



## **Energy Options for Livelihood Needs of the Poor and Women in an Era of High Fossil Fuel Prices**

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Discussion paper for the  
High Level Regional Policy Meeting  
on Networking Towards Gender and Poverty Sensitive Energy Policies  
3-4 November 2008, United Nations Conference Centre, Bangkok

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<sup>1</sup> The author would like to thank those who contributed with comments and suggestions to the paper. The summary of an e-consultation carried out by ENERGIA on September 24, 2008<sup>1</sup> has been used as an input for this paper. Mr. K V Ramani and Dr Veena Joshi moderated the e-consultation. The present paper was peer-reviewed by those participating in the second round of e-consultations from October 21 to 30, 2008, and those participating in consultation referred to above. Given the limited time to prepare this paper, the author recognizes that the limited empirical evidence to support the line of argument is a shortcoming. Further comments on the paper are welcomed and can be sent to ENERGIA and/or to the author at the following email address: [dominique.lallement@gmail.com](mailto:dominique.lallement@gmail.com).

## Introduction

The objective of this paper is to establish a common understanding on the issue of *Energy Options for Livelihood Needs of the Poor and Women, in an Era of High Fossil Fuel Prices*. For the first time since 1973, the world was hit, in 2007-2008, by a combination of record oil and food prices, destabilising the global economy in terms of growth and inflation. The impact on developing and emerging economies has been so significant that it is estimated that the number of world poor has increased by 100 million. In the latter month of 2008, food and fuel prices have declined, highlighting the impact of price volatility on fiscal revenues and social programmes, as well as the uncertainty that excessive price volatility generates for the poor.

The paper reviews empirical evidence on fuel prices and their impact on the poor. It also explores options for coping with high and volatile fuel prices and mitigating their impact, in order to continue fostering the goal of achieving poverty eradication through sustainable livelihoods. In the paper, the understanding of ‘livelihoods’ is basically from the definition of sustainable livelihoods made popular by the UK Department of International Development (DFID), i.e.: “*the capabilities, assets (including both material and social resources and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base.*”<sup>2</sup> Lessons learned from field interviews on people’s energy priorities for livelihoods indicate that the concept of livelihoods usually includes two major components: the economic empowerment component and the welfare component. Energy products or services for economic empowerment include those needed to produce human energy (cooked food), maintain household labour productive (health, information, and education), and those needed for the productive use of household assets – land, other fixed assets (owned, purchased, or leased), and financial assets. This paper focuses on energy assets, services, and use for economic empowerment, i.e., mostly for productive purposes; another paper focuses on energy for welfare needs.

The paper also looks at livelihood options from a macro-perspective in terms of national policies, and from a micro/household perspective in so far as they intersect with national policies. Policies are defined as including both government policies and, implicitly, the aid framework including donor investments. “Institutions” are used as a broad term comprising formal and informal socio-political and legal structures including laws; regulations; norms; customs; and other societal practices. The ‘policies and institutions’ dimension introduces the issue of scale and time to achieve sustainable results.

The paper includes three sections. The first section provides information on the context of high and volatile fuel prices and some economic impacts with the objective of establishing a common understanding and relevance of this context. It also reviews some of the government policy responses. The second section provides information on the poverty impact of high fuel prices, including the disparities between rural and urban areas, and options taken by the poor to respond to high and volatile fuel prices. It identifies women and children as the groups most at risk. The third section looks at sustainable options to meet livelihood needs through the lens of gender equality, from the perspective of three main

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<sup>2</sup> Chambers, R. and G. Conway (1992) *Sustainable rural livelihoods: Practical concepts for the 21st century*. IDS Discussion Paper 296. Brighton: IDS. DFID: [www.dfid.gov.uk](http://www.dfid.gov.uk)

groups of stakeholders: poor household stakeholders, utilities, and policy makers. While for households the options are more in terms of energy use diversification and consumption and income options derived from energy, for utilities options are more in terms of diversification of services and means of payment; finally, for policy makers, options are more in terms of policy and investment priorities, targeting, and choice of instruments.

## **I- The Context of High and Volatile Fuel Prices**

This section makes three main points:

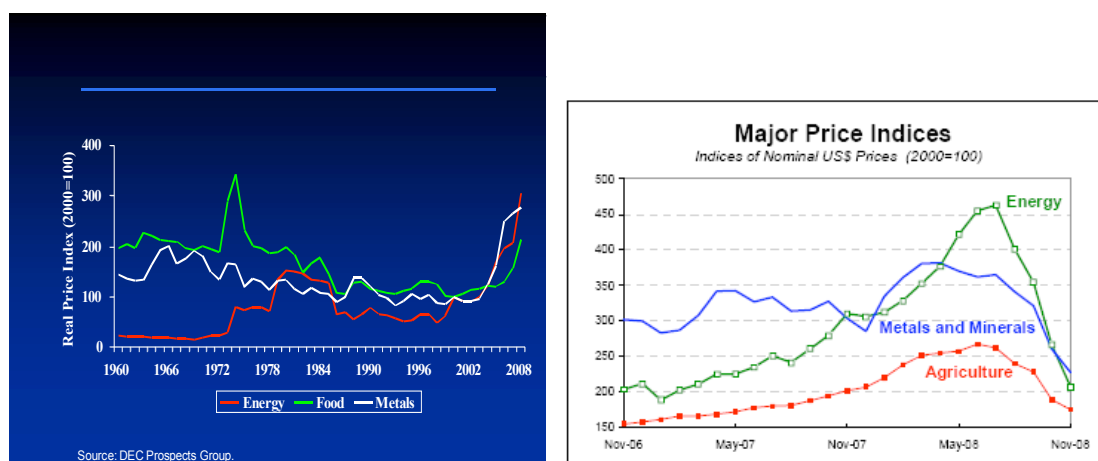
- Fuel prices spiked up at unprecedented levels in 2008, and volatility has increased; volatility is likely to continue as well as the uncertainty of the range within which fuel prices will fluctuate.
- High and volatile fuel prices have unveiled major weaknesses in the economic and energy sector management to meet the energy needs of the poor.
- Fuel price hikes and subsequent fluctuations have had a direct and indirect impact on increased and deepening poverty of the most vulnerable groups.

***Oil prices in 2008 reached higher levels than any time in the 20<sup>th</sup> century, and price volatility has increased.*** As illustrated in Figures 1a and 1b, since 2001, the price of oil has risen from \$20 per barrel, to over \$140 in 2008, with prices more than doubling since January 2007. After peaking at \$147 a barrel in July 2008, oil prices had fallen by more than 30 percent by early September and declined by another 25.8 percent in November, averaging \$54.0/bbl, and fell to about \$40/bbl in early December – down more than \$100/bbl or 72 percent since peaking in early July. A combination of factors – rapid expansion of the world economy, supply concerns (insufficient investments in exploration and production, low reserves, limited refining capacity, etc.), geopolitical tensions, depreciation of the US dollar -- explained initially the sharp price increases. The financial crisis that hit the world after August 2007 exacerbated the increase and volatility in oil prices, while the current drop in prices is largely explained by the contraction of demand in the United States by 6.1 percent in the first 11 months of 2008. Even if global demand slows down, oil prices are expected to remain fairly volatile due to the continued supply constraints (low stocks, limited spare capacity, supply disruptions, geopolitics) and uncertainty over exploiting new reserves, improving energy efficiency, and the rate of development of non-oil sources. Price scenarios put the lowest price trend at about \$70/bbl by 2030<sup>3</sup>.

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<sup>3</sup> Source: Energy Information Administration (2008), *International Energy Outlook 2008*, June 2008.

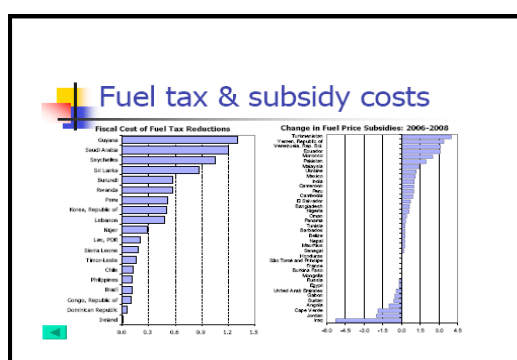
**Figures 1a-1b: Trends in Fuel, Food, and Metals prices (1960-2008, Nov-2006-Nov-2008)**



Source: World Bank. Presentation at Annual Meeting Seminar, and December 2008 Commodity Markets Review.

*Not all countries pass on the rise of oil prices to the consumers.* Out of 146 countries inventoried by the IMF (International Monetary Fund), 66 countries had attempted to dampen the impact of oil prices on consumers: 37 had decreased fuel taxes and 29 had increased fuel subsidies (Figure 2).<sup>4</sup>

**Figure 2: Fiscal Cost of Fuel Tax Reduction and Change in Fuel Price Subsidies 2006-2008**



Overall, Asian countries responded to high oil prices by increasing retail prices. In view of the mounting cost of subsidies (e.g. \$42.5 billion in India), retail prices increased by an average of 30 percent (Table 1). In July 2008, average gasoline prices exceeded the Singapore spot by 30 percent, and diesel prices by 15 percent.

