

# Lessons Learned from Attempts to Reform India's Kerosene Subsidy

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March 2010

Produced with the support of the  
Global Subsidies Initiative (GSI) of the International  
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Geneva, Switzerland

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## 1. Introduction

The primary focus of this paper is India's attempts to reform its long-standing subsidy for kerosene for household use. The subsidy was initially established as a distribution scheme during fuel shortages in World War II. After the war, the subsidy was maintained with the intention of stabilizing prices and providing poor households with sufficient fuel for cooking and lighting. Today, however, the subsidy is subject to widespread abuse.

Subsidized kerosene is sold at much lower prices than gasoline or diesel and is frequently diverted to the black-market for use as a transport fuel. Approximately 60 per cent of subsidized kerosene reaches the intended beneficiaries (Our Economy Bureau, 2005). The remainder is diverted to the black market. The diversion of kerosene is a lucrative business for corrupt fuel distributors who, in turn, bribe government officials to obtain licenses to distribute or blend the fuel and to maintain the subsidy policy.

Several attempts have been made to reform the kerosene subsidy, either by targeting access to the poor more efficiently, tracking the subsidized kerosene or liberalizing fuel prices (thus removing the artificial price differential between subsidized and non-subsidized fuels). However, these reforms have failed because of the strong political pressure to maintain the subsidies exerted by the poor who still have some access to the cheaper kerosene and by the participants in the black market.

Other fossil fuels and electricity are also subsidized in India. Electricity is distributed to farmers, and in some states to poor households, at prices below production costs. Fixed prices for gasoline and diesel determined by the government have resulted in large subsidies when international oil prices are high, as higher input costs are not passed on to consumers.

Subsidies for residential consumers of liquid petroleum gas (LPG) were also introduced to encourage households to use the fuel. The goal was not necessarily to help the poor, as consumers of LPG tend to have a higher income and can afford the initial capital investment of the stove and gas cylinder. Like kerosene, subsidized LPG is diverted from residential users to the commercial and transport sectors (where LPG is not subsidized). While this practice results in the mis-targeting of government funds and shortages of subsidized LPG for households, it does not divert fuel from the poorest households.

Corruption in the kerosene sector, on the other hand, deprives needy families of a basic commodity while enriching corrupt kerosene dealers, fuel distributors and public officials. The aim of this paper is to assess the Indian government's attempts to remedy this situation through reform of its subsidy policies. The lessons from India's experience are salient to future attempts to reform the kerosene subsidy and to other countries considering similar policy measures.



## 2. The Use of Fossil-Fuel Subsidies in India

Informal price controls for energy were first introduced in India in 1939, when government-owned oil companies began basing domestic prices on import parity of finished products (Shenoy, 2009).<sup>1</sup> Price controls were also introduced at this time for food, in the form of the Public Distribution System (PDS). The initial purpose of the PDS was to ensure the equitable distribution of food items to urban centres. Regulation of fuel prices was formalized in 1948 with the establishment of fixed margins for petroleum refining and dealers (Shenoy, 2009).

During the Second World War, kerosene was in short supply and rationing was required to control distribution. Kerosene for residential purposes was included in the PDS. Soon after the end of the war, the supply and availability of food and other commodities improved and the price controls were removed. However, in 1957, the PDS was reinstated and expanded as a means of stabilizing prices, including kerosene for residential consumers.

Subsidies for LPG were also introduced in late 1960 with the aim of encouraging households to use a fuel for cooking that was cleaner than biomass. Oil marketing companies were forced by government-determined fixed prices to offer subsidies for LPG despite its consumers being concentrated among the rich and the middle class (Center for Energy Economics, 2006). However, LPG subsidies were not included in the PDS.

India's fossil-fuel subsidies: A timeline	
1939	Commencement of the Public Distribution System (PDS) for subsidized food
	Domestic oil prices based on import parity
1939–1945 (WWII)	Subsidized kerosene included in PDS for residential consumers
1948	Fixed petroleum refining and dealer margins established
Late 1960s	Subsidies for liquid petroleum gas introduced for residential consumers
1976	Petroleum prices fixed under the Administrative Pricing Mechanism
1980s	First attempt at marking subsidized kerosene with dye
1989	Coupon system introduced to control access to subsidized kerosene in Mysore (program closed two years later)
2002	APM dismantled; petroleum prices (other than residential kerosene and LPG) liberalized
2003	Government intervention in petroleum prices
2005	Global positioning systems fitted to kerosene distributor trucks in an attempt to prevent diversion of fuel (program closed in 2008)
2006	Marking of subsidized kerosene with a dye to prevent diversion of fuel (program closed in 2008)
	High-level committee “Rangarajan” report recommends liberalization of petroleum product prices (recommendations involving the market prices not implemented)
2007	“Smart cards” considered to control access to subsidized kerosene (program not adopted)
2008	Government “Chaturvedi” report recommends liberalization of gasoline and diesel prices and changes to fuel tariff and taxation regimes (recommendations not adopted)
2010	“Parikh” expert group recommends market-oriented pricing (government action pending at the time of writing)

<sup>1</sup> Import parity refers to a price charged for a domestically-produced good that is set equal to the domestic price of an equivalent imported good— thus the world price plus transport cost plus tariff (Encyclo, n.d.).

