

Reflection of Indigenous Culture in Developing Countries

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Incorporating Social Dimensions into Projects: A Reflection of Culture, Uniqueness and Lifestyle Changes.

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Abstract: It has been recognized that climate change study is huge and complex. Such study is based not only on a large-scale but also on an interdisciplinary basis. The common recognition of the scientific findings and their implications for society is therefore essential. These theoretical and practical “gaps”, especially between developed and developing nations, can hinder their mutual understanding of problems and potential solutions. To reduce these gaps, the paper attempts to show how social parameters can be well represented as part of the analysis in developing models like IAMs. To include such social issues, the paper discusses the reflection of culture, uniqueness and lifestyle changes by exploring some lessons learned from developed countries and Developing Countries (DCs) as examples. First, social analysis in project design is discussed. Then, the initial social assessment and an example of social analysis in the power subsector are examined. However, the next step, i.e. joint activities on IAMs, will be that the models from developed nations and DCs need to be adapted and integrated through such incorporated social parameters.

1. Introduction

It has been said that *people* are the center of development, and that development is for *all* the people. The climate change study that involves a complex, large-scale and interdisciplinary problem has a direct impact on *people* and their development. The social dimension issues to be incorporated into the study thereby capture the key elements involving human perspective: enhancing the people's role in development; human resources development; avoidance or mitigation of adverse impacts resulting from the use of energy and degradation of environment on vulnerable groups, which may not have the capacity to absorb such effects.

Moreover, the gaps between researchers/scientists and decision-makers, and between north and south, have been becoming wider and can hinder their mutual understanding of problems and potential solutions. To narrow these gaps, an attempt is made to incorporate social dimensions i.e., built upon the traditions and social and cultural values, into the development efforts of IAMs and their operations. It is noted that this *evolving process* may need to be modified from time to time based on developments in each country, changing perceptions and needs, and the experience gained from lessons learned.

To ensure that IAM studies should be fully representative, first the paper discusses the social analysis in project design. Then, the initial social assessment and example of social analysis in the power subsector are examined. Finally, the reflection of culture, uniqueness and lifestyle changes will be discussed by exploring some lessons learned from developed countries and DCs as examples.

2. Social Analysis¹ in Project Design

Incorporating Social Dimension into Projects

It may not be relatively difficult for researchers to incorporate social parameters into the study if all relevant social dimensions are thoroughly examined, otherwise it may become a significantly difficult task. According to the Asian Development Bank (ADB) study, a social analysis may cover several facets. The scope and content of a social analysis may differ significantly among (and within) sectors, and among countries and regions within countries. It is important to identify clearly the social dimension issues which are likely to be of significance. It is also essential that the researchers consult directly with individuals and groups, who are expected to be directly affected by the impacts from the studies, at the beginning. This initial assessment is called an initial social assessment.

There may be a number of approaches to incorporating social dimensions: at the macro country strategy level as well as at the micro project level. The choice of the approach to be adopted and its composition and sequence will be determined by the specific situation in each country. For example, the macro social analysis should look into a range of social indicators to assess a country's development performance and priority areas to be addressed. This can be accomplished by determining the current status, changes and trends as reflected in social indicators such as: per capita income; income distribution; education achievement profile; employment profile; population with access to health services; infant mortality and morbidity; maternal mortality; population with access to safe drinking water and sanitation; population growth rate; food availability and nutrition levels; vulnerable and ethnic groups and their relative status, including economic and social participation, rural-urban disparities, etc. The incorporation of social dimensions should, in principle, help in the design of studies that are socially responsive; facilitate more effective implementation; forestall some of the potential risks; enable more equitable distribution of benefits; and build upon the desirable socio-cultural characteristics of communities. More importantly, this could convince policymakers, who always wish for a simple straightforward but realistic answer to a problem when making decisions.