<sup>4</sup> World Bank (2008). *Double Jeopardy: Responding to High Food and Fuel Prices*, July 2008

**Table 1. Oil prices translate into retail price hikes in Asia.**

**Asia: Retail Fuel Price Increases in Emerging Subsidised Markets  
& Comparison with US/UK and Singapore (Spot)**

Country	Prior Increase	Latest Increase	Gasoline		Diesel	
			Increase	US\$/litre	Increase	US\$/litre
Bangladesh	Apr 2007	1 Jly	34%	1.29	38%	0.79
China	Nov 2007	19 Jun	17%	0.75	18%	0.79
India	15 Feb 2008	1 Jun	11%	1.19	10%	0.81
Indonesia	Oct 2005	24 May	29%	0.65	29%	0.59
Malaysia	Feb 2006	1 Jun	41%	0.83	63%	0.80
Pakistan	May 2006	1 Mar-22 Jly	48%	1.22	65%	1.16
Sri Lanka	Jan 2008	24 May	24%	1.46	38%	1.02
Taiwan	Nov 2007	28 May	13%	1.11	16%	1.05
Vietnam	Feb 2008	21 Jly	31%	1.14	14%	0.96
<b>Average</b>			<b>28%</b>	<b>1.07</b>	<b>32%</b>	<b>0.89</b>
Singapore Spot		18 Jly		0.82		1.05
USA		18 Jly		1.07		1.25
UK		18 Jly		2.39		2.66

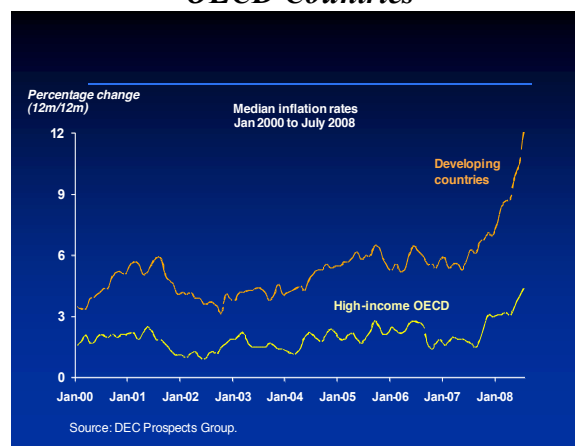
**The fiscal cost of maintaining subsidies is very high and does not necessarily benefit the poor.** Across the board fuel tax reductions or subsidies are often regressive, distorting, and eventually difficult to reform. Fuel subsidies also have environmental consequences in discouraging more efficient energy consumption. It is important to underline the inequalities in the distributional impact of taxes and subsidies. The rich who consume more petroleum products benefit most from increased across-the board subsidies, while the poor are most affected by price increases and by the contraction of social programs in times of reduced fiscal revenues.

**High Fuel Prices have contributed to high food prices** which also reached unprecedented levels in the first half 2008 (Figure 1 above). Rising fuel costs prompted sharp increases in fertiliser prices (important for livelihoods), as well as production and transportation costs. The increased production of bio-fuels from cereals and vegetable oils as a substitute for petroleum fuels diminished the supply of food-crop surpluses; other supply factors pushing food prices included the continuing depreciation of the US dollar, unfavourable weather conditions, trade restrictions, and declining global stocks of food grains due to changes to buffer stock policies in the US and the European Union. Like oil prices, key grain prices have also fallen in the past few months, with Thai medium grade rice prices declining from a peak of \$1,100/ton in May 2008 to \$370/ton in September 2008. Nonetheless, rice prices remained double their average level in 2007, and prices for major food crops are projected to remain well above the 2004 levels through 2010.

**As a result of high and highly volatile fuel and food prices, the economic vulnerability of developing countries has considerably increased,** in terms of inflation, growth, terms of trade, balance of payments, and fiscal balances. Many of the conditions that allowed countries to weather the 2003 and 2005 oil price shocks have been depleted: deterioration in the current account positions of most oil importing countries, inflation, and rise in interest rates. In non-OECD countries, median inflation (Figures 3) rose from 5 percent in 2006 to 8.1 percent in 2008. Inflation increased by more than 5 percentage points in at least 21 countries, including many oil exporters, with significant surges in domestic food price inflation in countries such as Vietnam (26 percent) and Chile (16 percent). The terms-of-trade effects of the combined food and energy price increases since January 2007 are in

excess of 10 percent of GDP in more than 15 countries. The rise in oil prices has increased the oil bill of oil importing countries by \$971 billion cumulatively since 2003, and the balance of payments effect of rising fuel prices is greater than the balance of payment effect of food prices. For example, the terms of trade impact on the balance of payments in Togo is equivalent to 19.7 percent of GDP for fuel, and 4.5 percent for food; the corresponding figures in Tajikistan are 17.8 and 3.8 percent. Overall, the poorer countries have disproportionately experienced negative terms of trade from rising fuel and food prices. For developing country consumers, the increase in the price of three staples: wheat, rice, and maize since January 2006, cost \$324 billion in 2007 alone. Overall, it is expected that developing countries will grow at a lesser rate than estimated even one year ago, from above 6 percent to about 4 percent or less.

**Figure 3. Inflation Rising faster in Developing Countries than in High income and OECD Countries**



## II- Options and Risks taken by the Poor, including Women, to Respond to High Fuel Prices in the Short-Term

This section makes four points:

- High fuel prices have a significant impact and risk on aggravating poverty.
- There are significant disparities between the urban and rural areas.
- Women and children are the most at risk.
- The poor, including women, opt for short-term solutions, which may deprive them of livelihood opportunities and deepen chronic poverty.

***The poverty impact of continued high and volatile food and fuel prices is huge, although difficult to measure.*** There are no global estimates of the increase in the number of poor resulting from fuel price increases. As such estimates exist for the impact of food price increases, these numbers are provided here as illustration, i.e. 3-5 percentage points in global poverty rates, or the equivalent of about 100 million people, one third of whom would be in Africa alone. The overall numbers hide an even more serious phenomenon, i.e. the increase in poverty depth – measured by the gap in consumption between the average poor household and the poverty line. In urban areas, it has been estimated that 88 percent of the increase in urban poverty depth is from poor households becoming poorer, and only 12 percent from

households falling into poverty. For a typical less developed country, the increase in poverty depth is roughly equivalent to 1 percent of GDP.

***The poverty impact of fuel prices alone may be less, as fuel expenditure constitutes a lesser share of the poor's budget than food (Table 2), especially for the urban poor.*** The share spent on fuel is typically below 10 percent, as compared to 25 percent for food in large emerging economies, over 50 percent in developing economies, and only 10 percent in advanced economies. The lower share spent on fuel partly reflects high domestic fuel subsidies in some countries.

***Table 2: Share of food and fuel in the consumption of the poorest quintile***

Country	Food	Fuel
Bolivia	43	3
Jordan	38	17
Mali	53	3
Sri Lanka	64	3

Sources:

For Fuel, Coady et al. (2006). For food, USDA food balance sheets

***The indirect welfare effect of higher petroleum prices on households' real incomes may be greater than the direct effect,*** as often, especially for poor households, the bulk of petroleum products is consumed indirectly through household consumption of other goods, services, and livelihood activities that use petroleum products as inputs, in particular food, textiles, fertiliser, use of machinery, power generation, and transport. The direct effect on livelihoods would come through the use of petroleum products for productive activities, in agricultural production or micro-enterprises in particular. For example, a recent analysis for Senegal combining household survey data and the input-output model found the indirect effect of fuel price increases on household real incomes was nearly 3.5 times larger than the direct effect. It also showed that fuel price increases are progressive (an important consideration for policy makers), mainly due to the indirect impact. Similar impacts were found in country case studies for Bolivia, Ghana, Jordan, Mali and Sri Lanka<sup>5</sup> and Madagascar (Box 1)<sup>6</sup>. Although empirical data are not available on the direct and indirect impact specifically on livelihoods, it can be expected that if households reduce their energy consumption on productive activities, productivity is likely to go down, and it would be difficult for the households to maintain the same income and welfare level as prior to the price rise.

<sup>5</sup> D.Coady and others: *The Magnitude and Distribution of Fuel Subsidies: Evidence from Bolivia, Ghana, Jordan, Mali, and Sri Lanka*. IMF Working Paper No. 06/247.

<sup>6</sup> The World Bank- HDN and PRM Networks. *Rising Fuel and Food Prices. Addressing the Risks to Future Generations*. October 12, 2008

**Box 1**

**MADAGASCAR: CALCULATING DISTRIBUTIONAL EFFECTS OF ENERGY PRICE INCREASES  
2005-2007**

Higher energy prices imply real income losses due to higher prices for petroleum products *directly* consumed by households (e.g. gasoline, kerosene, diesel and liquefied petroleum gas), but also *indirect* losses caused by higher prices of other goods that use energy products as immediate goods in the production process. Estimates of the total effect can be made by combining information from an input-output matrix with household budget data. For Madagascar, Amendola and Vecchi 2008 use such techniques with a 2001 input-output matrix and the 2005 *Enquete Aupres des Menages* to estimate the impact of the changes in energy prices observed between 2005 and 2007, assuming that the price changes are fully passed through from input to output.

The top panel of the table shows household budget shares for electricity, gasoline, diesel, and kerosene. Overall, petroleum products absorb, on average, 2.6 percent of the household budget. However, the consumption of modern energy products differs significantly across households according to their expenditure levels, with poorer households spending a higher share of their consumption on energy, and kerosene accounting for most of the energy expenditure for the poorest quintile and less than half of the energy expenditure for the richest quintile. The results of the modeling of real income losses in the middle panel of the table are that, on average, 2.5 percent of total household expenditure (3.2 percent for low-income households, 2.3 percent for households in the top expenditure quintile). Approximately 40 percent of real income losses are due to the indirect effect, mostly via higher food, textile, and transport prices. The overall burden of the change of energy prices is skewed to the upper end of the income distribution. The results suggest that while petroleum price subsidies may represent an appealing tool for protecting the poor, they imply sizable leakages in favour of rich households.

