1	2	-	1=2	-	1=2	-	1=2	0.2	2	-	1=2
We will have a permanent job	0.0	2	0.2	2	-	1=2	-	1=2	-	1=2	-	1=2
Job related benefits	57.2		56.9		66.6		65.5		59.7		55.9	
Living standards are better when family members have work	21.7	2	22.3	2	27.8	2	25.7	2	19.2	2	22.4	2
We can buy locally produced goods of quality at a lower price	0.1	2	0.2	2	-	1=2	0.4	2	0.2	2	-	1=2
General living standard will improve	21.8		22.5		27.8		26.1		19.4		22.4	
It will be easier to sell food and other goods	21.0	2	20.0	2	5.6	2	8.2	2	20.8	2	21.7	2
Having factories, the electricity supply will be improved	0.0	1	0.2	1	-	1=2	-	1=2	-	1=2	-	1=2
Other benefits												
Total	100.0		100.0		100.0		100.0		100.0		100.0	

2.2 Perceived negative impacts from the EPZ project

People in the surveyed area do not expect much negative impacts Overall, 14.8% of respondents expect negative impact on their communities (Table 24A), and even less (7.3%, see Table 24B) on their families. Significantly, those residing closest to the site expect more negative impacts than others for both their communities and their own families and especially if one interprets the "don't know" answer category as a sign of doubt (28.7% versus the average of 19.2% for the community question and 15.9% versus 10.1% for the family question, both statistically significant.

Although only a few respondents associate negative impacts to the project, a limited regression analysis was conducted to assess this expectation against the socio-economic background of respondents (Appendix 3). The analysis shows that education and awareness (proxied here by a dummy for respondents who know about the project) make people more prone to expect negative impacts. Results also suggest that females are less inclined than males to expect negative impacts at either the community or the family level, and, interestingly, those who hail from households actively looking for work during the last twelve months being more inclined to expect negative impacts.

Table 24A :Do you think that the project may have negative impact on your community?

	Nearng Kok	Nearng Kok & Cham Yeam	Koh Poa	Peam Krasaob	Other villages of Mundul Seima	Smach Meanchey	Whole area
Yes	16.8	17.8	3.2	12.4	11.2	16.4	14.8
No	74.6	71.3	93.5	83.2	80.7	80.8	80.7
Do not know	8.6	10.9	3.2	4.6	8.1	2.8	4.4

Table 24B :Do you think that the project may have negative impact on your Family?

	Nearng Kok	Nearng Kok & Cham Yeam	Koh Poa	Peam Krasaob	Other villages of Mundul Seima	Smach Meanchey	Whole area
Yes	9.3	11.6	1.6	6.1	7.5	7.2	7.3
No	86.6	84.1	96.8	90.3	87.9	90.8	89.9
Do not know	4.1	4.3	1.6	3.6	4.7	1.9	2.8

Those who expected negative impacts were subsequently asked to specify what kinds of impacts they thought about (open-ended question, two answers possible). The results are reported upon in Tables 24C and 24D below and tables 24E-F in the appendix[50].

The small number of respondents who mentioned expecting negative impacts for their community specified their fears and the large majority of answers referred to environment and health related problems (79.3%). Obviously they were aware of possible polluting effects of industrial development. That it is air pollution that stands out so much suggest that media reports and hearsay about health and pollution problems in the garment industry in Phnom Penh (with factory workers fainting in badly ventilated working areas, etc.) is at the bottom of this. The other issues that were mentioned are labor problems and the impact of in-migration and land conflict.

Differentiating these overall figures according to location and other background variables is only sensible if the differences are very obvious. This is the case for the importance attached to land conflict in Nearng Kok (32.4% of all answers of the 49 respondents in this location that answered this question refer to this issue). Field observation suggests that this finding does not so much refer to proper or improper compensation etc. of those resettled because of the site, but to the walled area of the zone symbolizing the much more general issue of land grabbing in Koh Kong.

Those expecting negative impacts on their own family were even fewer, but the pattern of the specified fears is nevertheless telling a story. The concerns about environment and health are clearly replicated and as the second highest type of negative impact nepotism and corruption in hiring labor appears. Nearly half of the answers of those closest to the site in Nearng Kok (42.9%) who expect negative impacts for their family[51] mention this.

[50] When looking at these tables it is important to keep in mind that the percentages refer only to those respondents who expect negative impacts, which is about one out of 6 or 7 for the community and only one out of 14 for their own family.
[51] 27 respondents

Table 24C. Respondents' views on the kinds of negative impacts for the community

	Whole project area		Nearng Kok		Koh Poa		Peam Krasaob		Other villages of Mundul Seima		Smach Meanchey	
	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd
Air pollution	42.1	1	23.0	1	25.0	1	33.3	1	31.4	1	46.0	1
More health problems	26.5	2	14.9	2	25.0	2	8.3	2	20.9	2	29.0	2
Pollution of the river	10.7	2	10.8	1	25.0	2	22.2	2	12.3	2	10.0	2
Environment & Health	**79.3**		**48.7**		**75**		**63.8**		**64.6**		**85.0**	
Conflicts over land	7.3	1	32.4	1	25.0	1	5.6	1	19.4	1	3.0	1
Conflict over houses of people	0.1	2	0.0	1=2	0.0	1=2	2.8	2	0.0	1=2	0.0	1=2
Land conflict	**7.4**		**32.4**		**25.0**		**8.4**		**19.4**		**3.0**	
Conflict between company and workers	5.3	1	9.5	2	0.0	1=2	8.3	1	5.2	2	5.0	1
Unfairness in choosing employees/workers	1.1	1	0.0	1=2	0.0	1=2	0.0	1=2	1.8	1	1.0	1
Low wages	1.1	2	0.0	1=2	0.0	1=2	0.0	1=2	1.8	1	1.0	2
Labor problems	**7.5**		**9.5**		**0**		**8.3**		**8.8**		**7.0**	
More migration in	1.8	2	0.0	1=2	0.0	1=2	0.0	1=2	5.2	1	1.0	2
Conflict between the people in the community and newcomers	1.4	1	6.8	2	0.0	1=2	2.8	1	1.8	1	1.0	1
In-migration increases crime in the village	0.8	2	1.4	2	0.0	1=2	0.0	1=2	0.0	1=2	1.0	2
In-migration	**4.0**		**8.2**		**0**		**2.8**		**7.0**		**3.0**	
Problems reaching one's place of work	0.8	1	0.0	1=2	0.0	1=2	2.8	2	0.0	1=2	1.0	1
Deforestation	0.8	2	0.0	1=2	0.0	1=2	2.8	1	0.0	1=2	1.0	2
More traffic	0.1	1	0.0	1=2	0.0	1=2	5.6	1	0.0	1=2	0.0	1=2
If zone is established on the basis of corruption, it can cause conflict	0.1	1	0.0	1=2	0.0	1=2	2.8	1	0.0	1=2	0.0	1=2
Expansion of sex industry	0.1	2	1.4	2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2
Other impacts	**1.9**		**1.4**		**0**		**13.0**		**0**		**2.0**	
Do not know	0.1	1	0.0	1=2	0.0	1=2	2.8	1	0.0	1=2	0.0	1=2
Total	100.0	1	100.0	1	100.0	1=2	100.0	1	100.0	1	100.0	1

Table 24D. Respondents' views on the kinds of negative impacts for the family

	Whole project area		Nearng Kok		Koh Poa		Peam Krasaob		Other villages of Mundul Seima		Smach Meachey	
	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd
Health problems	35.7	1	16.7	1	50.0	1	33.3	1	27.3	1	40.9	1
Polluted air/ Polluted environment	13.2	2	4.8	2	0.0	1=2	6.7	1	10.1	2	15.4	2
Noise pollution	0.9	2	0.0	1=2	0.0	1=2	6.7	2	2.6	2	0.0	1=2
Water pollution impacting (sea) fishing	0.3	2	4.8	2	0.0	1=2	6.7	1	0.0	1=2	0.0	1=2
Environment & Health	**50.1**		**26.3**		**50.0**		**53.4**		**50.0**		**56.3**	
Nepotism/corruption in hiring	26.8	1	42.9	1	0.0	1=2	20.0	1	27.3	2	25.7	1
Low incomes/salary	17.4	1	16.7	1	50.0	2	13.3	1	27.3	1	12.8	1
Conflict between manager and workers/ Worker and worker	3.3	1	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	5.1	1
No chance for a job because of a lack of appropriate skills	0.1	1	0.0	1=2	0.0	1=2	6.7	1	0.0	1=2	0.0	1=2
Security problem for female workers	1.6	1	0.0	1=2	0.0	1=2	0.0	1=2	5.2	1	0.0	1=2
Labour problems	**49.2**		**59.6**		**50.0**		**40.0**		**59.8**		**43.6**	
Land grabbing by the powerful	**0.7**	**2**	**14.3**	**2**	**0.0**	**1=2**	**0.0**	**1=2**	**0.0**	**1=2**	**0.0**	**1=2**
Total	100.0	1	100.0	1	100.0	1=2	100.0	1	100.0	1	100.0	1

2.3 Perceived main beneficiaries and negatively impacted groups

All respondents were asked the question, whom they expected to benefit most from the EPZ and why they thought so (open ended question). Almost 60% mentioned "people in the communities", while 24.7% think that it is the companies that will benefit most. The third largest percentage for main beneficiary is for the Government (5.1%). The main argument given for the "people in the communities" being considered the main beneficiary is that the EPZ project is expected to create many jobs for them and to increase their business opportunities, all in line with the other views of respondents, reported above. The explanation for singling out companies was equally common sense: investors only appear if their companies can be expected to profit.

The much smaller number that expected negative impacts were asked who exactly the EPZ was expected to impact. The answers are dominated by the category of poor people, reflecting people's expectation that these are the ones most likely to lack the skills and opportunities to find employment in the zone, and again the category of "people in the communities", referring to the expectation that it would be difficult and/or unsure if one would be able to profit from the job and business opportunities that the zone offers but easy to be affected the negative impacts, like pollution and in-migration.

Table 25A: Main beneficiary and most negatively impacted group

Main beneficiary		Most negatively impacted group	
People in the communities	59.4	Poor people	46.0
Companies	24.7	People in the communities	41.4
Government	5.1	Small children	5.1
Both men and women	4.6	Factory workers	3.7
Do not know/Refuse to answer	3.2	Those with skills not appropriate to factory work	2.5
Women	1.7	Women	1.3
Government officials involved	0.5		
People who have no experience	0.4		
Men	0.2		

Male and female respondents have very similar perceptions on the EPZ's main beneficiary, only differing in the third most frequently mentioned category which is the "government" (6%) for males and "both men and women" for females (see table 25B). Females are much more likely than males to mention the poor as the most negatively impacted group.

Table 25B: Main beneficiary and most negatively impacted group, by sex

Male respondents	
I. Main beneficiary groups	**%**
1-People in the communities	68.5
2-Companies	25.5
3-Government	6.0
II. The most negatively impacted groups	
1-People in the communities	59.8
2-Poor people	33.4
3-Factory workers	6.7
Female	
I. Main beneficiary groups	
1-People in the communities	64.3
2-Companies	29.7
3-Both men and women	6.0
II. The most negatively impacted groups	
1-Poor people	72.0
2-People in the communities	21.3
3-Those with skills not appropriate to factory work	6.7

2.4 Measures to increase the expected benefits and mitigate the negative impacts

Respondents were asked to give their opinions on what the local and central governments could do to increase the expected benefits (open ended question multiple answers; only respondents who expected positive impacts answered, and mitigate the negative impacts (open ended, multiple answers, only respondents who expected negative impacts answered)

Half of the suggested measures to increase the benefits of the zone are referring to the need to avoid nepotism and corruption, especially in recruitment, and actively ensure benefit for the local rather than outside local population. These suggestion tell us quite a lot about people's fears about what might happen. In other words, although expectations regarding employment opportunities are high, many respondents are aware of the fact that they might not materialize unless corruption and nepotism and uncontrolled competition with outsiders are actively prevented. Another 16% of suggested measures refer to the need to actively ensure that the most vulnerable do not loose out on this development. The other major concern and associated advice the respondents have is about the need to make the zone really happen so that its potential benefits can be reaped, make it happen in a timely manner and at a scale that will make a difference to the local population.

Table 26A Measures that the government can take to increase the expected benefits (Q213)

Suggested measures	Total %
Avoid nepotism and corruption, especially in recruitment and ensure benefit for local population E.g. Avoid corruption, (9.4%) Create factories and give job to local people, (8.8%) Avoid nepotism in recruiting staff, (8.4%) Set up an appropriate salary system, (5.9%) Inform people before starting recruit factory workers, (4.2%) Authorities should register people according to their skills (3.8%) Labor law enforcement Do not make pressure to the workers. No gender discrimination in worker recruitment Give priority to be a worker for whom who lose the land Do not appoint foreigners to supervise workers Do recruit local laborers and not outsiders	48.5
Accelerate and support project implementation E.g. Facilitate & push to build factories immediately, (21.9%) Encourage to have a lot of companies Factory should build also on the other side of the bridge Government should strengthen the investment policy	25.6
Ensure that the most vulnerable do not loose out E.g. Help poor people to have a job (8.9%) Give priority to poor people in Koh Kong (5.3%) Facilitate the illiterate to have get a job Help people to have a sustainable job	16.0
Improve physical infrastructure E.g. Create more bridges and roads (1.2%) Reduce the toll for passing the new bridge, (1.2%) Provide transportation & accommodation facilities for workers,	3.1
Provide training Provide vocational training before the project starts (1.5%) Organize more vocational training for people Create a school for training how to sew Educate people on the labor law	2.2
Other suggested measures	2.3
Do not know	2.2

The suggestions for measures to mitigate negative impacts (received from the small number of respondents that expected negative impacts) are a mirror image of the negative impacts expected. Labor law, corruption, pollution and health are the issues addressed.

Table 26B Measures that the government can take to mitigate the negative impacts

Suggested measures	%
Labor laws must be respected	30.0
The government must eliminate corruption	25.9
Prevent pollution to the environment	21.6
Factory need to use new machines	10.0
Health care services should be improved	8.2
Do not know	1.8
Other measures	2.2

VI. Relocated sub-group

The survey the study team identified 42 households in Nearng Kok that self-reported relocation from the site, and encountered 6 households in randomly sampled Cham Yeam (part of the other villages of Mundul Seima area) and 2 families in Smach Meanchey[52]. These relocated households reported having been relocated from the site from six to two years ago, with 44.6 % of them having moved from the site last year. Even when they received compensation from the government, half of them said that they were not consulted before being relocated, 22.6% said that they were not consulted, but just informed that they needed to move from the zone, while 24.4% mentioned that they were consulted before resettlement. Most of these households were informed about relocation in a public meeting (77.8%), a minority were informed through a home visit (20.3%).