The social analysis should examine all facets which may be important for determining the scope and content of the study and for determining the appropriate implementation arrangements after decisions have been made. The core facets of a social analysis (ADB, 1994) include:

1. *Identifying target groups and subgroups*
It means those who benefit and those who are adversely affected.
2. *Assessing needs*
These are the needs of a community (e.g., basic health/education facilities, safe drinking water, etc.). To assess the needs of the target groups and their causes and interrelationships, one can use a *problem tree analysis* which is a useful means of organizing information in a systematic way into the logical framework.
3. *Assessing demand*
This involves the willingness and ability of the communities to pay or to accept the implementation and maintenance of the projects, e.g., environmental costs.
4. *Assessing absorptive capacity*
The following factors may effect the assessment of absorptive capacity.
 - motivation to change
 - level of knowledge and skills

- social and political environment
- capability of community organizations
- other community resources

5. *Gender issues involved*

6. *Adverse impacts on vulnerable groups*

The groups that may be adversely affected should be identified. A socioeconomic profile (that could be derived from 1.) should also be prepared for each group which will be the basis for quantifying the adverse impact on the group.

3. Initial Social Assessment and Examples of Subsector Checklists

As mentioned earlier, the basic purpose of the initial social assessment is to construct a comprehensive picture of the target groups. In other words, it would identify the major population groups that may be affected (beneficially and otherwise) by the proposed study output and which should be the focus of the social analysis. The initial social assessment would normally be conducted through field visits to all, site inspections, interviews with different subgroups or a sample of the communities which will be directly affected by the project. Normally, the following steps are involved in the assessment:

- Identifying target population
- Assessing the stage of development of each sub-population
- Assessing the target population's needs and demands
- Assessing absorptive capacity
- Identifying institutions

The initial social assessment should be conducted as early as possible during the preparation or fact-finding/appraisal stage to identify the need for and scope of the study. For example, in a thermal power generation project, identification of the people that may be affected adversely could be done during the initial social assessment. Persons to be affected adversely could become involved in the identification of mitigating measures and compensation mechanisms during feasibility study preparation and during project implementation.

A topic to be addressed in social analysis can be discussed here. An example of the power subsector checklist below shows the significant topics to be addressed while conducting initial social assessment and social analysis.

1. *Target groups*

Identify the target groups that are expected to consume the power which will be produced or distributed

Identify and quantify the subgroups within the target groups (e.g., industrial consumers, residential consumers, electric cooperatives, etc.) which are likely to have different needs and demands

2. *Demands*

Assess the ability and willingness of the major consumer groups to pay tariffs for electricity, which are needed to sustain the operations of the facilities

3. *Potential adverse impacts*

Identify groups which may be adversely affected by the project, e.g., relocation, loss of land, exposure of health hazards, conflict, pricing policies.

Prepare a socioeconomic profile for each group which would be adversely affected, to describe and quantify the impact(s) on the affected group
If potential adverse impacts were indicated, identify and assess options for avoiding, mitigating, or compensating groups which may be adversely affected

4. Energy and Environment Impacts Resulting from Lifestyle Changes: Societal Behavior, Indigenous Culture and Uniqueness

In 1993, the British Columbia Hydro (B.C. hydro) and governments explored the potential for conservation, the traditional focus being on delivering technological options to customers. The B.C. hydro also recognized the importance of assessing the related conservation impacts resulting from changes to customer *behavior*. This assessment reflects the idea that changes in *individual* and *societal behavior* can effect energy consumption (Rose & Rockwell, 1993).

The above analysis was designed to identify the potential for electricity conservation resulting solely from changes in customer *behaviour*. The study reflected a year 2010 timeframe and consisted of the following steps: (1) Identification of behaviour responses; (2) Classification of responses (minimal, moderate, and significant lifestyle impacts); (3) Development of reduction estimates (energy reduction estimates were developed for each of the behavior changes). The above approach provided rough estimates of conservation potential by market sector, end-use and classification levels. This study was designed to be exploratory in nature, to provoke thought to better understand the relationship between energy consumption and changes to behavior. The results indicate that there is significant potential available through customer and societal behavior changes and that a conservation focus should look beyond just the technology options.