Per capita expenditure quintiles	Q1 (poorest)	Q2	Q3	Q4	Q5 (richest)	All
<i>Household Budget Shares (percent)</i>						
Electricity	0.06	0.10	0.21	0.45	1.17	0.48
Gasoline	0.02	0.00	0.00	0.02	0.27	0.08
Diesel	0.19	0.10	0.08	0.07	0.08	0.10
Kerosene	3.18	2.31	1.96	1.64	1.04	1.89
All	3.46	2.51	2.25	2.19	2.56	2.55
<i>Mean consumption of petroleum products (ratio to bottom quintile)</i>						
	1.00	1.08	1.16	1.34	3.10	1.69
Direct Welfare Effect (DWE)	2.26	1.62	1.39	1.24	1.10	1.45
Indirect Welfare Effect (IWE)	0.90	0.90	0.90	0.96	1.17	1.00
Total Welfare Effect	3.16	2.52	2.29	2.20	2.27	2.45
IWE as percent of total	28.48	35.71	39.30	43.64	51.54	40.57
<i>Share of the burden</i>						
Total Welfare Effect	9.3	12.3	14.7	18.9	44.8	100.0

*Note.* Estimation of the total welfare effect is based on price increases *observed* during 2005-7 (48.5 percent for gasoline, 60.5 percent for diesel, and 66.7 percent for kerosene). The change in price of electricity is assumed to be one-third of the average change in oil prices (19.5 percent).

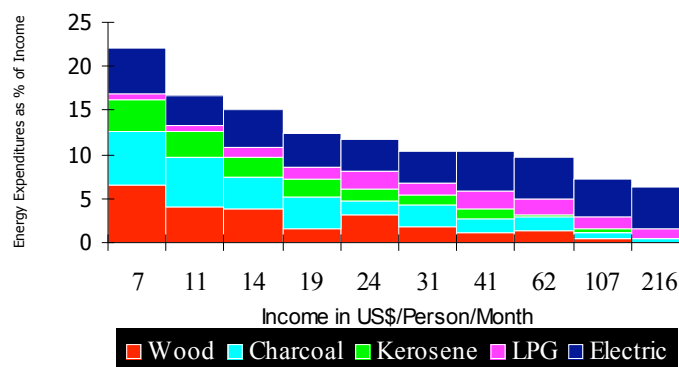
*Source:* Amendola and Vecchi (2008)

***There are significant disparities between urban and rural areas.*** The same studies have found that the overall impact of fuel price increases on household incomes is more than 50 percent higher for urban than for rural households, due to the dual factors that rural households spend a smaller share of their cash income on purchased fuels and on products



and services which have a lesser petroleum based component. However, this may be misleading. First, higher petroleum fuel prices push all energy prices up, as households switch part of their demand to non-petroleum fuels. In urban areas, the poor who already spend a higher share of their energy spending on lower quality fuels (Figure 4) are also confronted to the price increase in those fuels.

**Figure 4: Share of Energy Expenditures By Fuels and Income level in Urban Areas**



Source: ESMAP (2006). *Meeting the Energy Needs of the Urban Poor*

Second, higher petroleum fuel prices cause poorer households to move down the energy ladder, back from modern fuels (LPG, kerosene), to biomass fuels (charcoal and wood), both in urban and rural areas, but with a predominant impact in the rural areas. This was well documented in the case of Senegal: when LPG subsidies were removed, LPG consumption continued in the urban areas but virtually disappeared in the rural areas, except amongst the wealthiest households. For the poor, especially women, this can be a significant loss of income earning opportunities, as LPG use generates all sorts of cooked-food (breads, prepared meals, etc.) or refrigerated food (cold water, milk-based products) market activities, in particular in the rural areas.

**Rural Women and Children are most affected by fuel switching back to biomass fuels**, in terms of longer hours collecting wood fuels, and for the children in particular girls, this means possibly missing school, return to high exposure to indoor air pollution, and exposure to other risks (aggressions, rape, and other health impact from load carrying) (Box 2). Longer time spent collecting biomass fuels is at the expense of other income earning opportunities; other risks (emotional, physical, health) all impact productivity and therefore improved livelihood opportunities.

## Box 2. Impact on Women of Domestic Energy Tasks

Domestic energy tasks in rural areas are disproportionately women's responsibilities, especially when the main sources of energy are collected fuel wood and animal wastes, and where women and girls do most of the cooking. One of the main characteristics of these gender disparities is the time burden on women and girls, and to some extent, young children of both sexes. Another example from Uganda illustrates the problem: In Uganda the transport burden of women is four times that of men in time spent, it is five times greater in volume, and a significant share of this burden consists of fuel wood and water. In Nepal, women can walk over 20 kilometers per journey, and the time spent collecting fuel wood is at the expense of income-earning activities or rest. By contrast, when wood sources are significantly closer to homesteads, the time gains and therefore the potential economic improvement to the household and the economy is significant. In Zambia, about 600 hours per household could be saved annually if wood sources were within a 30-minute walk from the homesteads. Where modern fuels (kerosene, LPG) are available and affordable, men's share of time spent on procuring energy on markets increases, as documented in an IRADe study (Parikh, 2006) in Himachal Pradesh, India (figure 1).

Another major characteristic of gender disparities in domestic energy is the impact on women's and children's health. In Himachal Pradesh, 19 percent of the people reported symptoms such as backaches (50 percent), neck aches, headaches, and bruises every week (80 percent). In addition, the unsafe use of traditional biomass fuels causing indoor air pollution is now recognised as a major public health issue. Children under five years old account for 56 percent of total deaths from indoor air pollution, the main cause being acute lower respiratory infections. WHO (2002) estimates that 50 percent of the 2.1 million children under 5 who die annually from respiratory infections is attributable to indoor air pollution, lack of adequate heating, and other precarious conditions. Women are also more at risk than men, not just from more-acute lower respiratory infection due to smoke inhalation but also from chronic obstructive pulmonary disease, lung cancer, pulmonary tuberculosis, eye damage, and having low-birth-weight babies. Finally, women are more at risk of violence (rape, beating, and injuries), and girls often miss school to assist in wood collection and other food-processing-related chores, at the expense of furthering their education.

**Figure 1: India—difference in gender responsibilities due to difference in need and uses**

Fuel Type	Gender (%)		Age (Average)	
	Shimla		Shimla	
	Male	Female	Male	Female
Wood	38.00	62.00	53.50	29.00
Agri. Residue	24.50	75.50	19.00	32.50
Dung cake	4.00	96.00	57.00	34.00
Kerosene	58.50	41.50	21.50	36.00
Cooking gas (LPG)	100.00	0.00	29.00	NA
Others * (specify)	60.00	40.00	51.5	41.5

Young female and senior women – biomass  
Young men - kerosene, LPG

Source: IRADe study

Source: World Bank, FAO, IFAD. GAL (Gender in Agriculture) Source Book. Module 9: Rural Infrastructure.

***The poor, and women in particular, reduce their food intake to cope with higher fuel prices.*** As households face shocks to their real income from the direct and indirect impact of high fuel prices, their short-term strategy is self-rationing of fuel consumption by cooking less, switching to foods, which require less cooking energy, and stopping to boil water for safe drinking. As 95 percent of the food ingested needs to be cooked to be transformed into human energy, if the short-term self-rationing of fuel use becomes more permanent, it triggers a nutrition crisis, with lasting impact on households' productivity and children's survival. Women are usually most affected, as they will reduce their own food intake to privilege the males and young boys in the household. The fuel-prompted nutrition crisis (both for human energy and safe food and water intake) compounds the nutrition crisis triggered by high food prices, leading adults to weight loss, micro-nutrient deficiency (iron, iodine, and essential vitamins), acute malnutrition – all potentially leading to women's physical weakening, productivity losses, and potentially, to the inability to seize new livelihood opportunities. Children under 24 months, and young girls are the most at risk of suffering long-term damage to their physical and mental development; this compounds for the long-term on the girls' ability for economic empowerment.

***Higher Fuel Prices can lead to de-capitalisation: deforestation, distress sales of assets, increased indebtedness, dis-investment in health and education, which will aggravate chronic poverty.*** In the short-run, households smooth out their expenditures by increasing their labour supply (both for income earning activities and for household energy activities), by reducing the use of expensive agricultural inputs (fertiliser, improved seeds) and by drawing down their savings. Increased demand for wood and charcoal in urban areas may increase rural incomes in the short-run, but increases pressure on deforestation in the medium to long term. As high fuel prices persist, poor households may be led to asset sales (e.g. draft or productive animals), or increased borrowing at high interest rates from moneylenders, jeopardising their ability to rebuild higher earning capacities. Curtailing health and education expenditures, in particular in rural areas where the poor already have limited savings and borrowing capacity will have a lasting impact on households' maintenance and development of their own human capital<sup>7</sup>.

The stories from the Philippines reported in the article reproduced in Annex 2 could be duplicated with thousands of similar stories from many countries all over the developing world.

***However, in the rural areas, high fossil fuel prices, may lead to new opportunities for biofuels.*** When the natural endowment enables the cultivation of biofuel plants such as jatropha, which do not compete with food crops, the value-chain can become significant sources of livelihoods for women. For women to benefit, they nevertheless need to be able to access information on the cultivation of these crops, and to have equal access to contracts with biofuel processing industries. An important policy measure for countries, which do have a comparative advantage for such biofuel production, would be to ensure that women are given equal opportunity as men throughout the value-chain, from production to processing and distribution. A priori, there is no reason why women in urban areas could not also benefit from and play a role in the biofuel value-chain, but such examples have not yet been empirically documented.

### **III- Sustainable Options to meet Longer-Term Livelihood Needs.**

This section makes three main points:

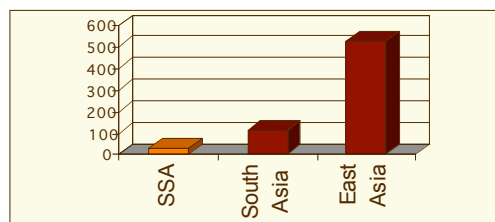
- The challenge for households and for policy makers is to opt for solutions that will enable the poor to enable their livelihood needs for the long term, so that they can move out of poverty.
- The range of technology options, which are available, need to be made accessible to meet the livelihood needs of the poor.
- In an environment of uncertain fuel prices, governments can target both investment and recurrent expenditures (subsidies) to meet the livelihood needs of the poor through the lens of gender equality.