Table 27A

Were you consulted before being relocated?	%
Yes- I was consulted	24.4
No- I was not consulted	52.9
Yes- the authorities came to inform us we need to leave	22.6
Total	**100.0**

The relocated people were asked how they felt about their new situation (closed question). More than half of them felt that the relocation did neither improve nor deteriorate their situation (58.3%). Some 15% said that their life is better than before, while some 20% indicated a decline in living situation.

Table 27B

How do you feel about your new situation?	%
Better than before	15.1
About the same	58.3
A little worse than before	16.1
Much more difficult than before	4.5
Do not know/No response	6.0
Total	**100.0**

An area has already been walled off for a new market, but the market itself has not yet been build. Most relocated people hope that they will get benefits in being relocated near a new market place (79.7%).

[52] This number is actual households interviewed, but the weighted number the relocated is 112 households

Table 27C

Do you see benefits in being located near a new "market place"?	%
Yes	79.7
No	14.9
Do not know	5.4
Total	**100.0**

More than half of relocated people (52.4%) said that they will not move from their new location, even if the situation does not improve. Some 17.8% said that they will move if the situation does not improve, while 28% are not sure.

Table 27D

Will you move from here if your situation does not improve?	%
Yes	17.8
No	52.4
Not sure	28.0
Do not know	1.8
Total	**100.0**

APPENDIX I

List of Additional Tables

Table 5A: Summary of Household Characteristics by location

		Nearng Kok	Koh Poa	Peam Krasaob
Male household head		83.8	93.5	88.8
Female household head		16.2	6.5	11.2
Average of Female members				
Average of working members		2.6	2.1	3.2
Male household head who completed primary education+		13.5	13.8	9.8
Female household head who completed primary education+		0	0	4.5
Disability		1	0.9	1.8
Average size of the household		5.1	3.7	5.5
Language spoken in the household	Khmer	91.2	94.7	83.3
	Thai	8.7	5.3	15.6
	Vietnamese	0.1	0	0.6
	Chinese	0	0	0.3
	Cham	0	0	0

Table 5A (cont.): Summary of Household Characteristics by location

		Other villages of Mundul Seima	Smach meanchey
Male household head		83.2	86.9
Female household head		16.8	13.1
Average of Female members			
Average of working members		2.5	2.3
Male household head who completed primary education+		12.3	11.5
Female household head who completed primary education+		5.6	0
Disability		1.6	1.2
Average size of the household		4.5	5.6
Language spoken in the household	Khmer	94.3	93.4
	Thai	3.3	1.6
	Vietnamese	0.6	1.4
	Chinese	0.4	0
	Cham	1.4	3.6

Table 6 E: Second occupation of household head

Total	**100.0**
None	78.4
Others = occasional day labor	4.4
Remittances from relatives	3.5
Fisherman	2.2
Vegetable garden/fruits	1.6
Moto-dop	1.3
Animal raising	1.2
Construction worker	0.9
Rice Agriculture	0.7
Civil servant	0.7
Seller in the village	0.6
Agricultural day laborer	0.6
Entertainment dancing and music	0.5
Taxi	0.4
Carpenter	0.4
Charcoal maker	0.2
Seller in a market	0.2
Beauty shop/barber	0.2
Police/ army/gendarmerie	0.2
Restaurant and service industry	0.2
Electrician	0.2
Traditional metal tool maker	0.2
House wife/man	0.2
Craft work	0.2
Money lender	0.2
Stay at home/home chores	0.1
Common property resource gathering	0.1
Private company staff	0.1
Sewing at a workshop	0.1
Recycle business	0.1
transporting goods within and between the village	0.1
Unemployed	0.0
Taxi Boat	0.0
Sewing at home	0.0
Casino dealer	0.0

Table 6F Second occupation of the male working population aged 15-60

Second Occupation	Nearng Kok	Koh Poa	Peam Krasoab	Other villages of Mondul Seima	Smach Meanchey	Whole project area
Sewing at a workshop	0.0	0.0	0.0	0.2	0.0	0.1
Sewing at home	0.0	1.3	0.0	0.0	0.0	0.0
Construction worker	0.7	0.0	0.0	0.7	0.3	0.4
Restaurant and service industry	0.0	0.0	0.0	0.0	0.1	0.1
Moto-Dop	1.4	0.0	0.0	0.2	1.3	1.0
Seller in a market	0.5	0.0	0.3	0.0	0.1	0.1
Seller in the village	1.4	0.0	0.0	0.4	0.4	0.4
Electrician	0.0	0.0	0.0	0.0	0.1	0.1
Agricultural day laborer	1.4	4.0	0.9	0.4	0.1	0.3
Civil servant	0.0	0.0	1.5	0.2	0.6	0.5
Charcoal maker	0.0	0.0	0.0	0.9	0.0	0.2
Beauty shop/barber	0.0	0.0	0.3	0.0	0.1	0.1
Entertainment dancing and music	0.0	0.0	0.0	0.2	0.3	0.2
Recycle business	0.0	0.0	0.0	0.2	0.0	0.1
Carpenter	0.5	0.0	0.0	0.4	0.1	0.2
Animal raising	0.5	1.3	0.0	0.7	1.2	1.0
Rice Agriculture	0.7	18.7	0.3	0.4	0.3	0.4
Vegetable garden/fruits	3.5	1.3	0.3	1.1	0.7	0.9
Seller in other once business	0.0	0.0	0.9	0.0	0.0	0.0
Taxi Boat	0.0	1.3	0.3	0.0	0.0	0.0
House wife/man	0.0	0.0	0.0	0.0	0.1	0.1
Unemployed	0.0	0.0	3.1	0.0	0.0	0.1
Fisherman	2.6	9.3	4.6	2.7	1.1	1.7
Common property resource gathering	0.5	1.3	0.0	0.4	0.0	0.1
Transporting goods within and between the village	0.0	0.0	0.0	0.4	0.0	0.1
Remittances from relatives	0.7	0.0	0.0	0.5	1.1	0.9
Sell lucky draw lottery	0.0	0.0	0.0	0.0	0.1	0.1
Craft work	0.0	0.0	0.0	0.0	0.1	0.1
Child labor	0.0	0.0	0.3	0.0	0.0	0.0
Stay at home/home chores	0.9	2.7	2.5	0.2	0.1	0.3
Taxi	0.7	0.0	0.0	0.0	0.4	0.3
Money lender	0.0	0.0	0.0	0.0	0.1	0.1
Police/ army/gendarmerie	0.0	0.0	0.3	0.0	0.1	0.1
Private company staff	0.5	0.0	0.0	0.2	0.1	0.2
Others = occasional day labor	2.1	2.7	0.6	2.1	2.5	2.3
None	81.5	56.0	83.6	87.7	88.1	87.4

Table 6G Second Occupation of the female working population aged 15-59

Second Occupation	Nearng Kok	Koh Poa	Peam Krasoab	Other villages of Mondul Seima	Smach Meanchey	Whole project area
Sewing at home	0.2	1.4	0.0	0.0	0.1	0.1
Casino dealer	0.0	0.0	0.3	0.0	0.0	0.0
Construction worker	0.0	0.0	0.0	0.0	0.1	0.1
Seller in the village	0.7	1.4	0.7	0.6	1.0	0.9
Agricultural day laborer	0.0	1.4	0.7	0.6	0.0	0.2
Civil servant	0.0	0.0	0.0	0.0	0.1	0.1
Animal raising	1.4	0.0	0.0	0.2	1.9	1.4
Rice Agriculture	0.0	4.3	0.0	0.0	0.1	0.1
Vegetable garden/fruits	1.8	0.0	0.0	0.0	0.3	0.3
House wife/man	0.7	2.9	3.0	0.6	0.9	0.9
Unemployed	0.0	0.0	2.7	0.0	0.0	0.1
Fisherman	0.7	2.9	1.3	0.7	0.1	0.4
Common property resource gathering	0.7	2.9	0.0	0.4	0.6	0.5
Transporting goods within and between the village	0.0	0.0	0.0	0.2	0.0	0.1
Remittances from relatives	1.1	1.4	1.0	2.2	1.5	1.7
Sell lucky draw lottery	0.0	0.0	0.0	0.0	0.5	0.3
Stay at home/home chores	0.2	2.9	3.0	0.2	0.1	0.3
Money lender	0.0	0.0	0.3	0.0	0.1	0.1
Others	0.2	0.0	0.3	0.8	1.3	1.1
None	92.3	78.3	86.7	93.5	91.0	91.6

Table 6 H Second Occupation of the female working population aged 15-24

Second Occupation	Nearng Kok	Koh Poa	Peam Krasoab	Other villages of Mondul Seima	Smach Mean Chey	Whole project area
Casino dealer	0	0	0.9	0.0	0.0	0.0
Seller in the village	1.2	0.0	0.9	0.0	0.9	0.7
Agricultural day laborer	0.0	0.0	0.0	0.5	0.0	0.1
Animal raising	0.0	0.0	0.0	0.0	0.7	0.5
Rice Agriculture	0.0	6.3	0.0	0.0	0.0	0.0
House wife/man	0.6	0.0	1.8	0.0	1.0	0.8
Unemployed	0.0	0.0	6.1	0.0	0.0	0.1
Fisherman	0.6	0.0	1.8	0.7	0.3	0.5
Common property resource gathering	0.0	3.1	0.0	0.5	0.9	0.8
Remittances from relatives	0.0	0.0	0.0	0.5	0.3	0.4
Stay at home/home chores	0.6	3.1	2.6	0.0	0.0	0.1
Others	0.0	0.0	0.0	1.0	0.0	0.3
None	97.1	87.5	86.0	96.7	95.8	95.8

Table 8C: Whether household members looked for a job during the last 12 months (From Q 425)

	Whole project area	Nearng Kok	Koh Poa	Peam Krasaob	Other villages of Mondul Seima	Smach Meanchey
Yes	**34.5**	40.2	19.4	19.4	38.5	33.3
No	**65.5**	59.5	80.6	80.6	61.5	66.7
DK	**0.0**	0.3	0.0	0.0	0.0	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table 9B: Transportation to school Multiple answer

	On Foot	Bicycle	Motorcycle	Boat	Moto-dup	Others
Whole project area	**62.2**	**40.8**	**9.9**	**0.5**	**3.1**	**0.8**
Nearng Kok	43.8	40.7	6.7	1.0	3.6	4.1
Peam Krasoab	95.8	0.0	0.0	0.0	0.0	4.2
Koah Poa	92.9	0.9	0.9	5.3	0.0	0.0
Other villages of Mondul Seima	78.3	13.8	3.0	1.5	1.0	2.5
Smach Meanchey	45.2	41.4	10.3	0.0	3.1	0.0
TOTAL	**100**	**100**	**100**	**100**	**100**	**100**

Table 10C: Highest level of general education by sex by location

Nearng Kok

Age groups	Sex	Never went to school	Primary not Complete	Primary complete	Lower second. not complete	Lower second. Complete	Higher second. not Complete	Higher second. Complete	Total
6-9	Male	37.8	62.2						100.0
	Female	28.4	71.6						100.0
10-14	Male	4.4	90.0	2.2	2.2	1.1			100.0
	Female	5.2	89.6	3.5	1.7	0.0			100.0
15-19	Male	6.7	54.7	12.0	21.3	2.7	2.7		100.0
	Female	21.3	59.6	6.7	11.2	1.1	0.0		100.0
20-24	Male	12.3	43.8	12.3	16.4	2.7	11.0	1.4	100.0
	Female	37.5	40.3	16.7	4.2	1.4	0.0	0.0	100.0
25-29	Male	20.5	38.5	10.3	25.6	0.0	2.6	2.6	100.0
	Female	30.4	47.8	10.9	6.5	4.3	0.0	0.0	100.0
30-34	Male	14.5	27.3	21.8	21.8	5.5	3.6	5.5	100.0
	Female	18.2	47.3	18.2	10.9	5.5	0.0	0.0	100.0
35-39	Male	6.3	42.9	12.7	27.0	7.9	1.6	1.6	100.0
	Female	37.8	51.1	2.2	6.7	2.2	0.0	0.0	100.0
40-44	Male	22.2	53.3	4.4	15.6	2.2	2.2		100.0
	Female	48.1	42.3	5.8	1.9	1.9	0.0		100.0
45-49	Male	18.9	56.8	5.4	10.8	2.7	0.0	5.4	100.0
	Female	17.0	63.8	12.8	4.3	0.0	2.1	0.0	100.0
50-54	Male	11.1	70.4	7.4	3.7		3.7	3.7	100.0
	Female	33.3	66.7	0.0	0.0		0.0	0.0	100.0
55-59	Male	28.6	50.0	21.4					100.0
	Female	57.1	42.9	0.0					100.0
60-64	Male	20.0	80.0						100.0
	Female	75.0	25.0						100.0
65 and over	Male	50.0	25.0	25.0					100.0
	Female	83.3	16.7	0.0					100.0

Table 10C (cont.): Highest level of general education by sex by location

Koh Poa

Age groups	Gender	Never went to school	Primary incomplete	Primary complete	Lower secondary incomplete	Lower secondary complete	Higher secondary complete	Total
6-9	Male	40.0	60.0					100
	Female	20.0	80.0					100
10-14	Male	0.0	100.0					100
	Female	12.5	87.5					100
15-19	Male	0.0	80.0	20.0				100
	Female	28.6	71.4	0.0				100
20-24	Male	10.0	40.0	30.0	10.0		10.0	100
	Female	50.0	37.5	6.3	6.3		0.0	100
25-29	Male	18.2	63.6	9.1	9.1			100
	Female	50.0	25.0	25.0	0.0			100
30-34	Male	25.0	50.0	16.7		8.3		100
	Female	50.0	50.0	0.0		0.0		100
35-39	Male		62.5	25.0	12.5	0.0		100
	Female		50.0	25.0	0.0	25.0		100
40-44	Male	9.1	81.8			9.1		100
	Female	62.5	37.5			0.0		100
45-49	Male	14.3	71.4	14.3				100
	Female	16.7	83.3	0.0				100
50-54	Male		100.0					100
	Female		100.0					100
55-59	Male	0.0	100.0					100
	Female	50.0	50.0					100
60-64	Male	0.0	100.0					100
	Female	50.0	50.0					100
65 and over	Male		100					100