As a result, it was concluded that the maximum conservation potential resulting from behavioral changes can be significant. The results also suggest that there are planning uncertainties regarding the magnitude and reliability of behavioral-based energy impacts. Despite these uncertainties, the magnitude of impacts indicates the importance of including

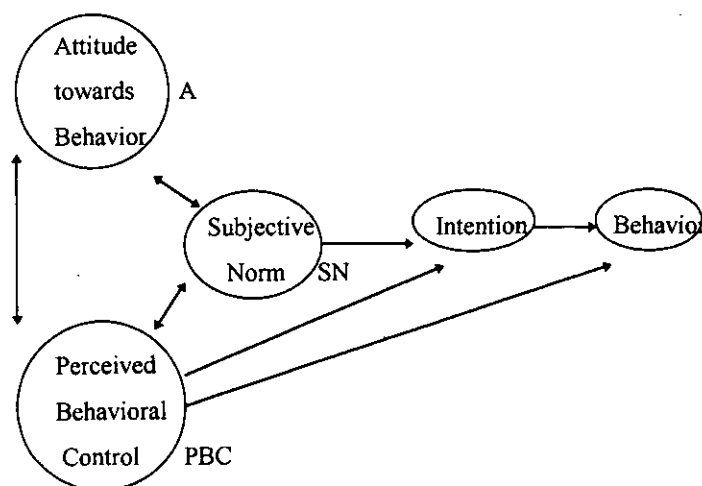


Figure 1: Theory of Planned Behavior

customer behavior as a component of a comprehensive conservation strategy. Appendix 1 and 2 show the results of the study regarding listing of residential behavior changes and contribution of lifestyle segment impacts respectively.

Theoretically, the societal behavior is based on various theories. Among them is Theory of Planned Behavior (Ajzen, I, 1991) following the logic shown in Fig. 1.

The above theory was improved from the Theory of Reasoned Action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). There are 3 factors involved.

1. Attitude towards Behavior (A_B).

$$A_B = f \left[\sum_{C=1}^n b_i e_i \right] \dots \dots \dots (1)$$

where b = belief
 e = evaluation

2. Subjective Norm

$$SN = f \left[\sum_{c=1}^k NB_i MC_j \right] \dots \dots \dots (2)$$

where NB = not belief (believe or not)
 MC = motivation control

3. Perceived Behavioral Control

$$PBC_i = f \left[\sum_{k=1}^k C_k P_k \right] \dots \dots \dots (3)$$

where C = control (belief)
 P = protest/promote

It is noteworthy that subjective norm depends on potential references. For example, the energy conservation campaign of the government could be successful if the prime minister shows his personal interest in saving energy to his people.

The Indigeneous culture of each country is unique. To achieve global sustainable development, it is essential to establish a new pattern of development. In other words, the integration of the concern for environmental protection with development *across different cultures* is urgent.

For Asia-Pacific countries, according to Eco Asia (1996), there may be two development strategies to follow in the next two generations timeframe, say, 60 years: (1) high growth, but learning from the mistakes of developed countries, to minimize the environmental costs of development, or (2) sustainable moderate growth with adequate eco-consciousness (Leap-frog-type). However, certain commonalities in terms of values, practices, mode of decision-making, and bodies of indigeneous knowledge (e.g., relations between people and nature) can still be found in this region.

It is recommended that each country should seek to rediscover these elements in its traditional way of life, respect each other's unique cultures, and avoid repeating mistakes made by other countries, whilst also learning from the experiences of others so that they can jointly create new patterns of sustainable development.

5. Conclusion

Currently, Thailand has made good progress in climate change studies ranging from the science of climate change, inventory, and mitigation options, to vulnerability and impact studies, and adaptation. At present, Thailand comes closely to its policy stage and implementation, that is, National Action Plan and National Communication of climate change. Regarding the collaboration program under IPCC framework towards the year 2000 to provide more detailed evaluations of a broader range of impacts and policy to the decisionmakers in all countries, it is essential that Thailand aim at incorporating some qualitative approaches (dealing most likely to social dimensions) to its current quantitative models, and more importantly to be part of its contribution to the common global modeling effort like IAMs.

The next step, e.g., joint activities on IAMs, will be that the models from developed nations and DCs need to be adapted and integrated, through such incorporated social parameters, after having *lessons learned* from each other.