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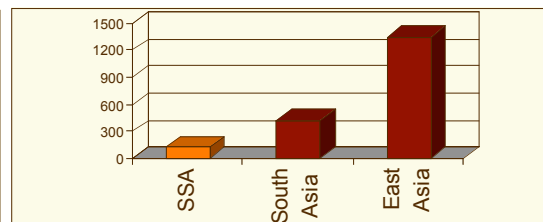
<sup>7</sup> This potential de-capitalisation of poor households as a result of high food prices merits more empirical research.

*In spite of significant progress in increasing the availability of energy supplies and services in developing countries, past policies and investments have been far from sufficient to meet the needs of the poor, including women, on a sustainable basis.* Inequalities in access to modern energy supplies and services vary between various regions of the world remain (Figures 5 and 6), as well as between urban and rural areas, and amongst income groups. An estimated 1.6 billion<sup>8</sup> are still relying on biomass energy for their primary energy needs, with disastrous consequences on human health and productivity, in particular on women and children. An estimated 1.3 million women and children die prematurely every year because of indoor air pollution (IAP), more than from malaria, and almost as many as from tuberculosis. Although this is recognised as a major public health issue by WHO and several governments, little public expenditures have gone towards addressing IAP, while massive funding is now available to fight malaria. Even in developing countries with large primary energy resources, modern energy services are not available to the poor. According to IEA for example, in the ten largest hydrocarbon-producing countries of sub-Saharan Africa, two-third of the population does not have access to electricity and three-quarters rely on charcoal and fuel wood for cooking. It would take only 0.4 percent of cumulative revenues from oil and gas for these countries (\$18 billion for 2007-2030) to provide universal access to a minimum energy service of electricity and LPG<sup>9</sup>. The impact on livelihoods would be very significant.

**Figure 5: Electricity Generation Capacity By Region (MW/million population)**



**Figure 6: Electricity Consumption per capita By Region (kWh/capita/year)**



Source: V. Foster and c. Briceno-Garmienda. *Meeting Africa's Infrastructure Needs*. World Bank Seminar. October 9, 2008.

The evidence also brought forward in previous sections amply demonstrates that past policies have not been sufficient to build the resilience of economies or that of households to weather shocks such as the fuel price hikes experienced since the beginning of the decade. This is even more so when such a shock triggers, or is impacted by, other shocks such as the recent food price shock and financial crisis. The dual challenge for governments and for households alike is therefore to adopt solutions to go over the – hopefully- short-term crisis while adopting policies and investing in more sustainable solutions.

***Social protection measures, in particular targeted subsidies, are effective to weather short-term energy price shocks, forestalling increases in poverty and responding to longer-term needs.*** Only one aspect of social protection is examined: its connection to energy prices. It refers to the set of measures intended to redistribute income and resources (i) to groups eligible due to deprivation and short-term poverty in case of energy price shocks, and (ii) to

<sup>8</sup> IEA. World Energy Outlook. 2006.

<sup>9</sup> IEA. World Energy Outlook. 2008.

help households manage risks in the context of increased energy price volatility. It does not include other measures included in social protection policies and programmes aimed at reducing overall poverty and vulnerability of individuals or households unable to work or access other welfare opportunities due to chronic impairment, nor those measures to protect the majority of the population against some unexpected downturns of life, personal (sickness, death), economic (financial crises) or disaster-related (wars or natural disasters).<sup>10</sup> Social protection programmes can help maintain households' energy access to maintain their livelihood needs, and avoid curtailing other critical expenditures such as essential food, health, and education. Furthermore, when social safety programmes are perceived as being fair, gender equitable, and compensatory, they can be important in maintaining social equilibrium and preventing social unrest, thereby generating wider development, social, and political benefits. The critical aims of social protection, therefore, are to:

- Facilitate effective energy price policies, while mitigating undesirable side-effects;
- Protect poor households' welfare and livelihoods from energy-price fluctuations;
- Correct the inequities caused by prior subsidy schemes, which have largely benefited the rich; and
- Prevent the sorts of political and social backlash that have doomed many governments in times of fuel price inflation.

Social safety net programmes are however difficult to implement and require good preparation and communication. While they can be very effective to manage short-term crises, they are a longer-term policy and 'institutional' investment. In particular they require:

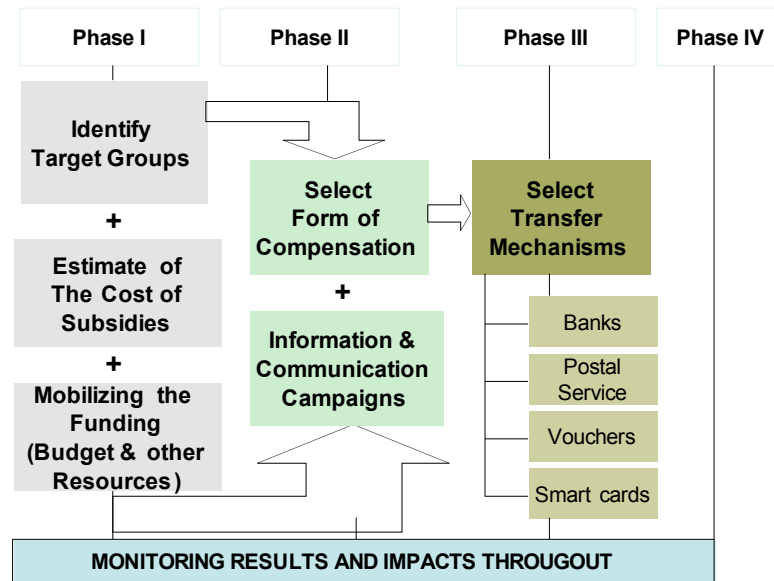
- (i) A good knowledge of existing energy users and of their energy consumption patterns;
- (ii) A thorough knowledge of current government outlays on energy subsidies, and who benefits from them;
- (iii) The identification of the consumer groups most at risk in case of fuel price hikes by geographical area (rural versus urban, various climatic zones) or by the nature of vulnerability (female-headed households, small businesses, fuel-dependent farmers, and so on);
- (iv) The identification of those who are poor now from those at risk of becoming poor as a result of price hikes, as the choice of mitigation measures will differ. The poor may need compensatory payments; the vulnerable may need means to strengthen their livelihood opportunities to avoid falling into poverty;
- (v) Relevant current data, such as household surveys or income registries, as well as data on the available infrastructure to implement social protection measures (e.g. trained municipal workers, bank accounts, postal system etc.); and
- (vi) Financial resources to administer the programme, and a secured budget.

A schematic representation of the three phases necessary to prepare for an energy-related social-protection programme is given in Figure 7.

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<sup>10</sup> As stated on [www.worldbank.org](http://www.worldbank.org), the wide range of safety net programmes reflects the fact that households may be exposed to a variety of shocks and risks, be they temporary or permanent, idiosyncratic (that is affecting specific households, such as illness or death of a breadwinner) or covariate (that is affecting communities or countries, such as droughts or shifts in terms of trade). Another interesting feature of social safety nets is that they can also contribute to society's choice of effective policies in other areas. They can broaden support for sound fiscal and trade policy, as well as allow the design of other social sector policies and programmes to concentrate on efficiency rather than equity goals.

**Figure 7: Preparing a Social Protection Programme: Four Phases**



Source: Author<sup>11</sup>

Indonesia and Jordan are two countries, which have in the recent past managed to fend off the impact of high fuel prices on the poor through vary targeted social protection measures (Box 3 and Annex 2). The case of Indonesia, in particular, highlights that measures taken to manage short-term crisis can include measures, which have a long-term social and economic development impact.

**Box 3. Indonesia: Using Social Protection Measures to Manage the Impact of Fuel Price Increases.** <sup>12</sup>

The case of Indonesia provides a very different light on how to operationalise the impact of fuel price increases on the poor. It also illustrates how energy pricing reforms can become an effective means for social development. The experience of Indonesia has become one of the best practice examples for other countries.

*The context*

Indonesia historically controlled the domestic price of fuels – including gasoline, diesel, and kerosene (which is used by 90 percent of Indonesian households for cooking purposes). The fuel subsidy, a universal price subsidy, was in fact the centerpiece of Indonesia’s social protection scheme until 2005. Government spending on fuel subsidies alone was similar to what many middle-income countries’ governments spend on welfare and social insurance. However, the fuel subsidy was regressive in nature, with the top income decile receiving more than five times what the bottom income decile received, and the 40 percent richest capturing 60 percent of the subsidy.

With increasing oil price and imports and declining production, fuel subsidies rose from US\$3.5 billion in 2003 to US\$7.7 billion in 2004 (an election year). The looming fiscal crisis prompted the government to act. In order not to repeat previous failed attempts at increasing energy prices due to social unrest (2002-2003), the government invested in careful planning and preparation.

<sup>11</sup> Adaptation of a Graph Prepared for the World Bank forthcoming publication: *Tapping a Hidden Resource: Energy Efficiency in MENA countries*.

<sup>12</sup> Sources:  
 Blanchard, K.: *Reforming Price Subsidies in MENA Countries*. Background Paper to regional study on energy efficiency. The World Bank. 2008  
 J. Arulpragasam. *Reallocation of Fuel Subsidies*. PPT. May 2007.  
 World Bank. *Making Indonesia Work for the Poor*. Report 37349-ID November 2006.

### Targeting subsidies

The elimination of fuel subsidies was done in steps over a short 9 months period. In December 2004, Indonesia started diminishing energy subsidies, two months after the new government was elected; a second increase took place in March 2005; by October of the same year, fuel subsidies had been completely eliminated. The process took place without social unrest.