Table 10C (cont.): Highest level of general education by sex by location

Peam Krasoab

Age groups	Sex	Never went to school	Primary not complete	Primary complete	Lower second. not complete	Lower second. complete	Higher second. not complete	Higher secondary complete	Total
6-9	Male	50.0	50.0						100.0
	Female	55.4	44.6						100.0
10-14	Male	5.9	90.6	2.4	0.0	1.2			100.0
	Female	17.1	78.9	1.3	2.6	0.0			100.0
15-19	Male	21.6	62.7	5.9	5.9	2.0		2.0	100.0
	Female	22.0	67.8	3.4	3.4	3.4		0.0	100.0
20-24	Male	32.8	41.0	8.2	3.3	1.6	4.9	8.2	100.0
	Female	39.1	41.3	4.3	6.5	2.2	4.3	2.2	100.0
25-29	Male	16.7	38.1	9.5	11.9	11.9	4.8	7.1	100.0
	Female	34.6	42.3	7.7	11.5	0.0	0.0	3.8	100.0
30-34	Male	26.5	35.3	14.7	11.8	5.9	2.9	2.9	100.0
	Female	41.7	38.9	8.3	8.3	2.8	0.0	0.0	100.0
35-39	Male	26.9	38.5	11.5	9.6	5.8	5.8	1.9	100.0
	Female	53.2	36.2	6.4	4.3	0.0	0.0	0.0	100.0
40-44	Male	21.3	59.6	4.3	10.6	4.3			100.0
	Female	45.2	47.6	2.4	4.8	0.0			100.0
45-49	Male	13.3	40.0	20.0	13.3	13.3			100.0
	Female	33.3	66.7	0.0	0.0	0.0			100.0
50-54	Male	23.1	53.8	0.0	7.7	0.0	15.4		100.0
	Female	40.0	46.7	6.7	0.0	6.7	0.0		100.0
55-59	Male	40.0	20.0	0.0	20.0	0.0		20.0	100.0
	Female	62.5	12.5	12.5	0.0	12.5		0.0	100.0
60-64	Male	57.1	28.6		14.3				100.0
	Female	66.7	33.3		0.0				100.0
65 and over	Male	14.3	57.1	0.0				28.6	100.0
	Female	83.3	0.0	16.7				0.0	100.0

Table 10C (cont.): Highest level of general education by sex by location

Other Villages of Mondul Seima

Age groups	Sex	Never went to school	Primary not complete	Primary complete	Lower second. not complete	Lower second. complete	Higher second. not complete	Higher second. complete	Total
6-9	Male	22.6	77.4	0.0					100.0
	Female	23.1	75.8	0.0					100.0
10-14	Male	6.2	91.1	1.0	1.7	0.0			100.0
	Female	5.1	90.8	3.1	0.0	1.0			100.0
15-19	Male	8.6	60.5	14.6	10.9	3.7	0.9	0.9	100.0
	Female	10.4	71.4	9.7	6.6	1.8	0.0	0.0	100.0
20-24	Male	13.6	49.9	16.6	14.5	1.1	3.2	1.1	100.0
	Female	25.4	53.4	9.8	8.5	0.0	1.5	1.5	100.0
25-29	Male	14.7	42.5	21.2	11.5	3.2	5.0	1.8	100.0
	Female	28.3	49.8	8.7	10.9	2.3	0.0	0.0	100.0
30-34	Male	6.4	41.9	19.2	20.9	4.9	1.7	4.9	100.0
	Female	27.8	53.8	10.7	3.2	4.6	0.0	0.0	100.0
35-39	Male	13.9	44.2	11.6	11.6	5.9	4.6	8.2	100.0
	Female	33.8	45.5	11.8	5.9	1.5	1.5	0.0	100.0
40-44	Male	30.9	49.8	7.3	4.7	7.3	0.0		100.0
	Female	39.5	53.3	2.4	2.4	0.0	2.4		100.0
45-49	Male	22.7	54.7	3.5	12.8	6.4	0.0		100.0
	Female	36.0	48.5	5.3	7.6	0.0	2.7		100.0
50-54	Male	14.9	41.0	23.4	17.6			3.2	100.0
	Female	37.0	51.6	7.6	3.8			0.0	100.0
55-59	Male	5.7	57.5	16.0	20.8				100.0
	Female	55.9	40.0	4.1	0.0				100.0
60-64	Male	21.4	78.6						100.0
	Female	63.5	36.5						100.0
65 and over	Male	45.4	54.6						100.0
	Female	59.9	40.1						100.0

Table 10C (cont.): Highest level of general education by sex by location

Smach Meanchey

Age groups	Sex	Never went to school	Primary not complete	Primary complete	Lower second. not complete	Lower second. complete	Higher second. not complete	Higher second. complete	Total
6-9	Male	28.8	71.2	0.0					100.0
	Female	22.7	77.3	0.0					100.0
10-14	Male	2.1	85.1	8.5	4.2	0.0			100.0
	Female	4.0	90.0	4.0	1.3	0.7			100.0
15-19	Male	4.4	37.8	24.4	23.4	2.9	5.7	1.5	100.0
	Female	7.1	55.5	12.0	17.5	1.0	5.1	1.9	100.0
20-24	Male	6.1	30.7	20.2	14.9	8.7	7.0	12.3	100.0
	Female	10.3	51.7	12.6	8.1	8.1	5.7	3.5	100.0
25-29	Male	15.3	33.2	18.3	9.0	3.0	6.0	15.3	100.0
	Female	28.2	45.6	8.7	6.6	6.6	2.1	2.1	100.0
30-34	Male	10.5	40.8	14.4	3.9	11.8	1.3	17.2	100.0
	Female	15.6	46.8	13.0	13.0	9.1	2.6	0.0	100.0
35-39	Male	9.4	36.4	16.5	7.1	14.1	4.8	11.7	100.0
	Female	31.1	43.3	10.8	2.7	9.5	1.3	1.3	100.0
40-44	Male	12.8	42.8	7.2	18.6	8.6	2.8	7.2	100.0
	Female	33.3	56.0	4.6	1.5	4.6	0.0	0.0	100.0
45-49	Male	11.8	54.9	15.7	15.7	1.9	0.0		100.0
	Female	35.7	53.7	5.4	1.8	0.0	3.5		100.0
50-54	Male	15.2	60.6	0.0	12.2		3.0	9.0	100.0
	Female	52.6	34.3	5.2	8.0		0.0	0.0	100.0
55-59	Male	6.2	44.1	12.4	18.6	6.2	6.2	6.2	100.0
	Female	54.9	40.2	4.9	0.0	0.0	0.0	0.0	100.0
60-64	Male	6.6	46.7	13.2	26.9			6.6	100.0
	Female	64.7	29.5	5.8	0.0			0.0	100.0
65 and over	Male	70.0	30.0			0.0			100.0
	Female	85.2	11.0			3.8			100.0

Table 10D: Highest level of professional schooling by sex and by location

	Sex	Certificate[1]	Bachelor Degree	Other[2]	NA	Total
Nearng Kok	Male	2.3	0.2	1.6	95.9	100.0
	Female	0.5	0.2	0.8	98.6	100.0
Koh Por	Male	2.2	1.1	1.1	95.6	100.0
	Female	0.0	1.1	0.0	98.9	100.0
Peam Krasoab	Male	2.1	0.8	0.4	96.6	100.0
	Female	0.9	0.2	0.2	98.6	100.0
Other village of Mondul Seima	Male	1.3	0.1	0.8	97.9	100.0
	Female	0.3	0.0	0.3	99.4	100.0
Smach Mean Chey	Male	3.9	0.7	0.5	94.9	100.0
	Female	1.5	0.2	0.2	98.1	100.0
Whole area		2.1	0.3	0.4	97.1	100.0

Table 10E: Literacy

Background Characteristics	Can read and write		Total
	Male	Female	
Age			
6- 9	10.3	11.3	21.6
10 – 14	38.1	40.0	78.1
15 – 19	47.2	42.0	89.2
20 – 24	45.9	35.6	81.5
25 – 29	36.0	34.7	70.7
30 – 34	40.5	39.4	79.9
35 – 39	43.1	29.6	72.7
40 – 44	37.3	26.6	63.9
45 – 49	35.8	28.6	64.4
50 – 54	38.6	23.7	62.3
55 – 59	35.4	20.0	55.4
60 – 64	36.5	18.0	54.5
65+	21.3	4.7	26.0
Whole project area	**36.6**	**31.1**	**67.7**
Nearng Kok	35.0	29.4	64.3
Koah Poa	35.1	29.7	64.9
Peam Krasoab	32.1	20.7	52.8
Other villages of Mondul Seima	34.8	28.4	63.2
Smach Meanchey	37.5	32.4	70.0

[53] A certificate course is defined as a vocational training course lasting at last three months
[54] Other refers to short term (< 3 months) vocational training

Table 19C. Household's development priorities by education attainment

SRN	Development priorities	Whole project		Never go to school		Primary incomplete		Primary complete		Lower secondary incomplete		Lower secondary complete		Higher secondary incomplete		Higher secondary complete		Total	
		%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd
1	Any kind of factory	22.1	1	16.6	1	24.2	1	20.3	1	27.3	1	22.6	1	13.6	1	23.5	1	22.1	1
2	Upgrading/build roads	21.7	1	21.6	1	21.3	1	28.0	1	20.1	1	17.9	1	25.0	1	12.3	1	21.7	1
3	Improved access to clean water	10.1	1	12.6	1	10.3	1	10.4	2	3.7	2	9.7	2	9.3	2	11.7	2	10.1	1
4	Improved educational facilities	9.5	1	12.6	1	9.5	1	5.8	1	9.0	1	2.8	1	17.0	2	8.8	1	9.5	1
5	More job opportunities in general	9.4	1	9.9	1	9.3	2	8.5	2	9.3	2	8.1	1	10.3	1	14.0	2	9.4	1
6	Improved health and medical facilities	6.2	2	7.1	2	6.5	2	4.4	2	6.4	2	5.7	1	8.1	2	3.0	2	6.2	2
7	Agriculture extension	3.7	1	2.6	1	3.5	1	5.6	1	7.3	1	1.2	1	1.4	2	3.0	2	3.7	1
8	Improved access to market	2.9	2	2.7	2	3.1	2	2.6	2	2.4	2	4.6	1	0.2	1	2.8	1	2.9	2
9	Improved access to electricity	2.6	2	2.2	1	2.7	2	3.6	2	3.6	2	2.2	1	0.0	1=2	0.0	1=2	2.6	2
10	Job training opportunities	2.3	2	1.2	1	2.1	2	1.7	2	1.1	1	1.3	2	12.0	1	8.4	2	2.3	2
11	Do not know	1.4	1	2.2	1	1.3	1	0.4	1	1.1	1	2.2	1	0.0	1=2	3.0	1	1.4	1
12	Improved irrigation system	1.3	2	0.6	2	1.7	2	1.8	2	0.1	1	2.2	2	0.0	1=2	2.8	1	1.3	2
13	Improved access to finance	1.3	1	1.2	1	0.8	1	0.9	2	1.7	1	9.0	1	0.0	1=2	0.0	1=2	1.3	1
14	Preserve the environment	1.2	2	1.5	1	1.4	2	1.3	2	0.0	1=2	2.2	2	0.0	1=2	0.0	1=2	1.2	2
15	Fishery development	1.0	1	1.0	1	0.8	1	1.0	1	1.6	2	0.1	1	1.6	1	1.3	2	1.0	1
16	Tourism for local and international visitors	0.9	1	1.2	1=2	0.0	1=2	1.8	1	1.1	1	5.5	2	0.0	1=2	1.5	1	0.9	1
17	More recreational facilities	0.5	2	0.4	2	0.5	2	0.2	2	1.1	2	0.1	2	0.0	1=2	1.3	1	0.5	2
18	Mosque for Muslim people	0.4	1=2	1.8	2	0.2	1	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.4	1=2
19	Industry	0.3	1	0.0	1=2	0.1	1	1.0	1	0.0	1=2	2.2	2	1.6	1	0.0	1=2	0.3	1
20	Buddhist development	0.3	2	1.0	2	0.2	2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.3	2
21	Economy in general	0.3	1	0.0	1=2	0.1	1	0.4	1	1.7	1	0.0	1=2	0.0	1=2	0.0	1=2	0.3	1
22	Fishery market development	0.1	2	0.0	1=2	0.0	1	0.0	1=2	1.1	2	0.0	1=2	0.0	1=2	0.0	1=2	0.1	2
23	Commerce development	0.1	1	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	2.8	1	0.1	1
24	Animal farm development	0.1	2	0.0	1=2	0.2	2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.1	2
25	Orphan center development	0.1	2	0.0	2	0.1	2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.1	2
26	Casino	0.1	1	0.0	1=2	0.0	1=2	0.4	1	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.1	1
27	Sport	0.0	1=2	0.0	1=2	0.0	1	0.0	1=2	0.1	2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2
28	Human resource development	0.0	2	0.0	1=2	0.0	2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	2

Table 19D: Respondents' development priorities by length of residence of household (Q101)

Development priority	Have always lived here		5 years or more		Two years or more		Less than two years		Whole project area	
	%	1st/ 2nd	%	1st/ 2nd	%	1st/ 2nd	%	1st/ 2nd	%	1st/ 2nd
Any kind of factory	22.2	1	22.3	1	23.2	1	19.2	1	22.1	1
Upgrading/build roads	23.6	1	21.8	1	17.8	2	17.5	1	21.7	1
Improved access to clean water	7.6	1	12.3	1	6.4	1	9.7	1	10.1	1
Improved educational facilities	8.4	1	8.6	1	19.3	1	9.4	1	9.5	1
More job opportunities in general	9.6	2	9.2	1	7.0	1	13.7	2	9.4	1
Improved health and medical facilities	4.0	2	6.7	2	9.6	2	8.9	1	6.2	2
Agriculture extension	4.6	1	4.0	1	0.9	1	1.2	1	3.7	1
Improved access to market	2.4	2	3.1	2	2.5	1	3.7	1	2.9	2
Improved access to electricity	2.8	2	2.4	2	3.0	2	1.9	2	2.6	2
Job training opportunities	2.4	2	1.7	2	2.5	1	6.4	2	2.3	2
Do not know	1.7	1	1.1	1	1.5	1	2.3	1	1.4	1
Improved irrigation system	2.6	2	0.5	1	1.2	2	2.5	1	1.4	2
Improved access to finance	2.3	1	1.0	1	0.1	2	0.7	2	1.3	1
Preserve the environment	0.5	2	1.9	2	0.0	1=2	0.7	2	1.2	2
Fishery development	1.1	1	0.9	1	0.2	1	1.6	1	1.0	1
Tourism for local and international visitors	1.2	1	0.7	1	1.3	2	0.0	1=2	0.9	1
More recreational facilities	0.2	2	0.4	2	1.9	2	0.3	2	0.5	2
Mosque for Muslim people	0.0	1=2	0.6	2	1.3	1	0.0	1=2	0.4	1=2
Industry	0.9	1	0.0	1	0.6	1	0.1	1	0.3	1
Buddhist development	0.2	2	0.4	2	0.0	1=2	0.0	1=2	0.3	2
Economy in general	0.5	1	0.2	1	0.0	1=2	0.0	1=2	0.3	1
Fishery market development	0.4	2	0.0	1=2	0.0	1=2	0.0	1=2	0.1	2
Commerce development	0.3	1	0.0	1=2	0.0	1=2	0.0	1=2	0.1	1
Animal farm development	0.3	2	0.0	1=2	0.0	1=2	0.0	1=2	0.1	2
Orphan center development	0.2	2	0.0	1=2	0.0	1=2	0.0	1=2	0.1	2
Casino	0.0	1=2	0.1	1	0.0	1=2	0.0	1=2	0.1	1
Sport	0.0	1	0.0	2	0.0	1=2	0.0	1=2	0.0	1=2
	100.0	1	100.0	1	100.0	1	100.0	1	100.0	1