END NOTES

¹A social analysis is conducted to identify and assess all relevant social dimensions that are needed to formulate the components and implementation arrangements for a project study (ADB, 1994).

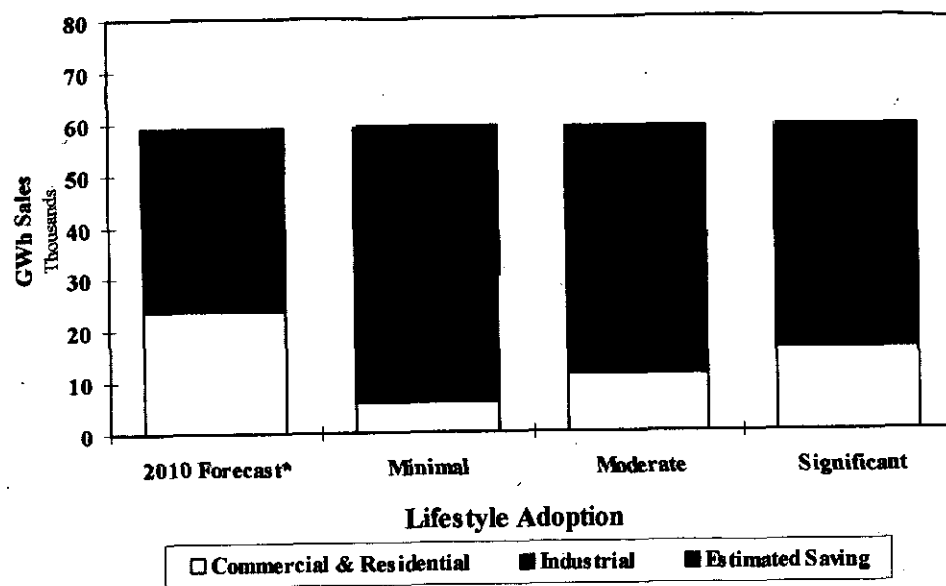
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Appendix 1: Illustrative Listing of Residential Behavioral Changes Sector : Residential

End-Use Response	Degree of Lifestyle Impact
Space Conditioning	Minimal
Shutting off ventilation fans or individual fans when not in room or at home	Minimal
Closing down vents to unoccupied rooms	Minimal
Vacuuming register vents regularly	Minimal
Dressing appropriately	Moderate
Clearing away obstructions from registers	Moderate
Opening draperies on south-facing windows in winter	Moderate
Using bath/kitchen exhaust fan sparingly in winter	Moderate
Loading room air conditions on south-side of home	Moderate
Closing doors to rooms that are kept cooler than the rest of the house (i.e. bedroom)	Moderate
Closing the fireplace damper when fireplace not in use	Moderate
Drawing windows coverings at night to help keep the heat in	Moderate
Setting back temperature at night and when out of the house	Significant
Heating only those portions of the house which are in use	Significant
Moving to appropriately sized (smaller) housing as needs diminish (i.e. empty nesters)	Significant
Water Heating	Minimal
Repairing leaky (hot water) faucets immediately	Minimal
Turning off electric water heater when on vacation	Minimal
Not allowing water to run unnecessarily when shaving, washing hands, or brushing teeth	Minimal
Filling up basin to shave or wash hands	Minimal
Filling the sink when hand washing dishes	Moderate
Cleaning out sediment from water heater tank	Moderate
Using short cycles on dishwasher	Moderate
Disconnecting (shutting off if possible) the drying cycle on dishwasher and air dry	Moderate
Using cold water detergents for lightly soiled cloths	Moderate
Setting the water level in the washing machine to suit the size of the load	Moderate
Cutting on the number of showers and baths	Moderate
Taking shorter and cooler showers	Moderate
Locating water heater near greatest point of use	Significant
Sharing bath and shower water	Significant

Source: Rose and Rockwell (1994)



Appendix 2: Contribution of Lifestyle Segment Impacts on B.C. Hydro Forecast

*Sources : B.C. Hydro Electric Load Forecast 1993/94