The main reasons behind the success of these difficult policy measures include:

- *Careful planning* prior to the first announcement of a price increase. Several months were spent understanding the magnitude of the problem, including benchmarking the cost of energy subsidies with other countries' (Morocco, Malaysia, Ghana, India), to conclude that Indonesia spent 8-10 times more than other countries on energy subsidies.
- *Detailed analysis of the problem and options*, including social protection measures and implementation means. It was determined, for example, that not only would the poorest need targeted support, but the middle quintile as well.
- *The Cash Transfer Program was carefully designed*. An Unconditional Cash Transfer (UCT) Program was designed for rollout within 2 months (by October 2005). A Proxy Means Test was used to identify the target groups. The Postal System was selected to operate the cash transfers because of its wide coverage throughout urban and rural areas, and was known to everyone. The Government opted for the risk of "over" compensating and of "over" coverage, rather than under-compensation and coverage. It put in place a monitoring system to obtain immediate assessments of implementation issues. A massive communication campaign was launched, using the media as well as information booklets.
- *Action*: the UCT was implemented on October 1, and immediately afterwards, the Government more than doubled average fuel prices, and tripled kerosene prices (Table 1).

**Table 1. Indonesia. Fuel Price Increases 2005.**

	<u>Jan 2003-Feb 2005</u>			<u>Mar-Sep 2005</u>		<u>Oct 2005-</u>		
	Floor Price	Ceiling Price	Fixed Price	Price	% change from Feb 05	Price	% change from Mar 05	% change from Feb 05
<b>Gasoline</b>	1,650	2,100	1,810	2,400	33%	4,500	88%	149%
<b>Kerosene (Household)</b>	700	700	700	700	0%	2,000	186%	186%
<b>Automotive Diesel</b>	1,650	2,100	1,650	2,100	27%	4,300	105%	161%

This was the world's largest cash transfer programme ever implemented. The UCT eventually reached 19.2 million poor households<sup>1</sup>. The annual budget for the programme was USD 0.5 billion in 2005 and USD 1.5 billion in 2006. But savings on energy subsidies were estimated at US\$ 10.1 billion, from US\$ 15.7 billion, which they would have been without the price increase to US\$5.6 billion<sup>2</sup>.

1. Figures in the literature are not fully consistent. They quote the total number of beneficiary households at 19.2 million, suggesting that some may have been eliminated upon reassessment of qualifications.
2. Asian Development Bank. *Fuel Subsidies Reform in Indonesia*. PPT presentation. 2005.

*A Unique Feature: Social Development Programmes to Accompany Pricing Reforms.*

Savings from fuel subsidies were immediately reallocated to three critical social development programmes:

- A US\$ 650 million education programme of block grants for schools levels. The objective was to provide aid to schools in order to reduce the pupil's contribution. The size of the grant to schools was based on enrolment: for primary schools– USD25/pupil/year, for junior secondary schools– USD35/pupil/year.
- A USD400 million programme of free health services at Puskesmas (public health clinics) for everyone and free in-patient treatment at Third Class hospitals for the poor.
- A US\$350 million rural infrastructure programme, in the form of block grants to districts for the construction of roads/bridges and other infrastructure facilities at the village level decided by the local community. The funds went directly to village accounts without transiting through sectoral or district budgets.

*Another Unique feature: A Monitoring System to Assess Implementation Performance*

Implementation of the programme was monitored with the participation of the Statistical Bureau. In spite of some targeting errors, the programme was largely successful. Overall, the results were quite satisfactory, the poorest receiving 21 percent of total subsidies, and the near poor (deciles 2-3-4) receiving about 40 percent of total subsidies. The transfer benefits represented about 17 percent of average consumption per capita of the poorest decile and 14 percent of second decile (Arulpragasam, 2007).

Implementing such a programme in only a few months was a real challenge for the government. Although it performed well after the first disbursement, many problems were reported. The government reacted quickly by commissioning an assessment of all existing problems. This strategy was pursued throughout the programme duration. The government realised field assessments, organised public hearings of programme beneficiaries, put in place complaint resolution mechanisms, and improved the logistics of distribution of UCTs at decentralised level.

Two factors of success are worth highlighting:

Communications: The Government undertook a massive information campaign, TV and radio talks, newspapers, brochures, etc. This strategy allowed to avoid public protest against price reform and to maximise the scope of the beneficiaries. This campaign led to a surge of applicants, making increasingly difficult for the administration system to identify eligible households.

The limited duration of the 'transition': The government was clear this was a time-bound programme. In 2007, it replaced it with a conditional cash transfer programme, focused on poor children's current living condition and future opportunities.

***Energy policies targeted at the poor that include social safety net provisions are needed to meet the longer-term livelihood needs of the poor.*** The majority of energy policies are still formulated in terms of investment priorities to expand the national grid or to expand the distribution system of fossil fuels, although fuel subsidies have been implicitly significant components of social protection policies. More recently, a number of countries have also internalised the need to provide clean energy, and therefore to expand the use of available renewable energy resources, some which are more appropriately developed through decentralised grid solutions rather than only as feeders into the national grid. However, few countries have formulated their energy policies in terms of reaching the poor and meeting their livelihood needs, either in urban or rural areas, and rare are the countries which include social safety net provisions amongst the measures to ensure meeting the energy needs of the poor. Even countries like Morocco which have had a very aggressive rural electrification policy, including using decentralised energy options, enabling it to reach 94 percent coverage in ten years, recognise that they insufficiently looked at the distributional aspects amongst



income groups and at the livelihood needs<sup>13</sup>. As a result, the national Utility, ONE, which managed the national programme for rural electrification (1996-2007) for the government has undertaken a new livelihoods programme to maximise the benefits from rural electrification since 2008. The programme aims to increase the value-added from agriculture, animal husbandry, and handicrafts from the rural areas, as well as to develop new economic activities such as tourism and supporting services (banking, etc.). The programme is being developed in partnership with NGOs, which ensure community participation in the design, operation, and maintenance of the rural electrification systems. The payment for electrification is quite unique, in that some of the proceeds are set aside for community livelihood activities: irrigation, fish-ponds, oil presses etc. some which use electricity while others do not. Electricity becomes a revenue generating activity for the community to undertake other development projects.

***Mobilising financial resources for social protection as part of energy policies is indispensable and possible, but complex.*** As indicated earlier, the mobilisation of financial resources to implement short-term social protection programmes to offset price shocks is an integral part of the first phase of the programme, even if the resources can, and in fact, should be used to achieve certain long-term goals (enterprise creation, education etc.) as was done in Indonesia. Financing social protection is indeed costly and developing country governments are inevitably strapped for fiscal resources: the personal income-tax base is weak in low, and even middle-income countries, and the majority of tax revenues come from the commerce and industry, and product taxation in particular fuels. Various mechanisms are used to mobilise resources for energy sector-related social protection. In many countries, a progressive structure of electricity tariffs allows for a below-cost-tariff targeted at low-volume consumers (e.g. 50-100kWh/month) with higher tariffs for consumption above those levels for higher-level consumers (households, commercial and industrial customers).

The case of micro- or small-enterprises, which are major sources of employment and income generation for the poor, is particularly sensitive; while their energy consumption may bring them to the higher tariff categories, the total energy costs may be difficult to assume, in particular in their early phase of development. Additional measures may be needed for this category of consumers. Governments have to ensure that the tariff structure, however, does not penalise the Electric Utility lest it would jeopardise its financial sustainability as has often been the case, and with it, proper asset maintenance and operations. In other terms, total revenues from tariffs have to cover the economic cost of providing the electricity service to all customers. Tariff structures should also be an incentive for efficient consumption of energy, i.e. be transparent and flexible – published and include time-of-use tariffs, so that consumers can choose how to minimise their energy costs. Other ways to mobilise resources through tariffs, include setting a transparent surcharge applied to higher income, commercial, or industrial consumers, and earmarking the proceeds to extend the service to poor consumers. This has been successfully implemented in Brazil (see section on energy efficiency below). Petroleum fuels are easily taxed and contribute significantly to fiscal revenues, although this may penalise those who do not have access to alternative

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<sup>13</sup> International Conference on Rural Electrification. January 23rd to 25th 2008. Marakech, January 2008.

sources of energy, and end-up using kerosene for lighting and power at a higher cost than those who have access to electricity.

**Technology options are plentiful but are not necessarily accessible to the poor. Expanding the range of technology options is one way of securing energy supplies and services for the livelihood needs of the poor.** The energy ladder for livelihood needs and activities is well documented, from biomass and human energy, to animal energy for draft activities (in particular for water, transport, and tilling), while other sources of energy, in particular petroleum products and electricity, enable the start of new activities as well as the use of equipment generating considerable productivity gains. Evaluations of electrification in the Philippines<sup>14</sup> document that as soon as lighting and power become available, even at household level, new productive activities emerge, simply from the benefit of lighting which extends the length of the productive day to the undertaking of new home-based industries using power. Many of these activities are undertaken by women, thereby increasing their chances for income generation and economic empowerment. Table 3 provides estimates in monetary terms of the returns to households, from a 1998 survey. Updated figures for the sample are not available, but are still illustrative of potential gains from electrification.