Table 20F: Development option and education

	Whole project area	Never went to school	Primary incomplete	Primary complete	Lower secondary incomplete	Lower secondary complete	Higher secondary incomplete	Higher secondary complete
Development of tourism	9.7	6.9	8.9	5.9	9.1	21.2	29.9	15.0
Development of industry	44.4	41.3	50.2	57.0	33.9	19.4	32.8	20.2
Development of both tourism and industry	17.0	14.0	11.6	21.2	21.0	44.3	19.3	37.1
Development of agriculture	7.9	8.8	10.3	1.4	5.0	6.2	2.6	9.5
Development of fishery	19.6	26.7	18.6	13.6	27.2	8.8	15.3	13.5
Do not know	1.3	2.3	0.4	0.7	3.8	-	-	4.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table 20G: Development option by length of residence

	Have always lived here	5 years or more	Two years or more	Less than two years	Total
Development of tourism	11.0	7.4	17.5	11.5	9.7
Development of industry	38.3	47.0	47.4	49.9	44.4
Development of both tourism and industry	16.3	19.1	12.6	10.5	17.0
Development of agriculture	9.5	6.9	6.9	8.7	7.9
Development of fishery	23.8	17.8	15.5	19.4	19.7
Do not know	1.1	1.8	0.1	0.0	1.3
Total	100.0	100.0	100.0	100.0	100.0

Table 22C: Acceptance of EPZ (by education attainment) in %

	Whole project area	Never went to school	Primary incomplete	Primary complete	Lower secondary incomplete	Lower secondary complete	Higher secondary incomplete	Higher secondary complete	Total
Welcome strongly	86.2	79.6	89.5	86.1	86.4	91.7	83.3	77.4	86.2
Welcome somewhat	12.3	17.9	9.0	13.2	11.6	8.3	16.7	22.3	12.3
Somewhat not welcome	1.0	1.5	0.9	0.7	1.9	-	-	-	1.0
Not welcome at all	0.0	0.1	0.1	-	0.1	-	-	-	0.0
Not care at all	0.4	0.9	0.4	-	-	-	-	0.3	0.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table 22D: Acceptance of EPZ by length of residence

	Have always lived here	5 years or more	Two years or more	Less than two years	Total
Welcome strongly	85.3	84.1	96.8	93.4	86.2
Welcome somewhat	13.9	13.8	2.9	5.2	12.3
Somewhat not welcome	0.2	1.6	0.3	1.2	1.0
Not welcome at all	0.0	0.1	0.0	0.2	0.0
Not care at all	0.6	0.4	0.0	0.0	0.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table 23D. Respondents' views on the kind of benefits they expect for their community (Q210) by sex, young age group, and rural dummy

	Whole project area		Male		Female		18-25		Real Rural	
	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd
Create more job opportunities	49.9	1	50.3	1	49.5	1	47.0	1	54.9	1
Reduce out migration	5.1	2	5.8	2	4.5	2	4.9	2	3.1	2
Women will have more job opportunities	3.0	1	1.4	1	4.6	1	5.9	1	0.5	1
Men will have more job opportunity	1.0	2	1.4	2	0.6	2	2.7	2	0.2	2
We will be able to improve through acquiring job experiences	0.2	2	0.3	2	0.0	1=2	0.0	1=2	0.2	2
More jobs	59.2		59.2		59.2		60.5		58.9	
The livelihood of people will be better than before	31.0	2	29.8	2	32.1	2	27.2	2	35.1	2
The price of local produce is lower than that of imported goods	0.4	2	0.3	2	0.5	2	0.5	2	0.0	1=2
General livelihood improvement	31.4		30.1		32.6		27.7		35.1	
Develop business and other services	4.1	2	5.0	2	3.2	2	5.4	2	1.7	2
We can do small-scale business there	1.6	2	1.8	2	1.4	2	2.2	2	0.5	2
When we have a market & many customers - we can do business	0.1	2	0.1	2	0.0	1=2	0.0	1=2	0.2	2
The factory will buy our produce for processing	0.0	2	0.0	1=2	0.0	2	0.0	2	0.0	1=2
We can make a benefit from selling the factory products	0.0	2	0.0	2	0.0	1=2	0.0	1=2	0.2	2
Business opportunities	5.8		6.9		4.6		7.6		2.6	
Koh Kong become a prestigious province	1.1	2	1.3	2	0.8	2	1.4	2	1.3	2
Road infrastructure will be developed	1.0	2	1.0	2	1.1	2	1.1	2	0.0	1=2
Reduce illegal logging	0.9	2	0.9	2	0.9	2	0.7	2	0.5	2
Tourism will be more developed	0.4	2	0.1	2	0.6	2	1.0	2	0.5	2
To reduce bad activities of young people, e.g. illicit drug use	0.1	2	0.2	2	0.0	1=2	0.0	1=2	0.0	1=2
School infrastructure will be developed	0.1	2	0.0	1=2	0.1	2	0.0	1	0.0	1=2
We will have modern products for use	0.0	2	0.0	1=2	0.1	2	0.0	1=2	0.0	1=2
Our community will have new development	0.0	2	0.0	2	0.0	1=2	0.0	1=2	0.2	2
Reduce illegal logging	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	1=2
Other benefits	3.6		3.6		3.6		4.2		2.5	
Do not know	0.1	1	0.1	1	0.0	1	0.2	1	1.3	1

Table 23E: Respondents' views on the kind of benefits they expect for their community (Q210) by length of residence

	Have always lived here		5 years or more		Two years or more		Less than two years		Whole project area	
	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/ 2nd	%	1st/2nd
Create more job opportunities	52.9	1	47.6	1	50.6	1	51.5	1	49.8	1
Reduce out migration	2.2	2	7.1	2	7.7	2	0.1	1	5.1	2
Women will have more job opportunities	2.0	2	3.5	1	2.4	1	5.1	1	3.0	1
Men will have more job opportunity	1.5	2	0.2	1	2.4	1	3.0	2	1.0	2
We will be able to improve through acquiring job	0.3	2	0.1	2	0.1	2	0.0	1=2	0.2	2
More jobs	58.9		58.5		63.2		59.7		59.2	
The livelihood of people will be better than before	31.0	2	31.3	2	28.8	2	31.2	2	31.0	2
The price of local produce is lower than that of imported goods	0.7	1	0.2	2	1.3	2	0.0	1=2	0.4	2
General livelihood improvement	31.7		31.5		30.1		31.2		31.4	
Develop business and other services	4.9	2	4.2	2	2.4	2	1.8	2	4.1	2
We can do small-scalel business there	2.0	2	1.4	2	0.1	2	3.1	2	1.6	2
When we have a market & many customers there-we can do business	0.0	2	0.1	2	0.0	1=2	0.0	1=2	0.1	2
We can make a benefit from selling the factory products	0.0	2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	2
The factory will by our produce for processing	0.0	1=2	0.0	2	0.0	1=2	0.0	1=2	0.0	2
Business opportunities	6.9		5.7		2.5		4.9		5.8	
Koh Kong will become a prestigious province	0.8	2	1.2	2	1.8	2	0.0	1=2	1.1	2
Road infrastructure will be developed	1.0	2	0.9	2	1.8	2	1.7	2	1.1	2
Reduce illegal logging	0.1	2	1.4	2	0.0	1=2	2.3	2	0.9	2
Tourism will be more developed	0.4	2	0.4	2	0.6	2	0.2	2	0.4	2
To reduce bad activities of young people, e.g. illicit drug use	0.0	1=2	0.2	2	0.0	1=2	0.0	1=2	0.1	2
School infrastructure will be developed	0.2	2	0.0	1	0.0	1=2	0.0	1=2	0.1	2
We will have modern products for use	0.0	1=2	0.1	2	0.0	1=2	0.0	1=2	0.0	2
Our community will have new development	0.0	1=2	0.0	2	0.0	1=2	0.0	1=2	0.0	2
Other benefits	2.5		4.2		4.2		4.2		3.6	
Do not know	0.0	1=2	0.1	1	0.0	1=2	0.1	1	0.1	1

Table 23F: Respondents' views on the kinds of benefit they expect for their family (212) by sex, young age group, and real rural

	Whole project area		Male		Female		Age 18-25		Real rural	
Have more job opportunities	48.3	1	46.2	1	50.5	1	30.8	1	51.2	1
We can change our current job	7.6	2	7.9	2	7.2	2	5.5	1	12.5	2
The next generation will have a job	0.9	2	1.1	2	0.7	2	37.3	1	1.5	2
We can have a job here-not necessary to work in Thailand anymore	0.4	2	0.4	2	0.3	2	-	1=2	0.5	2
Daughters will have a job here so no need to work far away	0.1	2	-	1=2	0.1	2	-	1=2	0.3	2
We will have a permanent job	0.0	2	-	1=2	0.0	2	-	1=2	-	1=2
Job related benefits	57.3		55.6		58.8		73.6		66.0	
Living standards are better when family members have work	21.7	2	22.4	2	20.9	2	15.0	2	25.6	2
We can buy locally produced goods of quality at a lower price	0.1	2	0.1	2	-	1=2	0.0	2	0.6	2
General living standard will improve	21.8		22.5		20.9		15.0		26.2	2
Being easy to do selling of foods and goods	21.0	2	21.8	2	20.2	2	11.4	2	7.9	2
Having factories-the electricity will be improved	0.0	1	0.0	1	-	1=2	-	1=2	-	1
Other benefits										
Total	100.0	1	100.0	1	100.0	1	100.0	1	100.0	1

Table 23G: Respondents' views on the kinds of benefit they expect for their family (212) by length of residence

	Have always lived here		5 years or more		Two years or more		Less than two years		Whole project area	
	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd	%	1st/2nd
Have more job opportunities	50.3	1	46.3	1	47.3	1	56.9	1	48.3	1
We can change our current job	5.7	2	8.2	2	13.7	1	4.0	2	7.6	2
The next generation will have a job	2.8	2	0.1	2	0.0	1=2	0.0	1=2	0.9	2
We can have a job here-not necessary to work in Thailand anymore	0.2	2	0.3	2	0.0	1=2	1.7	2	0.4	2
Daughters will have a job here so no need to work far away	0.2	2	0.0	1=2	0.0	1=2	0.0	1=2	0.1	2
We will have a permanent job	0.0	2	0.0	1=2	0.0	1=2	0.0	1=2	0.0	2
Job related benefits	59.2		54.9		61.0		62.6		57.3	
Living standards are better when family members have work	24.1	2	20.4	2	18.2	2	24.6	2	21.7	2
We can buy locally produced goods of quality at a lower price	0.0	2	0.1	2	0.1	2	0.0	1=2	0.1	2
General living standard will improve	24.1		20.5		18.3		24.6		21.8	
It will be easier to sell of food and other goods	16.7	2	24.6	2	20.7	2	12.7	2	21.0	2
Having factories-the electricity will be improved	0.0	1=2	0.0	1	0.0	1=2	0.0	1=2	0.0	1
Other benefits										
Total	100.0	1	100.0	1	100.0	1	100.0	1	100.0	1

Table 24E: Respondents' views on the kinds of negative impacts for their community by sex, young age group, and dummy rural

	Whole project area		Male		Female		Age 18-25		Rural Dummy	
Air pollution	42.1	1	43.9	1	37.9	1	48.7	1	32.5	1
More health problems	26.6	2	27.7	2	24.1	2	30.6	2	2.5	1
Pollution of the river	10.7	2	11.5	2	8.9	2	13.2	2	22.5	2
Environment & Health	**79.4**		**83.1**		**80.9**		**92.5**		**57.5**	
Conflicts over land	7.3	1	6.6	1	8.9	1	1.7	2	7.5	1
Impact on houses of people	0.1	2	0.1	2	-	1=2	-	1=2	2.5	2
Land conflict	**7.4**		**6.7**		**8.9**		**1.7**		**10.0**	
Conflict between company and workers	5.2	1	5.1	1	5.5	1	0.2	1	7.5	1
Unfairness in choosing employees/workers	1.1	1	1.6	1	-	1=2	-	1=2	-	1=2
Low wages	1.1	2	0.5	1	2.4	2	-	1=2	-	1=2
Labor problems	**7.4**		**7.2**		**7.9**		**0.2**		**7.5**	
More migration in	1.8	2	1.1	2	3.2	1	1.5	2	7.5	2
Conflict between the people in the community and newcomer	1.4	1	0.1	1=2	4.2	1	0.2	1	2.5	1
In-migration causes crime in the village	0.8	2	0.1	2	2.4	2	3.2	2	-	1=2
In-migration	**4.0**		**1.3**		**9.8**		**4.9**		**10.0**	
Problems reaching one's place of work	0.8	1	0.1	2	2.4	1	0.2	2	2.5	2
Deforestation	0.8	2	1.2	2	-	1=2	-	1=2	2.5	1
More traffic	0.1	1	0.1	1	-	1=2	0.2	1	5.0	1
If zone is established on the basis of corruption, it can cause conflict	0.1	1	0.1	1	-	1=2	0.2	1	2.5	1
Expansion of sex industry	0.1	2	0.1	2	-	1=2	-	1=2	-	1=2
Other impacts	**1.9**		**1.6**		**2.4**		**0.6**		**12.5**	
Do not know	0.1	1	0.1	1	-	1=2	-	1=2	2.5	1
Total	100.0	1	100.0	1	100.0	1	100.0	1	100.0	1