**Table 3: Benefits from Electricity for a Typical Rural Household in the Philippines, 1998**

<i>Benefit category</i>	<i>Benefit value (US\$)</i>	<i>Unit (per month)</i>
Less expensive and expanded use of lighting	36.75	Household
Less expensive and expanded use of radio and television	19.60	Household
Improved returns on education and wage income	37.07	Wage earner
Time savings for household chores	24.50	Household
Improved productivity of home business	34.00 (current business), 75.00 (new business)	Business

The main issue is whether the poor, women in particular, can access the available technology options, and if so, whether they use them for time saving activities and for income generating activities that will get them out of poverty, regardless of fuel price fluctuations. For example, some years ago in Ghana, it was found that households recently connected to the grid were actually disconnecting a few months later: they could not afford the cost of service, which they were using only for lighting. Had they used the service to create additional cash income earning opportunities, they would not have had to disconnect. *Affordability* of the service is critical, hence the need for policy makers to include in their energy policies and programmes social safety net measures that will help poorer households bridge the affordability gap until they generate sufficient cash income from livelihood

<sup>14</sup> ESMAP. *Rural Electrification and Development in the Philippines : Measuring the Social and Economic Benefits* 2002

activities. In Benin, in the Rural Energy Services Project being implemented with financing from the World Bank since 2002, income-earning activities linked to sustainable forestry management for fuel wood production have enabled households, in particular women, to afford electricity services. In this case, the social protection measure has consisted in financing technical assistance to communities to undertake these productive activities.

***No single fuel or energy technology option can respond to the range of livelihood needs.***

The broader the range of products and services are available at affordable prices, the chances that the poor can meet their welfare needs as well as undertake productive activities are higher. For example, the rural Chinese family with whom this author lived in the late 1990s used 13 different energy products and services. The marginal cost of each product or service determined its use for a selected household activity. Electricity was used only for lighting and for powering a radio. However, lighting enabled the family to peel vegetables at nights that was then used for preparing food for the pigs using a cheaper source of energy – coal pellets. Lighting also enabled the women to sew cloth shoes that they would sell on the market. Methane from the pigsty was used for cooking to save on other fuels, and LPG (the most expensive source of energy) was used only for fast cooking with hot oil. The ‘savings’ in energy use for welfare needs were then allocated to other livelihood needs, in particular for transporting goods to markets, which enabled the household to increase its income reportedly by 30 percent over the households which did not have such a sophisticated approach to energy use.

Decentralised electricity production, in particular from small-scale solar, wind, hydro resources, animal and other biomass wastes, have considerably expanded the range of opportunities for bringing electricity services in areas hard to reach by the grid. After the success of such programmes in Sri Lanka, Bangladesh is now the fastest expanding market for solar home systems (more than 6,000 systems a month in November 2007). The rural electrification programme has a goal of reaching one million homes with this technology by 2015. In many countries, the solar powered infrastructure has enabled the development of telecommunication services (Bangladesh, Egypt, and others), which empower rural women to access new markets for their products. These services are equally important to enhance the quality of education and health services.

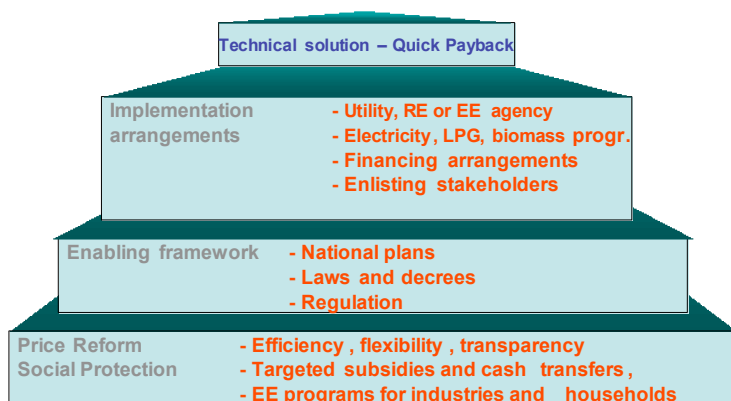
A lot of attention is also given to biofuels as potential substitute for petroleum fuels, in particular in times of high oil prices. Undoubtedly, biofuels produced from agricultural by-products (sugar cane in Brazil) or plants which do not compete with food crops (e.g. Jatropha) present a significant potential for diversifying the fuel base of many economies. At the same time, they can create employment and income opportunities for a large number of farmers, including women farmers. However, the comparative advantage of producing such biofuels needs to be carefully assessed prior to investing massively in it in regions where the cash incentive to farmers may be at the detriment of food crops, as was the case in some part of Brazil 30 years ago, or recently in the US and Europe.

***Regardless of the fuel or energy technology, energy efficiency is essential to maintain energy products and services affordable to the poor.*** Energy efficiency can also generate additional GDP growth, while maintaining industrial competitiveness and creating employment. This is particularly important in times of high fuel prices. Energy efficiency brings benefits both at the household level, as well as the industry and country level. Improved stoves for cooking (Ethiopia) or for brick making (Bolivia), can save as much as 23-30 percent of fuel wood. For 17 countries in the Middle East and North Africa, if average

transmission and distribution losses were brought down from 17 percent to the average international standard of 10 percent, up to 7,300MW of new power generation a year (US\$ 5.5 billion of investments) could be saved. If gas flared in the Middle East were to be recovered, it would generate an additional US\$2 billion of revenues annually. In Brazil, COELBA, the utility responsible for 4 million poor customers in Bahia State, has used energy efficiency as a means to make the electricity service affordable to poor households<sup>15</sup>. COELBA's experience could be adopted by most electric utilities in East and South Asia, in particular where electricity theft is used as a means for the poor to overcome the lack of affordability to access the service.

**Regardless of the technology, producers and consumers need incentives to produce or use energy products and services efficiently.** These incentives include a whole range of solutions, including price reforms so that prices reflect the economic (efficient) cost of fuels and energy services, are transparent (published), and flexible (product or service prices are adjusted upward or downward, in line with market fluctuations). In electricity, block tariffs that include a minimum consumption level at a lower price has been used as an income transfer from higher income groups which have higher consumption levels to lower income groups. Time of use tariff provides incentives to households and businesses to target their use of electricity when they can draw the maximum returns. For example, in Kalidisha, a

**Figure 8. The foundations of technical solutions: price reform with social protection, enabling framework, implementation arrangements.**



Source: D. Lallement and A. Kremer, *Tapping a Hidden Resource: Energy Efficiency in The Middle East and North Africa*. The World Bank, 2008 (Draft, forthcoming 2009)

low-income area of Capetown, some families group children's homework, cooking, ironing, and other productive activities within the same 2-3 hours of affordable electricity. Cash transfers and vouchers have proven effective to let households chose their energy product or service. Having policies, laws, regulations, and financing mechanisms are also part of the foundations for expanding the availability of technical solutions to meet livelihood needs.

**Governments, the private sector, and aid financiers need to work together to meet the energy needs of the poor.** Governments' fiscal resources are never sufficient to meet all the competing needs of developing and emerging economies. Energy sector financing needs are extremely high. In Africa, for example, annual financing needs for the power sector alone have been estimated at US\$ 42 billion, of which US\$ 23.2 for investments, and US\$19.4 billion for operating expenditures. Even in times of tight international financial markets,

<sup>15</sup> ESMAP. *Meeting the needs of the Energy Poor*. 2005

governments and aid agencies need to continue to work in close partnership with private investors to meet those financial needs. They also need to scrutinise priorities. There would be merit in assessing for the medium and long-term, the balance of investments between large-scale investments which are more costly but may yield higher returns in the long-term, versus smaller-scale investments which may yield higher returns for poverty eradication in the short-term.

#### **IV- Conclusions and Recommendations**

In considering the impact of energy prices on the poor, and on women in particular, it is essential not to limit the analysis to the level of prices, in particular of high fuel prices, but to also analyse the impact of price volatility for two main reasons. First, energy price policies are difficult to design and implement, and take time to generate results. Second, the poor have such limited financial resilience that they are at very high risk of becoming poorer in times of high energy prices or joining the ranks of the poor when they are marginally better off at the onset of a price shock.

Women are the most at risk in terms of price shocks and increased price volatility. A sharp increase in fuel prices carries they are the first ones to be hit by a high and volatile fuel prices.

In view of these main conclusions, five main recommendations are proposed:

1. Energy policies must be geared towards enabling the poor to manage both short-term crises, and meeting long-term needs to get out of poverty. Therefore, energy policies must include social protection as an integral component.
2. Energy policies must be gender-sensitive, to enable women to benefit equally of social protection measures.
3. The increased feminisation of agriculture and the large number of poor female-headed households in rural and urban areas must be recognised by energy policy decision-makers. Meeting the livelihood energy needs of women should therefore be central to energy policies designed at poverty alleviation, both in the rural and urban areas.
4. Improving all technologies and affordability of all technologies, taking into account poor women's needs as a priority. In this context, diversification of energy supplies, including the value-added chain from biofuels where this is a comparative advantage for developing it without prejudice to food-crops, can be a valuable opportunity for women's economic empowerment.
5. Coordination of central and decentralised government institutions, as well as coordination of financing is essential to mobilise and direct adequate financial resources, not only to overcome short-term price fuel price hikes and volatility, but also to ensure the implementation of energy policies, which will lift people out of poverty.

## ***Annex 1 - How the poor cope with fuel and other price inflation***<sup>16</sup>

**While the poor try everything from skipping meals to walking hours to the workplace just to cope with the economic crisis, all the government does is to distribute dole outs.**

**BY THE CENTER FOR TRADE UNION AND HUMAN RIGHTS**<sup>17</sup>

**Posted by Bulatlat, Vol. VIII, No. 27, August 10-16, 2008**

Rosa, 55, is a garment worker in Taytay, Rizal for almost ten years now. The company implements a quota system, which forces her to work for more than 12 hours a day, seven days a week, to reach the minimum quota. She receives around P 2,000 (US\$ 45.10 at an exchange rate of \$1=P44.34) every payday, which she uses to pay debts, house rent, water, and electricity bills. After paying all these, she only has P 300 (US\$ 6.76) left for food. Because of this, she has to reduce the quality and quantity of her food consumption or borrow money from usurers who charge 20 percent interest, known locally as 5:6.

Rosa's plight is not rare anymore. The worsening economic crisis, as manifested in the continuous rise in prices of commodities like fuel and rice, forces workers and the urban population to develop ingenious means of subsistence and to tighten their belts further. Of course, the Arroyo government may delight about the poor's creativity. In fact, it is Malacañang's advice to the people to find ways and means to cope with surging prices while the government is raking in billions in revenues from the very price hike that punishes the poor. Whilst the poor must be commended on how they continue to survive and refuse to be robbed completely of their dignity, their plight should shame those who profit from their poverty.

The stories below are derived from direct interviews with workers from different factories and urban poor communities. Every account strikes similarities and echoes situations that are all-too-familiar to the average Filipino.

### **Skiping meals**

Ruth, Rosa's fellow garment worker, told us that to cut down on expenses, her family combines breakfast and lunch (also widely known as "brunch"). Ruth is a casual worker and receives only P110 (US\$2.48) as daily wage, P177 (US\$3.99) below the mandated minimum wage in Region 4. Nanay Mildy, 60, an urban poor resident in Intramuros, Manila, has a similar story. She told us that her family is now used to extending their sleep to wake-up past breakfast late in the morning. These families, like most, are now eating only two meals a day because they simply could not afford the standard three meals a day.

Teofilo Galalo, 55, is a regular worker in Reliance Farm Inc., a small-scale piggery in the Novaliches industrial belt. He has been working there for almost 27 years now. He receives P336 (US\$7.577) as daily wage. He allots P186 (US\$ 4.19) for food everyday for the eight

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<sup>16</sup> Disclaimer: The findings, interpretations, and conclusions expressed in this Annex are entirely those of the The Center for Trade Union and Human Rights (CTUHR) and should not be attributed in any manner to ENERGIA, or UNESCAP.

<sup>17</sup> The Center for Trade Union and Human Rights (CTUHR) is an independent NGO based in Quezon city, Philippines, engaged in documentation & monitoring of human rights violations committed against workers. It conducts research, information and supports advocacy campaign for workers' rights promotion and protection. For more information, visit: [www.ctuhr.org](http://www.ctuhr.org)

members of his family. This is far way below the P 862 (US\$ 19.44) daily food allowance needed by a family of six, according to the computations of the National Productivity Wage Commission (NPWC).

At the time of this writing, commercial rice in Metro Manila costs around P 35-40 (US\$ 0.79 to \$0.90) per kilo, while in other regions it has already reached P 52 (US\$ 1.17) per kilo. Many had already shifted to either the P 25 (US\$ .56) per kilo NFA commercial rice, or to P18.50 (US\$ .41) per kilo NFA rice, if they are able to withstand its soap-like taste. But even if their palettes refuse it, the stark reality is that they don't have any choice, which makes the soap-like NFA rice delectable.

### **Walking to work**

Renilyn Tubay, 19, works at Unity Packaging, a factory of 50 workers producing boxes for medicines and skin applications. Women workers receive only P281 (US\$ 6.33) a day for eight hours of work, while male workers receive P331 (US\$ 7.46). The disparity between salaries of male and female workers adds to the burden of Renilyn. The minimum wage in Metro Manila is pegged at P382 (US\$ 8.61) per day. To cope with soaring prices, Renilyn walks to work everyday. She needs to wake up at 6 a.m. to be able to reach her workplace by 8 a.m.

Celine Castillo, 32, doesn't work but she had to do all the budgeting for the family. Her husband works at Rebisco Company, which produces biscuits with the trademark Hanzel, Rebisco Crackers, Marie Choco Sandwich, etc. Out of the 2,900 total work force, only 1,900 are regular workers. According to Celine, she now shifted to using charcoal for her daily cooking instead of using LPG or liquefied petroleum gas. Two sacks of charcoal costing around P300 (\$6.76) are enough for a month. Because of this, her family is able to save P350 (US\$ 7.89) a month. At the time of this writing, gasoline is at P61 (US\$ 1.37) per liter, diesel at P54 (US\$ 1.21) per liter, while a regular LPG tank is at P 650 (US\$ 14.65).

### **Dropping out**

Education was deemed before by poor families as the best way to break the chains of poverty enveloping them. However, with the present crisis, attending school is fast becoming very costly and unsustainable. Ruth, 32, also a garment worker in Taytay, Rizal, failed to enrol her eldest son, a second year college student at University of Rizal System (URS) Taytay campus. They were forced to spend the budget for enrolment on food. "Life is very hard... we need more income and so I want my children to look for work," she said in Filipino.

Even the International Labour Organisation (ILO) expressed concern over the decline in the enrolment rate in schools from 96.77 percent in 2000-2001 to 83.22 percent in 2006-2007. (PDI, 19 June 2008). Declines in enrolment translate into more incidences of child labour, a problem that the ILO and the trade union movement wanted to eliminate.

### **Doing odd jobs**

The economic crisis is squeezing workers. For workers, performing well inside a factory is not enough to sustain a decent, simple life. They have to exhaust all means to generate more income outside working hours. Companies that are into direct selling seem to have benefited a lot from the pegging of wages at low rates and the continuous price hikes.

Workers that we had interviewed told us that they sell Avon, Natasha, DXN, and other products to generate more income to augment their financial needs.

Jose Campilos, 20, fetches and carries pails of water for residents in an urban poor community in Intramuros, Manila. He does not have a regular salary. His income depends on the demand for water in the neighbourhood and how much they want to pay him. He earns an average of P50-100 (US\$ 1.12 to \$2.25) everyday. He also washes clothes for other people for P100 to P200 (US\$ 2.25 to \$4.50) per bundle. But these are still not enough. To enable him to cope with high prices, he also collects plastic bottles and tin cans at night. Celine, aside from saving money by using charcoal, also sells embotido, a Filipino dish, to her neighbours in the afternoon. Ruth also offers to do laundry during Sundays and accepts money or food as payment.

### **Dole outs and subsidies to the poor**

Despite the worsening crisis that is making workers and the poor, in general, to suffer, Ms Gloria Arroyo has remained deaf to their pleas and seems to be living in an illusion. Her posters bearing her picture beaming with the words '*Ramdam ang Kaunlaran*' (Progress is being felt) continue to hang at major buildings, and highways. Other posters, which read '*Labanan ang Kahirapan*' (Fight Poverty), fill MRT stations. But the only thing that the Arroyo government does to mitigate the sufferings of the people is to distribute dole-outs and subsidies to the poor while benefiting from windfall revenues.

The government collects P52 billion (\$1,172,755,976) in revenues and is expecting to gain P18 billion (\$405,953,991) more from the 12 percent VAT on petroleum products due to the increases in fuel prices. A big section of the population wants the VAT removed and the oil deregulation law scrapped. But the Arroyo government stubbornly refuses to do so, which can be likened to its adamant refusal to heed the demand for a P125 (\$2.81) legislated across-the board, nationwide increase in the daily wage. Instead, it is trying to deceive the people and desperately conjuring a good public image by using temporary and superficial solutions.

The P500 (\$11.27) subsidy for those consuming less than 100 kWh of electricity purportedly benefiting 400,000 consumers, for example, makes people dependent on charity from the government. It reduces the poor to begging, depriving them of their dignity while the government tries to get credit for handing out crumbs from the money it gets from the poor themselves through VAT.

The government ordered a fare hike under the pretext of giving drivers, jeepney drivers (locally manufactured mini buses) particularly, some relief from high costs of fuel. Whilst it is understandable to help public transport drivers cope with oil price spikes, it would be the workers who have been denied substantial wage hikes that would be burdened by the fare hike. This government insulted workers by ordering a P10 to P20 (US\$0.22 to \$0.44) wage hike, an amount that is just enough to buy 2 packs of instant noodles, loaded with sodium and MSG.

The government won't repeal the 12 percent e-vat, and legislate a P125 wage hike unless hundreds of thousands of workers and the poor fill the streets to demand not only for the repeal of the VAT, but also the removal of the Arroyo government, which is reducing the people into beggars. When that day happens, the poor will have more reasons to smile, even to laugh.



## *Annex 2:*

### ***Learning from Jordan: Pricing Reforms with Social Protection, a New Legal and Financing Framework, and a Strong Communications Strategy.***<sup>18</sup>

Jordan is a fairly representative case for net oil importing countries, with a tradition of highly subsidised domestic prices. However, the Iraq War of 2003 terminated its preferential import arrangements with Iraq, and jeopardised its energy security. As the continuing trend in oil price increases deepened the fiscal impact of subsidies to very risky levels, the government of Jordan has embarked in a new energy strategy that includes the diversification of its energy supplies, the elimination of energy price subsidies with social protection, a new law on renewable energy and energy efficiency, and a new communications strategy.

#### *Elimination of fuel price subsidies with social protection*<sup>19</sup>

The Government of Jordan eliminated oil subsidies in 2008 without social upheaval.

**The weight of subsidies on the government's budget prompted the reforms.** Starting in the early nineties, the Government of Jordan (GoJ) fixed the retail price of oil and implemented a subsidy system financed from the government's budget in an effort to insulate the domestic market from fluctuations in international oil prices. After the invasion of Iraq in March 2003, Jordan lost its preferential oil import arrangements with Iraq, and started gradually paying international prices for oil imports. With rapidly increasing international oil prices, the oil subsidy jumped from US\$60 million in 2002 to US\$749 million in 2005, representing 15.3 percent of government expenditures and 5.9 percent of GDP. This prompted the government to gradually reduce the subsidy starting from September 2005 and to announce further measures to eliminate the subsidies in 2008. The Government had estimated that subsidies would have reached about US\$1 to 1.3 billion if maintained throughout 2008 (5.6 to 7.2 percent of GDP). This would have raised the fiscal deficit to over 14 percent of GDP.

**Analysis documented that subsidies were regressive.** According to the national household survey, the top income quintile captured 44 percent of the subsidy, while the lowest quintile received only 7 percent. As the poor spend a higher share of their income on fuel products,<sup>20</sup> the Government had to take into consideration the impact of subsidy removal on the poor.