Table 24F: Respondents' views on the kinds of negative impacts for their family by sex, young age group, and dummy rural

	Whole project area		Male		Female		Age 18-25		Primary complete or higher		Rural Dummy	
Health problems	35.8	1	38.2	1	31.9	1	25.1	1	41.1	1	35.3	1
Polluted air/Polluted environment	13.2	2	20.1	2	2.0	2	10.4	2	19.9	2	5.9	1
Noise pollution	0.9	2	1.4	2	0.0	1=2	0.0	1=2	1.5	2	5.9	2
Water pollution impacting (sea) fishing	0.3	2	0.5	2	0.0	1=2	0.5	2	0.4	2	5.9	1
Environment & Health	**50.2**		**60.2**		**33.9**		**36.0**		**62.9**		**52.1**	
Nepotism/corruption	26.7	1	20.8	1	36.2	1	35.5	1	20.8	1	17.6	1
Low incomes/salary	17.5	1	14.4	2	22.4	1	28.0	2	11.4	2	17.6	1
Conflict between manager and workers/ Worker and worker	3.3	1	2.7	1	4.3	1	0.0	1=2	3.3	1	0.0	1=2
Security problem for female workers	1.6	1	1.2	1	2.0	1	0.0	1=2	1.5	1	0.0	1=2
No chance for a job because of a lack of appropriate skills	0.1	1	0.0	1=2	0.3	1	0.5	1	0.0	1=2	5.9	1
Labor problems	**49.2**		**39.1**		**65.2**		**64.0**		**37.0**		**41.1**	
Land grabbing	**0.7**	**2**	**0.8**	**2**	**0.9**	**2**	**0.0**	**1=2**	**0.0**	**1=2**	**5.9**	**1=2**
Total	**100.0**	**1**	**100.0**	**1**	**100.0**	**1**	**100.0**	**1**	**100.0**	**1**	**100.0**	**1**

Appendix II

Methodology (Weighting and poverty estimates)

I. Weights

The weight projection is computed by dividing the total population of the area concerned by the sample of that area. Appropriate projected factors are then applied so that the original population proportion is reflected in the data tables using this formula.

Population

Projection factors=----------

No. of Interview

1. Member weight

Number or percentage of sex (in age group*) in population

Member weight=----------

Number or percentage of sex (in age group*) in sample

*Note: * =The ranges of age group are 0-5, 6-14, 5-17, 18-64 and 65 or over*

Example of member weight for aged 0 -5 years

Area	Population (in frame)		Total sample size		Respondent Weight=(2)/(3)	
	Male	Female	Male	Female	Male =(2)/(4)	Female =(3)/(5)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Nearng Kok					1	1
Koh Por					1	1
Peam Krasaop					1	1
Smach Mean Chey	2251	1988	113	113	19.916	17.591
Other village of Mondul Seima	339	420	102	111	3.328	3.781

2. Respondent/household head weight

Example of respondent/household head weight

Area	Number of population (or families in frame)	Number of samples	Weight=(2)/(3)
(1)	(2)	(3)	(4)
Nearng Kok			1
Koh Por			1
Peam Krasaop			1
Smach Mean Chey	5375	360	14.931
Other village of Mondul Seima	2144	322	6.658

II. Poverty incidence estimates

We used a head count index to indicate poverty incidence. This means that when individual consumption is compared with a corresponding poverty line value, those whose level of consumption is below the poverty line are classified as poor. We used two different poverty lines: one for per capita total expenditure (i.e. consumption), and one for per capita food (and beverage and tobacco) only expenditure. The values used are those applied in the Cambodia Socio-Economic Survey 1999. The derivation of the total expenditure poverty line for Cambodia (which is the food poverty line + a non-food allowance) is based on standard methods used by the World Bank in poverty estimates for neighboring countries.

The two types of the poverty lines:

1. Food+Non-food poverty line is 2470 Riels per person per day in Phnom Penh, 2093 Riels in Other Urban areas, and 1777 Riels in the Rural areas.
2. Food poverty line is 1737 Riels per person per day in Phnom Penh, 1583 Riels in Other Urban areas, and 1379 Riels in the Rural areas.

We used the Other Urban poverty line values for Nearng Kok and Smach Meanchey areas and the Rural poverty line values for Koh Poa and other villages of Mondul Seima areas to produce the poverty head-count index.

P_0=q/n, the head-count index: proportion of persons whose expenditure level is under the poverty line.

where q =the population who are poor (under poverty line)
n =the total population

hhsrn	texp	mem	pcexp	pline	phh
(1)	(2)	(3)	(4)	(5)	(6)
1	255150	5	1701	2093	5
2	221550	5	1477	2093	5
3	431460	6	2397	2093	0
4	599040	8	2496	2093	0
5	149250	5	995	2093	5
6	327510	9	1213	2093	9
7	404400	8	1685	2093	8
Σ		46			32

column (1)=Household serial number
column (2)=Total household expenditure monthly
column (3)=Total household members
column (4)=Expenditure per capita (Riels/person/day) =(2)/(3)/30
column (5)=Poverty line (World Bank's poverty line for other urban)
column (6)=1*mem(x) if (4) < (5) (poor household) and otherwise (6)=0 (non-poor household)
Head count index Σphh/Σmem = 32/46 = 69,6%

APPENDIX III
Correlation/ Regression analysis

I. Correlation analysis

Income and expenditures

* Correlation between monthly income per capita and monthly expenditure per capita in rural area (r=0.5555, p=0.0000).
* Correlation between monthly income per capita and educational level of head of household in rural area (r=0.0185, p=0.8311).

Correlation of Monthly income per capita in rural areas/ consumer goods owned by household

Income per capita in rural	r	p-value
Sewing machine	0.0896	1.0000
Plough for farming	-0.0923	1.0000
TV	0.1003	0.9994
Car		1.0000
Motorbike	0.1050	0.9981
Bicycle	-0.0547	1.0000
Equipment	0.2009	0.0501
Fishing gear	0.1959	0.0681
Boat with motor	0.1606	0.4077
Boat without motor	0.2402	0.0034
Cows/Buffalos	-0.0377	1.0000
Feeding chicken/duck	-0.0557	1.0000

Correlation of Monthly expenditure per capita in rural areas/ consumer goods owned by household

Expenditure per capita in rural	r	p-value
Sewing machine	0.0668	1.0000
Plough for farming	-0.1279	0.9157
TV	0.2179	0.0167
Car		1.0000
Motorbike	0.0629	1.0000
Bicycle	-0.0879	1.0000
Equipment	0.0181	1.0000
Fishing gear	0.2619	0.0006
Boat with motor	0.2268	0.0090
Boat without motor	0.0465	1.0000
Cows/Buffalos	-0.0475	1.0000
Feeding chicken/duck	-0.1820	0.1497

In urban area:

* Correlation between monthly income per capita and monthly expenditure per capita in urban area (r=0.6605, p=0.0000).
* Correlation between monthly income per capita and educational level of head of household in urban area (r=0.1679, p=0.0005).

Correlation of Monthly income per capita in urban areas/ consumer goods owned by household

Income per capita in rural	r	p-value
Sewing machine	-0.0153	1.0000
Plough for farming	-0.0163	1.0000
TV	0.1648	0.0000
Car	0.1546	0.0001
Motorbike	0.1522	0.0002
Bicycle	0.0331	1.0000
Equipment	0.0505	1.0000
Fishing gear	-0.0057	1.0000
Boat with motor	0.0528	0.9998
Boat without motor	0.0392	1.0000
Cows/Buffalos	0.0031	1.0000
Feeding chicken/duck	-0.0604	0.9938

Correlation of Monthly income per capita in urban areas/ consumer goods owned by household

Expenditure per capita in urban	r	p-value
Sewing machine	-0.0046	1.0000
Plough for farming	-0.0028	1.0000
TV	0.0786	0.7053
Car	0.0363	1.0000
Motorbike	0.0849	0.5025
Bicycle	0.0495	1.0000
Equipment	0.0166	1.0000
Fishing gear	-0.0144	1.0000
Boat with motor	-0.0013	1.0000
Boat without motor	0.0026	1.0000
Cows/Buffalos	-0.0010	1.0000
Feeding chicken/duck	0.0246	1.0000

II. Respondents/households characteristics and assessment of development priorities – analysis -

Dependent variable preferring development of any factory)

Any factory development	Coefficients	Odd ratio [95%CI] p-value
Living in rural	-1.927468	0.14 [0.09 to 0.23] p=0.000
Be aware of project before	.5000054	1.65 [1.27 to 2.14] p=0.000
Looked for job last 12 months	.5835281	1.79 [1.38 to 2.33] p=0.000
Age of respondent (years)	.0012109	1.00 [0.99 to 1.01] p=0.840
Gender (being female)	-.2639576	0.76 [0.58 to 1.00] p=0.057
Literacy (ranked)	.0121801	1.01 [0.92 to 1.11] p=0.807
Monthly expenditure per capita	.0000143	1.00 [0.99 to 1.00] p=0.308
Length of residence (always)	-.0009201	0.99 [0.72 to 1.38] p=0.996
Constant	-.8326481	Number of obs = 1231 LR chi2(8) = 169.03 Prob > chi2 = 0.0000 Pseudo R2 = 0.1088

Dependent variable preferring development of any factory

Any factory development	Coefficients	Odd ratio [95%CI] p-value
Living in rural	-1.927122	0.15 [0.09 to 0.23] p=0.000
Be aware of project before	.4967624	1.64 [1.27 to 2.13] p=0.000
Looked for job last 12 months	.5867155	1.79 [1.38 to 2.33] p=0.000
Age (18 to 25) vs. other	-.0900904	0.91 [0.67 to 1.25] p=0.573
Gender (being female)	-.2604524	0.77 [0.59 to 1.00] p=0.055
Education of respondent (secondary and above)	.0601507	1.06 [0.76 to 1.48] p=0.725
Monthly expenditure per capita	.0000145	1.00 [0.99 to 1.00] p=0.300
Length of residence (always)	-.009534	0.99 [0.71 to 1.37] p=0.954
Constant	-.7572996	Number of obs = 1231 LR chi2(8) = 169.36 Prob > chi2 = 0.0000 Pseudo R2 = 0.1090

Dependent variable Industry

Industry	Coefficients	Odd ratio [95%CI] p-value
Living in rural	-1.33419	0.26 [0.18 to 0.37] p=0.000
Be aware of project before	.1536228	1.16 [0.90 to 1.49] p=0.231
Looked for job last 12 months	.4227337	1.52 [1.18 to 1.96] p=0.001
Age of respondent (years)	.0122884	1.01 [1.00 to 1.02] p=0.029
Gender (being female)	.121284	1.12 [0.87 to 1.45] p=0.351
Literacy (ranked)	-.1308787	0.87 [0.79 to 0.96] p=0.009
Monthly expenditure per capita	-.0001788	0.99 [0.99 to 0.99] p=0.009
Length of residence (always)	-.2286394	0.79 [0.58 to 1.08] p=0.143
Constant	-.242749	Number of obs = 1231 LR chi2(8) = 134.42 Prob > chi2 = 0.0000 Pseudo R2 = 0.0805

Industry	Coefficients	Odd ratio [95%CI] p-value
Living in rural	-1.347499	0.25 [0.18 to 0.36] p=0.000
Be aware of project before	.1585404	1.17 [0.91 to 1.50] p=0.214
Looked for job last 12 months	.4138647	1.51 [1.17 to 1.94] p=0.001
Age (18 to 25) vs. other	-.3222758	0.72 [0.53 to 0.97] p=0.033
Gender (being female)	.1063683	1.11 [0.86 to 1.42] p=0.404
Education of respondent (secondary and above)	-.6874822	0.50 [0.35 to 0.70] p=0.000
Monthly expenditure per capita	-.000177	0.99 [0.99 to 0.99] p=0.009
Length of residence (always)	-.2164975	0.80 [0.59 to 1.09] p=0.166
Constant	.2107307	Number of obs = 1231 LR chi2(8) = 141.26 Prob > chi2 = 0.0000 Pseudo R2 = 0.0846

Dependent variable Tourism

Tourism	Coefficients	Odd ratio [95%CI] p-value
Living in rural	-.9301768	0.39 [0.22 to 0.71] p=0.002
Be aware of project before	-.189682	0.83 [0.55 to 1.23] p=0.351
Looked for job last 12 months	.0129456	1.01 [0.67 to 1.51] p=0.950
Age of respondent (years)	.3935862	0.98 [0.96 to 1.00] p=0.050
Gender (being female)	-.0180173	1.48 [0.97 to 2.24] p=0.064
Literacy (ranked)	.1965923	1.21 [1.06 to 1.39] p=0.005
Monthly expenditure per capita	.0001039	1.00 [0.99 to 1.00] p=0.146
Length of residence (always)	.0200139	1.02 [0.63 to 1.64] p=0.934
Constant	-1.991408	Number of obs = 1231 LR chi2(8) = 36.23 Prob > chi2 = 0.0000 Pseudo R2 = 0.0450

Tourism	Coefficients	Odd ratio [95%CI] p-value
Living in rural	-.9515092	0.38 [0.21 to 0.69] p=0.002
Be aware of project before	-.153775	0.85 [0.57 to 1.27] p=0.441
Looked for job last 12 months	.025182	1.02 [0.68 to 1.53] p=0.902
Age (18 to 25) vs. other	.4024767	1.49 [0.97 to 2.28] p=0.062
Gender (being female)	.3228515	1.38 [0.92 to 2.06] p=0.116
Education of respondent (secondary and above)	.565303	1.75 [1.10 to 2.81] p=0.018
Monthly expenditure per capita	.0001175	1.00 [0.99 to 1.00] p=0.091
Length of residence (always)	-.0083512	0.99 [0.61 to 1.59] p=0.973
Constant	-2.511207	Number of obs = 1231 LR chi2(8) = 30.65 Prob > chi2 = 0.0002 Pseudo R2 = 0.0381

Dependent variable Fishery

Fishery	Coefficients	Odd ratio [95%CI] p-value
Living in rural	1.804938	6.07 [4.47 to 8.26] p=0.000
Be aware of project before	-.3527108	0.70 [0.51 to 0.95] p=0.025
Looked for job last 12 months	-.5665558	0.57 [0.41 to 0.79] p=0.001
Age of respondent (years)	-.0068778	0.99 [0.98 to 1.00] p=0.302
Gender (being female)	-.1325463	0.87 [0.65 to 1.18] p=0.386
Literacy (ranked)	-.0658476	0.93 [0.83 to 1.05] p=0.272
Monthly expenditure per capita	1.25e-06	1.00 [0.99 to 1.00] p=0.912
Length of residence (always)	.0891144	1.09 [0.75 to 1.58] p=0.638
Constant	-.9854073	Number of obs = 1231 LR chi2(8) = 207.02 Prob > chi2 = 0.0000 Pseudo R2 = 0.1485

Fishery	Coefficients	Odd ratio [95%CI] p-value
Living in rural	1.830187	6.23 [4.58 to 8.48] p=0.000
Be aware of project before	-.4023274	0.67 [0.49 to 0.91] p=0.010
Looked for job last 12 months	-.558352	0.57 [0.41 to 0.79] p=0.001
Age (18 to 25) vs. other	.0686411	1.07 [0.76 to 1.50] p=0.693
Gender (being female)	-.0590666	0.94 [0.70 to 1.26] p=0.695
Education of respondent (secondary and above)	.1100525	1.11 [0.75 to 1.65] p=0.581
Monthly expenditure per capita	1.19e-06	1.00 [0.99 to 1.00] p=0.917
Length of residence (always)	.0884084	1.09 [0.75 to 1.58] p=0.641
Constant	-1.385321	Number of obs = 1231 LR chi2(8) = 205.56 Prob > chi2 = 0.0000 Pseudo R2 = 0.1475

Additional logit analysis

Dependent variable negative impact on community

Negative impact on community	Coefficients	Odd ratio [95%CI] p-value
Living in rural	-.3255292	0.72 [0.45 to 1.15] p=0.174
Be aware of project before	.7025165	2.02 [1.40 to 2.90] p=0.000
Looked for job last 12 months	-.4059783	0.66 [0.45 to 0.97] p=0.034
Age of respondent (years)	.0070673	1.00 [0.99 to 1.02] p=0.388
Gender (being female)	-.5536895	0.57 [0.39 to 0.82] p=0.003
Literacy (ranked)	.2664402	1.30 [1.16 to 1.46] p=0.000
Monthly expenditure per capita	1.89e-06	1.00 [0.99 to 1.00] p=0.907
Length of residence (always)	-.0646055	0.93 [0.61 to 1.44] p=0.770
Constant	-2.418759	Number of obs = 1231 LR chi2(8) = 82.30 Prob > chi2 = 0.0000 Pseudo R2 = 0.0833

Negative impact on community	Coefficients	Odd ratio [95%CI] p-value
Living in rural	-.3646582	0.69 [0.43 to 1.10] p=0.126
Be aware of project before	.7749877	2.17 [1.51 to 3.10] p=0.000
Looked for job last 12 months	-.3862643	0.67 [0.47 to 0.98] p=0.043
Age (18 to 25) vs. other	-.2023007	0.81 [0.52 to 1.26] p=0.363
Gender (being female)	-.6728906	0.51 [0.35 to 0.73] p=0.000
Education of respondent (secondary and above)	.6223611	1.86 [1.26 to 2.74] p=0.002
Monthly expenditure per capita	3.52e-06	1.00 [0.99 to 1.00] p=0.812
Length of residence (always)	-.0934142	0.91 [0.59 to 1.39] p=0.670
Constant	-1.784171	Number of obs = 1231 LR chi2(8) = 71.48 Prob > chi2 = 0.0000 Pseudo R2 = 0.0723

Dependent variable negative impact on family

Negative impact on family	Coefficients	Odd ratio [95%CI] p-value
Living in rural	-.1832088	0.83 [0.44 to 1.57] p=0.573
Be aware of project before	1.160759	3.19 [1.92 to 5.30] p=0.000
Looked for job last 12 months	.3939829	1.48 [0.94 to 2.32] p=0.085
Age of respondent (years)	.0008613	1.00 [0.98 to 1.02] p=0.936
Gender (being female)	-.5342324	0.58 [0.36 to 0.94] p=0.028
Literacy (ranked)	.0767565	1.07 [0.93 to 1.25] p=0.310
Monthly expenditure per capita	8.21e-06	1.00 [0.99 to 1.00] p=0.582
Length of residence (always)	-.1274388	0.88 [0.50 to 1.52] p=0.649
Constant	-3.155519	Number of obs = 1231 LR chi2(8) = 43.47 Prob > chi2 = 0.0000 Pseudo R2 = 0.0675

Negative impact on family	Coefficients	Odd ratio [95%CI] p-value
Living in rural	-.2151342	0.80 [0.42 to 1.52] p=0.507
Be aware of project before	1.207756	3.34 [2.02 to 5.53] p=0.000
Looked for job last 12 months	.385105	1.46 [0.93 to 2.30] p=0.092
Age (18 to 25) vs. other	-.0498121	0.95 [0.54 to 1.66] p=0.861
Gender (being female)	-.6349146	0.52 [0.33 to 0.84] p=0.007
Education of respondent (secondary and above)	-.116808	0.88 [0.51 to 1.54] p=0.678
Monthly expenditure per capita	8.72e-06	1.00 [0.99 to 1.00] p=0.547
Length of residence (always)	-.1446164	0.86 [0.50 to 1.49] p=0.604
Constant	-2.927039	Number of obs = 1231 LR chi2(8) = 42.66 Prob > chi2 = 0.0000 Pseudo R2 = 0.0662

APPENDIX IV

CENTER FOR ADVANCED STUDY

Social/Poverty Impact Assessment of Koh Kong Industrial Estate Project Household Survey

QUESTIONNAIRE

IDENTIFICATION

1	SERIAL NUMBER:	
2	Name of District (Srok/Khan)	
3	Name of Commune (Khum Sangkat)	
4	Name of Village (Phoum)	
5	Urban/Rural (Urban=1; Rural = 2)	
6	Household number	
INTERVIEWER'S VISITS AND RESULT		
Interviewer's name:		Interview date: Day/Month/Year:_____
Field Supervisor's Name: Data entry by:		Total number of visits____
HOUSEHOLD MEMBERS		
Total members of household		_____
Line number of respondent to household survey		_____
SPOT CHECKS		
Spot checked by: Name_____ Date_____		Remarks:

INTRODUCTION:

I would like to ask you some questions about your livelihood and concerns. I work for the Center for Advanced Study, an NGO research center, which is not part of the government and not working for it. Your answer will be confidential; no one will find out what you say. There are no right and no wrong answers; we just want to find out your opinion, so you can say whatever you like.

Introduction for researchers:

1. Do the interview as a conversation. Ask question with gentle, careful and with soft tone. Do not ask as interrogation or intimidation.
2. Give sufficient time to respondent to think and answer to the questions.
3. If the respondent does not understand the question, please, ask whether he/she wants it to be repeated.

Table 1. Please record the relationship with the head of the family all members of this household and any one who is temporarily out but who usually lives here. FIRST RECORDED SHOULD BE HEAD OF HOUSEHOLD. Please, apply within stratification in the sampling to choose the respondent. *(Use appropriate code numbers)*

Line No. (01)	Relationship to household head (02)	Sex M=1 F=2 (03)	Age in completed years (04) (*Less than 1 year code 00*)	Marital status (05)	Is Line number currently in school? Yes=1 No=2 (06)	Highest level of general education (07)	Can read and write *FOR LESS THAN 6 YEAR OLD Code=96* Yes=1 No=2 (08)*	Prof. Schooling(09)	Highest level of prof. schooling(10)	Disabilities Yes=1 No=2 (11)	Type of Disability (12)	Language used in the H/H (13)	**Eligibility status** Circle line number of Interviewed person (aged 18 to 60) (14)
01													**01**
02													**02**
03													**03**
04													**04**
05													**05**
06													**06**
07													**07**
08													**08**
09													**09**
10													**10**
11													**11**
12													**12**
13													**13**
14													**14**

Module I: Household information

Codes for Q. 02
Head=1
Wife or husband=2
Son or daughter=3
Son-in-law or daughter-in-law=4
Grandchildren=5
Parents=6
Parents-in-law=7
Brother/sister=8
Brother-in-law/sister-in-law=9
Nephew/niece=10
Other relatives=11
Adopted child/foster child=12
Do not know=97

Codes for Q.05
Currently married=1
Separated=2
Widowed=3
Divorced=4
Never married=5

Codes for Q. 07
Primary incomplete=1
Primary complete=2
Lower secondary incomplete=3
Lower secondary complete=4
Higher secondary incomplete=5
Higher secondary complete=6
Never go to school=0

Codes for Q. 09
Education=1
Health=2
Agriculture=3
Technology=4
Business=5
Language=6
Other=7
None=0

Codes for Q. 10
Diploma=1
Bachelor Degree=2
Master Degree=3
PhD=4
Other=5
NA=96

Codes for Q. 12
UXO=1
Disease=2
From Birth=3
Accident=4
Others=5

Code for Q. 13
Khmer=1
Thai=2
Vietnamese=3
Chinese=4
Cham=5
Other=6

Module I – Household view on the development priority

101 Different people have different views about the development. What kind of development you think that will respond to the needs of your area?

(*Do not read out. Ask people to give two items by themselves and to the end ask them to rank these priorities*)

Development activities	Priority 1	Priority 2
Upgrading/build roads	1	1
Improved health and medical facilities	2	2
Improved educational facilities	3	3
Improved irrigation system	4	4
Improved access to clean water	5	5
Improved access to electricity	6	6
Improved access to market	7	7
Improved access to finance	8	8
Job training opportunities	9	9
More recreational facilities	10	10
More job opportunities in general	11	11
Agriculture extension	12	12
Preserve the environment	13	13
Others: (Specify)_____		
Don't know	90	
No second answer		95

102 If you have to choose between these options of development, which one do you think the most appropriate for your area?

Development of tourism	1	
Development of industry	2	
Development of both tourism and industry	3	
Development of agriculture	4	
Development of fishery	5	
Don't know	90	➔(Go to Q.201)

103 Why do you say that?

1. Being easy to do the business when there are more tourists.
2. Have more chance to get jobs.
3. Our life will be better off.
4. People who have migrated to Thailand can return to seek jobs in Cambodia.
5. We want markets for local products to be built because we don't want our products to be exported to Thailand.
6. We have land and agricultural skills.
7. Our daily job is fishing.
8. Easier to sell our products to the processing factories.
9. We want agricultural sectors to be developed because Cambodian people plant many varieties of crops.
10. Promoting people to have more experience in the factory works.

Other: (Specify) _____

_____

_____

90. Don't know

Module II: Export Processing Zone

201 Do you happen to know about Export Processing Zone development project in your area?

Yes	1	➔Go to Q.202)
No	2	➔(Go to small introduction on EPZ and then go to Q.206)
No answer/refused	90	➔Go to small introduction on EPZ and then go to Q.206)

202 Were you living in the project site before?

Yes	1	➔	(Go to Q. 206)
No	2	➔	(Go to Q. 203)
No response	90	➔	(Go to Q. 203)

203 What do you know about that project? (*Probe if necessary***)** *(Multiple answers)*

Light industries	1
Tourist site	2
Market	3
Paper and plastic factory	4
We heard that factories will be constructed, but we don't know of types of factories.	5

Other: (Specify)

204 How do you get information about the project? *(Do not read out. Two answers allowed)*

	First source	Second source
TV	1	1
Radio	2	2
Newspapers	3	3
Group chief	4	4
Village chief	5	5
Commune council	6	6
Religious leader	7	7
Friends and family and neighbors	8	8
NGO	9	9
Office	10	10
Others (Specify)_____		
Don't know/Refuse	90	
No second answer		95

205 When do you hear first time about the project?

Last Month	1
Three months ago	2
Six months ago	3
One year ago	4
Two years ago	5
Others: (Specify)	

Introduction:

The project site will be in Mondul Sima district nearby Nearng Kok village, where the fence was built. The project is an industrial zone, which will host many foreign factories such as garment, shoe, toys…with an employment potential of 28,000 jobs.

206 In the near future the project will come here, do you welcome it strongly, welcome it somewhat, not welcome somewhat, not welcome at all or you do not care at all?

Welcome strongly	1
Welcome somewhat	2
Somewhat not welcome	3
Not welcome at all	4
Not care at all	5
Don't know	90

207 Who do you think will get most of benefits from the project? (*Do not read out)*

Women	1
Men	2
Both men and women	3
Companies	4
Government official involved	5
People in the communities	6
Others (Specify)_____	
Don't know/Refuse	90 ➔ (Go to Q. 209)

208 Why do you say that? *(Make sure that the answer is correspond to Q. 207)*

1. Because companies invest money in their business.
2. Because there may be many jobs for people.
3. Being easy to do the business /easy to rent a house to workers
4. Better-off-living standards.
5. Men have more chance to get jobs than women do.
6. Because the government initiated in constructing factories.
7. People who in charge of recruiting labor force will take commission.