**The elimination of fuel subsidies was progressive and included a package of social protection measures.** Gasoline subsidies were fully eliminated in February 2008, but subsidies on diesel (used for heating and transport) were maintained until the end of March, that is until the end of winter. To offset the price increase, the government financed a compensation package, which included:

- (i) A salary increase to government employees, of US\$64-71 per month; the employees with salaries below US\$424/month will receive an increase of US\$71/month, while other employees will receive an increase of US\$64/month.

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<sup>18</sup> Source : D. Lallement & A. Kremer : Tapping a Hidden Resource. Energy Efficiency in the Middle East and North Africa. Draft, November 2008.

<sup>19</sup> Source: Sebnem Akkaya: Elimination of the Budgetary Oil Subsidies in Jordan, 2005-2008: A Snapshot Analysis. April 15, 2008, and comments from MNSSD (Middle East and North Africa Sustainable Development Department) team

<sup>20</sup> The poorest 13 percent of the population allocate 35 percent of their expenditures on fuel products, this compares to 26 to 28 percent for the non-poor.

- (ii) A one-time targeted cash assistance for households aimed at private sector employees with an annual per capita income below US\$1,412. The Ministry of Finance estimated that about 320,000 households or 1.8 million individuals (around 30 percent of the population) would benefit from the one-time cash assistance program.<sup>21</sup>
- (iii) An increase in the monthly cash assistance under the National Aid Fund (NAF) from US\$37-47 to US\$51 per month—47 percent of NAF beneficiaries are among the poorest.

**Table 2: Cash Assistance Distribution (US\$)**

Cash Assistance Per Individual (yearly)	Conditionality 1: Per Capita household income (yearly)	Conditionality 2: Assistance not to exceed (per household)
35	<565	212
21	566 – 1,130	127
14	1,131 – 1,412	85

- (iv) Protection of low-income electricity consumers through cross subsidies; the tariff increase for the lifeline consumption level (the first 160 kilowatt-hour of electricity) was 3.2 percent as compared to 24 percent for the average tariff as a result of the pass-through of oil price increases.
- (v) Tax exemptions aimed at low-income groups in 2008, including the removal of custom duties and of the General Sales Tax (GST) on 13 basic food items.
- (vi) ‘*Economic Protection*’ for key services and SMEs, such as the removal of the General Sales Tax for non-tourist restaurants and a temporary GST exemption for retailers with an annual turnover below US\$140,000, and for taxis and public transport.
- (vii) Measures aimed at fuel substitution and energy efficiency, bringing down sales tax to zero on solar energy and all energy saving equipments.

As summarized on Table 3, the total cost of the compensation package was estimated at US\$ 621million for 2008 (3.4 percent of GDP) in direct budget outlays; the foregone tax revenues at US\$50 million (0.2 percent of GDP); and the electricity subsidies at US\$99 million of which \$44 financed from cross-subsidies by highest level consumers and industry.

**The outcome of the subsidy removal was a substantial price increase.** Diesel (used by households for heating and transportation) and kerosene (used by households for heating and cooking) prices increased by 344 percent over the 2003-2008 period (see Figure 1). This decision resulted in an increase in prices of oil derivatives between 3 percent (unleaded gasoline) to 110.9 percent (fuel oil for electricity) in February 2008. The Government has adjusted the local prices along with international prices through further monthly increases in the oil prices since February 2008.

<sup>21</sup> The program is administered by the Income Tax Department in the Ministry of Finance.

**Table 3: 2008 Budgetary Compensation Package**

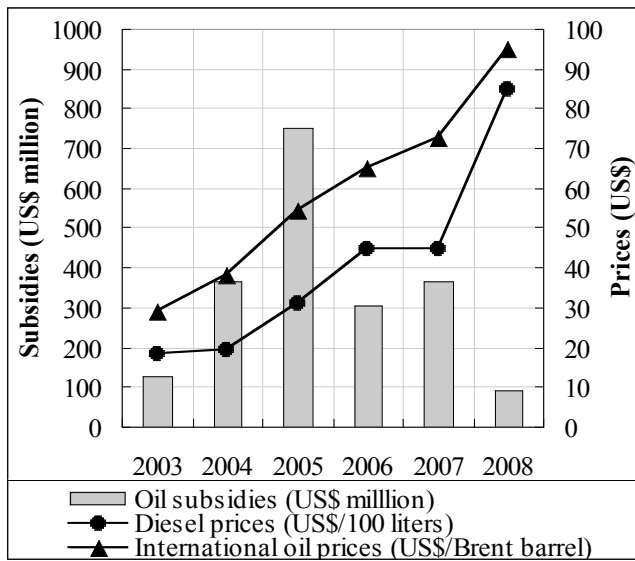
2008 Budgetary Compensations	Items	Amount in US\$	% Share in expen. or reven.	% share in GDP
<i>Expenditures</i>				
<b>Subsidies</b>	<b>Total</b>	<b>561.0</b>	<b>7.2</b>	<b>3.1</b>
	Fodder subsidy *	165.0	2.1	0.9
	Cooking gas subsidy *	65.0	0.8	0.4
	Wheat subsidy *	247.0	3.1	1.4
	Barely subsidy *	28.0	0.4	0.2
	Compensation to cattle owners **	28.0	0.4	0.2
	Incentives to grow wheat and barely on new land **	28.0	0.4	0.2
<b>Wages &amp; Sal/Social Safety Net</b>	<b>Total</b>	<b>621.0</b>	<b>7.9</b>	<b>3.4</b>
	Salary increase to public servants and military personnel	501.0	6.4	2.8
	One time assistance to private sector employees	56.5	0.7	0.3
	Increase in the National Aid Fund compensation	10.6	0.1	0.1
	Other	52.9	0.7	0.3
<i>Revenues</i>				
<b>Tax Exemptions</b>	<b>Total</b>	<b>50.0</b>	<b>0.6</b>	<b>0.3</b>
	GST and customs tax exemption for 13 basic food items	24.3	0.3	0.1
	GST for non tourist restaurant	7.1	0.1	0.04
	Special tax exemption on cement	7.1	0.1	0.04
	Temporary GST exemption for retailers with taxable turnover of less than US\$140,000	2.8	0.0	0.02
	Customs tax exemption for solar energy, gas and water heating equipment	8.8	0.1	0.05

\* These subsidies have been introduced earlier and maintained in 2008 budget.

\*\* These subsidies have been introduced in 2008.

Source: Official data and World Bank staff calculations

**Figure 1. Evolution of diesel prices, oil subsidies and international oil prices**



Source: Official data and World Bank staff calculations

**The savings will fund public sector salaries.** Over 2005-7, oil subsidies declined from 5.9 percent of GDP to 2.3 percent. In 2008, oil subsidies are expected to be limited to 0.9 percent. By end-2008, savings from the oil subsidies since 2005 (about 5 percentage points of GDP) will have been almost entirely directed to higher wages and salaries of public servants and military personnel (4.6 percentage points). However, the GoJ acknowledges that these transfers are an imprecise method of compensating for price increases and considers (i) undertaking more systematic analysis to estimate the impact of price changes on the poor and vulnerable, and thus to compensate them more accurately for their loss in welfare; and (ii) improving the targeting of the National Aid Fund (both with assistance from the Bank).

**Table 4. Change in net spending of the government (excluding external debt service)**

<b>In Percent of GDP</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008-Proj</b>
Wages + defense & security	13.5	13.3	13.1	15.9	17.9
Oil subsidies	3.2	5.9	2.2	2.3	0.9
Transfers, compensations & other subsidies	7.8	9.1	11.6	10.8	12.7
Other (goods & services + domestic debt service)	2.1	2.3	2.5	3.0	3.5
Total current expenditures (G)	26.7	30.6	29.4	32.1	34.9

Source: Official data and Word Bank staff calculations

**Economic pricing of energy had a more limited impact on the competitiveness of the manufacturing sector relative to the impact on agriculture and transport.** Agriculture and transportation are among the sectors, which are most directly exposed to higher oil prices. Exposure of other sectors is mainly indirect, including through higher transportation costs and electricity prices. Higher export prices mitigated the adverse impact of fuel price increases on company profits to a certain extent (table 5).

**Table 5. The change in wholesale price index and exports price index of main industries in Jordan**

<b>Industries</b>	<b>Percentage of real GDP</b>	<b>Wholesale Price Increase 2004-2007</b>	<b>Export Prices Increase 2004-2007</b>
Phosphate	1.1%	n.a	71.7%
Potash	1.0%	n.a	71.7%
Fertilisers	2.2%	7.6%	80.3%
Pharmaceuticals	0.9%	3.9%	80.3%
Cement and Lime	0.7%	14.2%	n.a
Iron and Steel	0.6%	14.2%	n.a
Wearing Apparel and Textiles	0.6%	4.9%	35.2%
Food Products	3.2%	51.5%	63.6%
<b>Total</b>	<b>10.4%</b>	<b>25.2%</b>	<b>60.5%</b>

Source: Official data and Word Bank staff calculations

**The services and trade sectors are particularly exposed to spill over effects of the elimination of energy subsidies.** According to preliminary estimates, commercial establishments and hotels are likely to see their electricity bill increasing by 36.5 percent and 43.3 percent, respectively. Fortunately, the service sector (except for transport and public services) is expected to continue growing along the recent trend (40 percent in real terms (by 62 percent in nominal terms) between end-2003 and 2007).

**However, the 2008 increase in oil prices and electricity tariffs is likely to have an important impact on inflation.** Based on the latest available data, the CPI increased by 6.5 percent between January and February 2008, and may hit double-digit levels for the year, compared to 5.4 percent in 2007<sup>22</sup>.

<sup>22</sup> If we take into consideration an additional 10 percent depreciation of the US\$, then the CPI inflation would be boosted by additional 2.2 percentage points to reach 12.4 percent over the year 2008.