Other: (Specify)

209 Do you think that your community will benefit from the project?

Yes	1		
No	2	➔	(Go to Q. 211)
Don't know	90	➔	(Go to Q. 211)

210 What kind of benefits will be for your community? *(Do not read out. Ranking the answers mentioned)*

	First	Second
Create more job opportunities	1	1
The livelihood of people will be better than before	2	2
Women will have more job opportunities	3	3
Men will have more job opportunity	4	4
Road infrastructure will be developed	5	5
School infrastructure will be developed	6	6
Health infrastructure will be developed	7	7
Tourism will be more developed	8	8
Koh Kong become a prestigious province	9	9
Reduce illegal logging	10	10
Reduce out migration	11	11
Develop business and other services	12	12
Others: (Specify) _____		
Others: (Specify) _____		
Don't know	90	
No second Answer		95

211 Do you think that your family will benefit from the project?

Yes	1		
No	2	➔	(Go to Q. 213)
Don't know	90	➔	(Go to Q. 213)

212 What kind of benefit will be for your family? (*Do not read out. Ranking the answers mentioned*)

	First	Second
Have more chance to look for jobs.	1	1
We can change our recent job.	2	2
Being easy to do selling of foods and goods.	3	3
Living standards are better when family members have work to earn money.	4	4
Others: (Specify) _____		
Don't know	90	
No second Answer		95

213 What do you think the government (central or local) could do to increase the expected benefit?

_____

_____

214 Do you think that the project may have negative impact on your community?

Yes	1		
No	2	➔	(Go to Q.216)
Don't know	90	➔	(Go to Q.216)

215 If yes, what negative impacts are expected? (*Do not read out. Ranking the answers mentioned*)

	First	Second
Air pollution	1	1
Pollution of the river	2	2
Fewer tourists	3	3
More migration in	4	4
More traffic	5	5
More health problems	6	6
Conflicts over land	7	7
Conflict between the people in the community and newcomers	8	8
Conflict between company and workers	9	9
Others: (Specify) _____		
Don't know	90	
No second answer		95

216 Do you think that your family will be negatively affected by the project?

Yes	1	
No	2	➔(Go to Q. 401if the Q.202 is "No"; if "Yes" go to Q.301)
Don't know	90	➔(Go to Q. 401 if the Q.302 is "No"; if "Yes" go to Q.301)

217 What will be the negative impact on your family? (*Do not read out. Ranking the answers mentioned*)

		First	Second
1.	Health problems	1	1
2.	Sound of factories will affect the people living close to factories.	2	2
3.	Low incomes/salary	3	3
4.	Nepotism/corruption	4	4
	Others: (Specify) _____		
	Don't know	90	
	No second answer		95

218 Who do you think will suffer most of the negative impact? *(Do not read out.)*

Women	1
Men	2
Both men and women	3
People in the communities	4
Poor people	5
Skilled people	6
Others (Specify)_____	
Don't know/Refuse	90

219 What do you think the government (central or local) could do to reduce the expected negative impacts?

1. The government must eliminate corruption.
2. Labor laws must be respected.
3. Health care services should be improved.
4. Factory need to use the new machine

Other: (Specify)

_____

_____

90. Don't know

The following questions are for Relocated People Sub-group only

(Please, check Q. 202. If the answer is "Yes", then the interview will continue from 301)

301 When were you relocated?

Two years ago	1	
Last year	2	
Six months ago	3	
Others: (Specify)_____		

302 Were you consulted on your preference before being relocated?

Yes, I was consulted	1	
No, I was not consulted	2	➔(Go to Q. 304)
Yes, they come to inform us we need to leave	3	
No answer	90	➔(Go to Q. 304)

303 Where you were consulted or informed about your preference for relocation?

They come to visit us at home individually	1
In a public meeting	2
Others: (Specify)_____	

304 How do you feel about your new situation?

Better than before	1
About the same	2
A little worse than before	3
Much more difficult than before	4
Don't know/No response	90

305 Do you see benefits in being located near a new "market place"?

Yes	1	
No	2	➔(Go to Q. 307)
Don't know	90	➔(Go to Q. 307)

306 If yes, what are the benefits four your family? (*Do not read out. Ranking the answers mentioned*)

	First	**Second**
Being easy to make a living by selling goods.	1	1
Reducing bridge river-crossing payment.	2	2
More work to do.	3	3
Other: (Specify)_____		
Don't know	90	
No second Answer		95

307 Will you move from here if your situation does not improve?

Yes	1
No	2
Not sure	3
Don't know	9

OTHER INFORMATION OF HOUSEHOLD

401	How long have you lived here?	1. Have always lived here ➔ (Go to Q. 403) 2. 5 years or more 3. Two years or more 4. Less than two years.
402	Why did you move to this place?	1. Employment/Business 2. Family reasons 3. Loss of land 4. Acquisition of lands 5. Other
403	Do you have land under cultivation?	1. No 2. Yes, own land 3. Yes, renting land/ sharing arrangement 4. Yes, other
404	Main source of drinking water in wet season?	1. River 2. Pond 3. Rain water 4. Artesian well 5. Piped water/ faucet 6. Other
405	Main source of drinking water in dry season?	1. River 2. Pond 3. Rain water 4. Artesian well 5. Piped water/ faucet 6. Other
406	Main lighting used in the household	1. Publicly provided electricity 2. Privately provided electricity 3. Battery 4. Kerosene lamp 5. Torch 6. Other
407	Types of main fuel used for cooking	Firewood=1 / Charcoal=2 Kerosene=3 / Gas=4 Electricity=5 / Other=6
408	Does this household own any of the following? (Enumerate the choices)	1 Sewing Machine 2 Plough for the Farm 3 Television 4 Car 5 Motorbike 6 Bicycle 7 Mechanical farm equipment 8 Fishing gear (nets, baskets, etc.) 9 Boat with motor 10 Boat without motor 11 Cow/Buffalo 12 Chicken/Duck/Other Live stocks **13 None of these above**

409	Housing type (Record Observation)	Thatch	1
		Tiles	2
		Concrete	3
		Galvanized Iron/Aluminum	4
		Salvaged Materials	5
		Tent	6
		Mixed but predominantly made of tiles and galvanized irons/Aluminum	7
		Mixed but predominantly made of thatch and salvaged Material	8
		Other	9
410	Where do you usually go when you get sick?	Kru Khmer = 1 Trad Birth Attendant = 2 Magician = 3 Monk/Religious Leader = 4 Government health facility = 5 Private health facility = 6 Pharmacy=7 Home treatment/ home remedy = 8 Other = 9 Don't know = 90	
411	Are there a health facility in your commune?	Yes = 1 No = 2 ➔ (Go to Q. 414)	
412	Type of health facility *(multiple answer)*	Health Center=1 District referral hospital=2 Provincial hospital=3 Private clinic=4 0ther=5	
413	How long did it take to reach to the health facility where you usually go?	less than 30 minutes = 1 30 - 59 minutes = 2 1 - 2 hours = 3 2 hours or more = 4 Don't know = 90	
414	Do you think that there are enough health facility in your area?	Yes = 1 No = 2 Don't know= 90	
415	Do you think it is expensive to access to health facility?	Expensive = 1 Reasonable cost = 2 Not expensive=3 Don't know= 90	
416	Do you think that the quality of health services is good?	Yes = 1 Moderate= 2 No = 3 Don't know= 90	
417	Have you heard about HIV/ AIDS?	Yes=1 No=2	
418	Has your community been confronted with HIV?AIDS?	Yes=1 No=2	
419	Are there a school in your village?	Yes=1 No=2	
420	How do your children get to school? (Multiple answer) *(See Table1, Q. 06, if the answer "No" for all children skip to Q. Job and employment)*	Walked = 1 Bicycle = 2 Motorcycle = 3 Remork = 4	Boat = 5Boat = 5 Moto dup = 6 Other = 7 Don't Know = 90

Job and Employment (for last 30 days) (*Use code number below*)

No.	Main job /occupation (A)*	Type of employment (B)**	Earning per month in Bath (C)	Second job /occupation (D)*	Type of employment (E)**	Earning per month in Bath (F)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
TOTAL				TOTAL		

*Code of job/occupation (main & second)

1= Seller in the Thai market	10= Seller in a market	19= Entertainment dancing and music	28= Traditional metal tool maker	37=transporting goods within and between the village
2= Day laborer at the border	11= Seller in the village	20= Wedding service	29= Metal works (welding etc)	38= Remittances from relatives
3= Sewing at a workshop	12= Electronic repair	21= Recycle business	30= Seller in other once business	39=Sell lucky draw lottery
4= Sewing at home	13= Mechanical repair	22= Carpenter	31= unable to work	40=Domestic services (care of cow, sibling…)
5= Casino dealer	14= Electrician,	23= Food preparation and selling ,	32= Taxi Boat	41=craft works
6= Other worker in Casino	15= Agricultural day laborer	24= Animal raising	33=House wife/man	42=Mine-clearance
7= Construction worker	16= Civil servant	25= Rice Agriculture	34=Unemployment	43=Child labor
8= Restaurant and service industry	17= Charcoal maker	26= Vegetable garden/fruits	35= fisherman	44= stay at home/home chores
9= Moto-Dop	18= Beauty shop/ barber	27= Beggar	36= Common property resource gathering	45=At school
46=Taxi	47=Money lender	48= Police/ army/ gendarmerie	49=Private company staff	Others:

**Code of type of employment

1 = employer, 2 = employee, 3 = families business, 4 = self-employed, 5 = other (specify)

421 Have you or your family members worked in other places for the last three months?

Yes	1		
No	2	➔	(Go to Q.425)
No answers	9	➔	(Go to Q.425)

422 If yes, men or women are they?

Men	1
Women	2
Both men and women	3

423 If yes, where have you or your family members worked?

In Phnom Penh	1
In other provinces	2
In Thailand	3
In Vietnam	4
Others	5

424 For how long?

1-3 months	1
3-6 months	2
6-12 months	3
1-2 years	4
More than 2 years	5

425 Do you or your family members look for job during last 12 months?

Yes	1
No	2
Don't know	90

426 Household Expenditure:

No.	Expenditure Items	Value in Bath (Monthly)
	Food	
	Beverage	
	Tobacco	
	Clothing	
	House Renting	
	House repairing	
	Water, light & fuel	
	Medical Care	
	Transport and communication	
	Education	
	Entertainment	
	Social and religious ceremonies	
	Tax	
	Telephone	
	Miscellaneous	
	TOTAL per month	

427 Do your household have some debt?

Yes	1
No	2
No answer/refused	3

428 Common property resources gathering and home produce for family consumption

Items description	From where	Code
Vegetable/fruits	Forest	1
Wild life	Forest	2
House construction material	Forest	3
Resin	Forest	4
Vegetable/fruits	Home	5
Chicken/duck	Home	6
Fish	Sea/River/lake	7
Rotan/Bamboo/Fire wood	Forest	8
Others:(Specify)_____	_____	

END INTERVIEW

ANNEX II

ANNEX II

Unofficial Translation

KINGDOM OF CAMBODIA
NATION RELIGION KING

Royal Government of Cambodia
No. 10 ANKR.BK

SUB-DECREE ON THE CREATION OF THE NEARNG KOK INDUSTRIAL ZONE, KOH KONG PROVINCE

ROYAL GOVERNMENT

- Having seen the Constitution of the Kingdom of Cambodia;
- Having seen the Royal Decree NS/RKT/1198/72 dated November 30, 1998 on the formation of the Royal Government of Cambodia;
- Having seen the Royal Decree No. 02/NS/94 dated July 20, 1994, which promulgated the Law on the Organization and functioning of the Council of Ministers;
- Having seen the Royal Decree NS/RKM/0699/09 dated June 23, 1999, which promulgated the Law on Ministry of Land Management Urbanization and Construction;
- Having seen Sub Decree No. 86 ANKR.BK dated December 19, 1997 on the Licensing of the Constructions permit;
- Agreed with the plenary meeting of the Council of Ministers on January 11, 2002.

IT IS HEREBY DECIDED

Article 1:
To delimit a location for the creation of an Industrial Zone situated in the Nearng Kok village, Pac Klong commune, Mondul Sema District, Koh Kong province called " Nearng Kok Industrial Zone, Koh Kong Province".

Article 2:
Nearng Kok Industrial Zone, Koh Kong Province consist of 336,24 hectares. This Industrial Zone situated in the boundary line A, B, C, D, E, F, G, H, I, G, K, L, M, N, O, P with the coordinates of the boundary line and the plan site figured in the attached schedule of this Sub-decree.

Unofficial Translation

Article 3:

All sites of land into the premise of Nearng Kok Industrial Zone, Koh Kong Province as specified in Article 2 shall be considered as state property, and the organization and functioning of this Industrial Zone shall be determined by the Sub-decree.

Article 4:

All certificates of the ownership of land and property assets permits including other documents related to the rights on land, which situated in Nearng Kok Industrial Zone, Nearng Kok village, Pac Klong commune, Mondul Seymar District, Koh Kong province and any provisions contrary to this Sub-decree shall be deemed null and void.

Article 5:

The Minister in charge of the Office of the Council of Ministers, Co-Ministers of Interior, Minister of Economy and Finance, Minister of Land Management Urbanization and construction, Minister of Industry Mine and Energy, Minister of Commerce, Ministers, Secretaries of State of all concerned ministries and institutions, and Koh Kong provincial governor shall effectively implement this Sub-decree from the date of its signature.

Phnom Penh, February 05, 2002
Prime Minister
Signature and Seal
HUN SEN

C.C:

- Ministry of the Royal Palace
- Secretariat General of the Senate
- Secretariat General of the National Assembly
- Cabinet of Samdech Prime Minister
- All Ministries/Government 's Institutions
- All Municipals and Provincial Halls
- Records

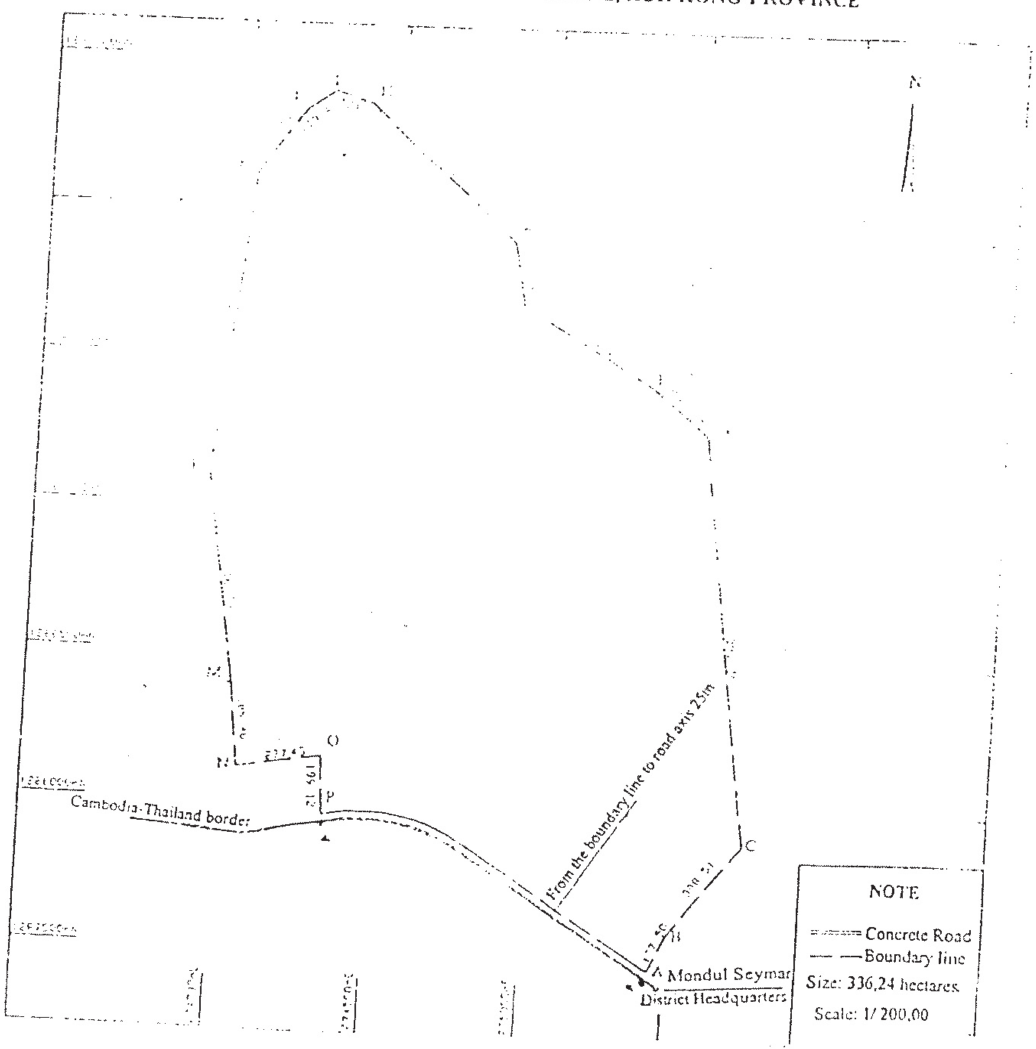
Unofficial Translation

THE ANNEX OF THE SUB-DECREE
Dated , 2002

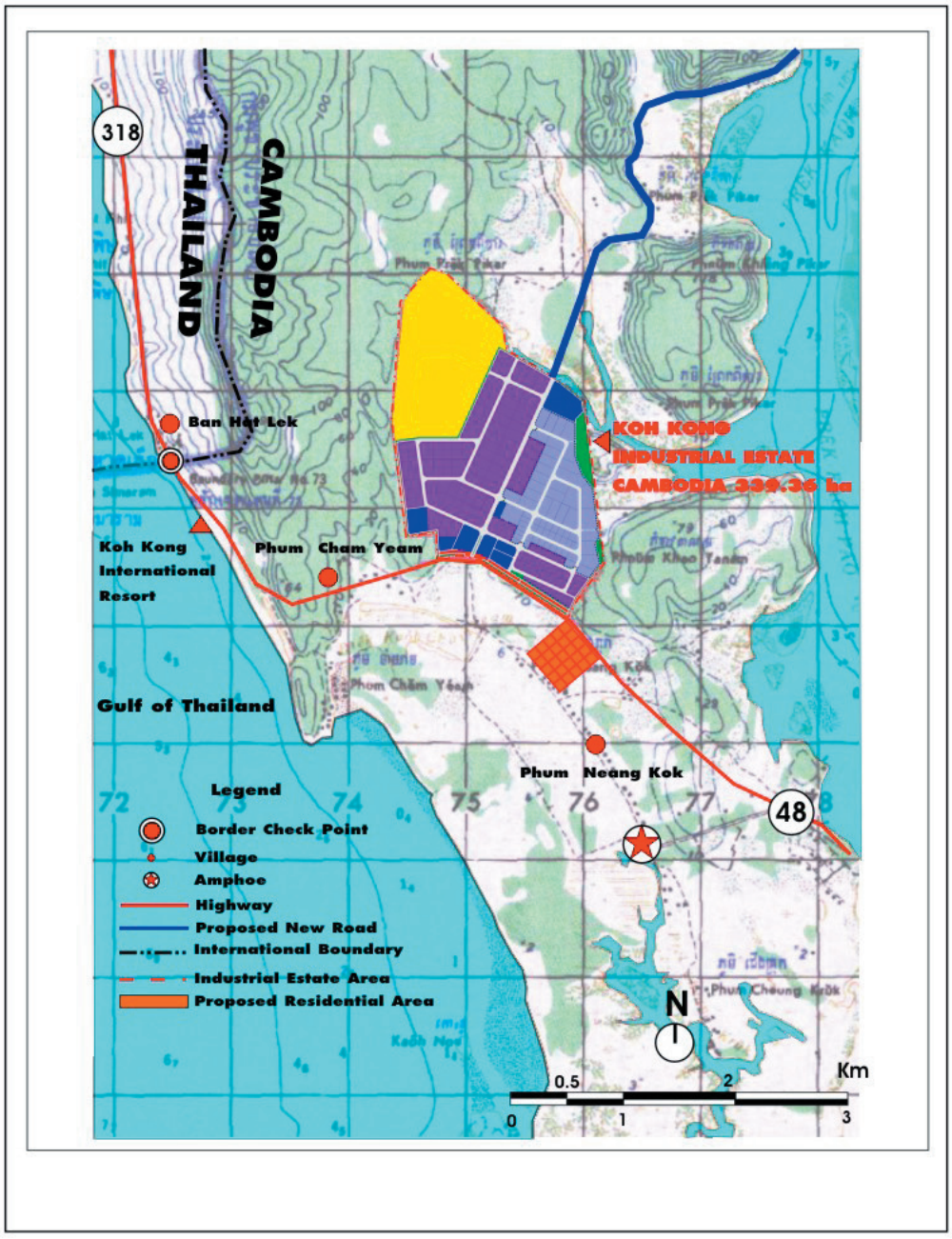
List of Coordinates Boundary Line Nearng Kok Industrial Zone, Koh Kong Province

No.	X(E)	Y(N)	No.	X(E)	Y(N)
A	[illegible]	1287454.907	I	274269.627	[illegible]
B	[illegible]	1287579.681	J	274176.384	[illegible]
C	[illegible]	[illegible]	K	[illegible]	[illegible]
D	[illegible]	[illegible]	L	273936.415	[illegible]
E	275371.831	1289424.710	M	274036.828	[illegible]
F	274909.177	1289692.319	N	274065.285	1288106.150
G	274869.123	1289898.657	O	274338.553	1288154.008
H	274397.633	1290349.367	P	274348.719	1287955.143

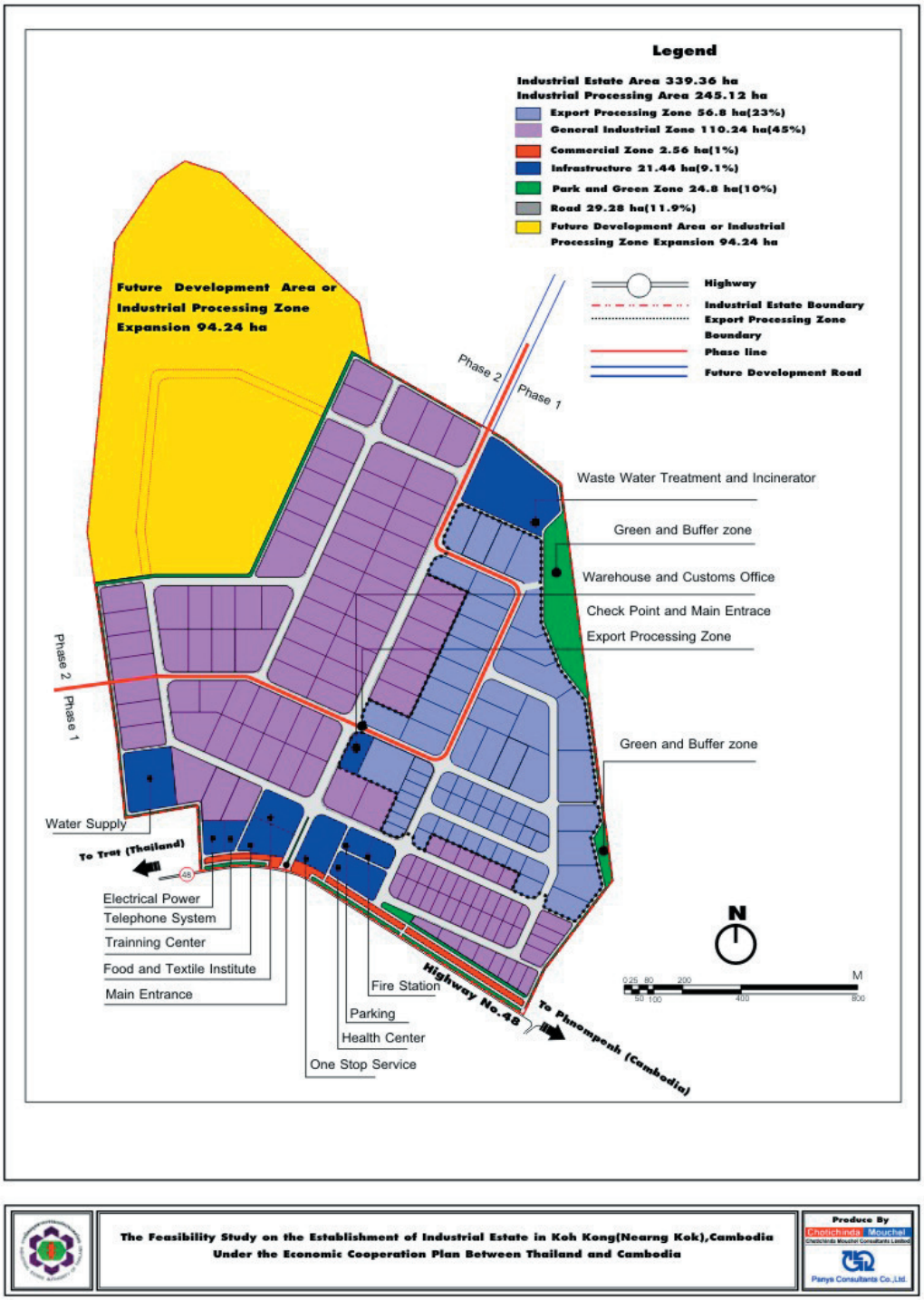
MAP OF NEARNG KOK INDUSTRIAL ZONE, KOH KONG PROVINCE



ANNEX III.1: Zone site and surrounding area



ANNEX III.2 Land Use Plan of Industrial Estate at Koh Kong , Cambodia



The Feasibility Study on the Establishment of Industrial Estate in Koh Kong(Nearng Kok),Cambodia
Under the Economic Cooperation Plan Between Thailand and Cambodia

Produce By
Cholichinda Mouchai Consultants Limited
Panya Consultants Co.,Ltd.

ANNEX IV
List of stakeholders met during the SIA scoping mission in Cambodia
31 Jan. – 21 Feb. 2003-2-24

(

Phnom Penh)

Mr. Chap Sotharith .....Senior Research, Cambodian Institute for Cooperation & Peace (CICP)
Mr. Sisowath D. Chanto.....Assistant Director & Research Fellow, CICP
Mr. Andrew McNaughton .....Pro-Poor Trade Strategy Advisor, Min. of Commerce
Ms. Mia Hyun.....Senior PO, East Asia Regional Office, Oxfam
Mr. Khim Chandy .....Vice Governor, Mondul Seima District, Koh Kong Province
Mr. Paul van Im .....PO, ADB
Ms. Nida Ouk .....PO, ADB
Mr. Dominique Pierre Guéret ..... Secretariat General, Cambodian Mine Action & Victim Assistance Authority
Mr. Koji Yamada .....Team Leader, Regional Development Study, JICA
Mr. Kawahara Shigeki.....Deputy Team Leader, Regional Development Study, JICA
Ms. ABE Kimiko .....Regional Development Study, JICA
Mr. James P. Brew.....Regional Manager, IFC
Mr. Yasuo Konishi .....Managing Director, Global Dev. Solution, LLC
Mr. Karla Quizon.....Deputy Manager, Mekong Project Development Facility
Mr. San Sy Than.....Director General, National Institute of Statistics, MOP
Mr. Patricia DeBoer.....Country Director, American Friends Service Committee
Mr. In Channa .....Deputy Director of Database Dept., Office of the Council of Minister
Mr. Sok Chenda Sophea .....Secretary General, Council for the Development of Cambodia
Mr. Hean Sokhom .....President, Center for Advanced Study
Mr. Roger Henke.....Institutional Development Specialist, Center for Advanced Study
Mr. Sik Boreak, ...Vulnerability Analysis & Mapping (VAM) Center, WFP
Ms Claude Katz .....Team Leader, National Research Team Cambodia HDR
Mr. Lim Kalay .....National Researcher, National Research Team, Cambodia HDR
Mr. Maun Sarath .....National Researcher, National Research Team, Cambodia HDR
Mr. Chea Chantha .....National Researcher, National Research Team, Cambodia HDR
Mr. Long Chintha .....National Researcher, National Research Team, Cambodia HDR

(Koh Kong)

Mr. Ouk Sareat.....Director of Koh Kong Commercial Department
Mr. Pich Han.....First Governor of Koh Kong Province
Mr. Chum Sotin.....Vice-director of CARE in Koh Kong Province
Mr. Khim ChanndyVice Governor ..... Mondul Seima District, Koh Kong Province
Mr. Man Pala .....Deputy Director of Environment Department
Mr. Yeur Saron .....Acting Director of Industrial Department
Mr. Ith Sovannda.....Director of Planning Department
Mr. Bun Biev.....Chief Office of Tourism Department
Mr. Dyna.....Ordinary Staff of CI
????????? .....Chief Officer of Administrative of Social Affairs and Labor Dept.
Mrs. Eng Kim Neang .....Director of Department of Women Affairs
Mr. Hak Hoeun .....Director of Land Management Department
Mr. Ney Ol .....Chief Officer of Fishery, Department of Fishery
Mr. Chum Sopha .....Coordinator-Koh Kong, Care Cambodia
Mr. Chum Channra .....HIV/AIDS Project Manager, Care Cambodia
M.r Masaya Kato .....HIV/AIDS Technical Advisor, Care Cambodia

List of stakeholders met during SIA follow-up mission (consultations on SIA initial findings)

31 January – 2 February 2005.

H.E Mr. Mao Vuthy	Deputy Governor of Koh Kong Province
Ms. Mang Mayouda	Deputy Director of Tourism Dept
Mr. Sek Sam Ol	Deputy Director of Planning Dept
Mr. ????	Director of Land Management Dept
Mrs. Eng Kem Neang	Director of Women Affair
Mr. Yuk Cheng	Deputy Director of Social Affair Dept
Mr. Cheng Hour	Deputy Director of Social Affair Dept
Mr. Som Phar	Deputy Directors of Rural Dept
Mr. Neay Ol	Deputy Director of fishery Dept
Dr. Pin Savath	Deputy Director of Health Dept and Chief of Operational District of Smach Mean Chey

Dr. Ly Sang Ky	Care office in charge of HIV
Mr. Sav Sen Thoun	Director of Environment Dept
Mr. Thy Saroeum	Deputy Director of Industry Dept
Mr. Heng San (Seng)	Vice president of Duty Free Shop Co., Ltd.
Mr. Kok Sam An	Governor of Mondol Semar District
Mr. Kem Chamdy	Deputy Governor of Mondol Semar District
Mr. Farith	Deputy Director of Commercial Dept