The Indian federal government's Sixth Five Year Plan, covering 1980–85, stated that the PDS would “have to be so developed that it remains hereafter a stable and permanent feature of our strategy to control prices, reduce fluctuations in them and achieve an equitable distribution of essential consumer goods” (Government of India, 1980). When the program was first started the subsidy element was not significant. As time went on, political pressure forced each successive government to increase the portion of subsidy to both food items and fuel. The PDS has become one of the principal methods by which the state provides welfare to the public. Consequently it is used by all of India's political parties to generate and maintain political support.

Between 1976 and 2002, petroleum product prices were fixed by the government-constituted Oil Pricing Committee based on what is known as Administrative Pricing Mechanism (APM). Under APM, oil companies were guaranteed a minimum rate of return. Kerosene and LPG were cross-subsidized by higher-priced petrol, diesel and other products. Thus, oil marketing companies were always able to earn a reasonable rate of return on the assets employed.

In 2002, the government dismantled APM with great fanfare and oil companies were given some freedom to sell products based on market prices. Soon after dismantling the APM, the government also announced that the subsidy for residential kerosene and LPG would be eliminated within three years. However, when crude oil prices increased in 2003, the government started to once again intervene in fuel-pricing decisions. The kerosene and LPG subsidies were not eliminated and the government extended subsidies to other fuels. When crude oil prices rose above US\$60 per barrel, the government disallowed cost pass throughs by the oil-marketing companies (Chaturvedi, 2008). State-owned oil companies (the Indian Oil Corporation, Bharath Petroleum and Hindustan Petroleum) were directed by the federal government to sell gasoline and diesel at a price that was below their cost of production. The result was large financial losses (Table 1).

Since the government did not allow increases in domestic prices for PDS kerosene, residential LPG, gasoline and diesel in line with the increasing international crude oil prices, the cost of subsidies increased more than 100 per cent between 2005–06 and 2008–09.

**Table 1** Under-recoveries of government-owned oil companies for petroleum products (in US\$ billion)

Fuel	2005–06	2006–07	2007–08	2008–09
PDS Kerosene	3.25	4.2	4.47	6.14
Domestic LPG	2.31	2.51	3.86	3.83
Gasoline	0.62	0.48	1.82	1.13
Diesel	2.86	4.41	8.73	11.37
Total	9.03	11.61	19.16	22.45

Source: Ministry of Petroleum and Natural Gas, 2009, p. 234.

The above subsidy estimates by the Ministry of Petroleum and Natural Gas are based on “under-recoveries” of the oil marketing companies—what the oil companies would have paid to buy products if they were imported from abroad (import parity).<sup>2</sup> As such, the estimates should be considered as notional losses since the actual costs incurred by oil companies are likely to be different given that their crude oil costs would be not necessarily be the same as the market prices elsewhere, and they do not count refining profits or losses.

The *actual* losses by the government-owned oil companies were evidently substantial as the federal government gave significant financial assistance to compensate the companies (Table 2). For example, estimated under-recoveries in 2007–08 by oil marketing companies were US\$19.16 billion and the government provided US\$15.85 billion in support. The support may have only partially compensated the actual losses by the oil companies.

**Table 2** Financial assistance provided to downstream oil companies (in US\$ billion)

Type of assistance	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08
Subsidies arising from the upstream sector <sup>1</sup>	0	0	1.34	3.16	4.82	6.39
Federal on-budget subsidies <sup>2</sup>	1.08	1.38	0.67	0.66	0.72	0.70
Oil bonds <sup>3</sup>	0	0	0	2.60	5.67	8.77
Total	1.08	1.38	2.01	6.42	11.21	15.85

<sup>1</sup> On an ad-hoc basis, government-owned upstream companies (ONGC and Indian oil) were asked by the government to subsidize some of the losses of downstream by transferring money to them.

<sup>2</sup> Funds allocated by the finance ministry in its annual budget to pay the oil companies for the kerosene and LPG subsidies.

<sup>3</sup> Oil bonds are used by the government to pay partially for the under-recoveries of the oil companies, while avoiding on-budget subsidies. India may be the only country that uses this method to compensate public sector oil companies.

Source: Chaturvedi, 2008.

An alternative approach to estimating likely subsidy levels is to calculate the government’s losses in different sectors of the value chain for energy production and distribution. In order to find how value is created along the complex energy chain from exploration and production (both oil and gas) to refining, distribution and marketing, a computer-based value chain model was developed that can simulate the government revenues in different links of the energy value chain (see Annex 1).<sup>3</sup> These are shown in Table 2. This simulation of the model was based on an oil price of US\$70 per barrel.

2 The international benchmark prices used to calculate the under-recoveries were the prevailing cargo market prices in the Middle East and Singapore markets.

3 The author developed such a value chain model for Georgia in 2003. It exposed large revenue leakages in the oil and gas sector. This resulted in the government having to take measures to stop such leakages. See report at <http://georgia.usaid.gov/pdf/18.pdf>.



**Table 3 Annual estimated opportunity cost of providing energy at below-market prices based on the value chain model, when international oil prices are US\$70 per barrel**

Fuel	Losses (US\$ billions per year)
Petroleum products	10.8
LPG	2.6
Kerosene	3.9
Gasoline	0.2
Diesel	4.1
Natural Gas	4.4
Electricity <sup>1</sup>	8.2
<b>Total</b>	<b>23.4</b>

<sup>1</sup> The subsidy in the case of electricity is an estimate based on published losses of power for the whole country. Most electricity is generated from coal and hydroelectric power stations.

Source: Author's calculations.

According to a report by the Petroleum Federation of India, petroleum product subsidies, as a percentage of fuel-related revenue, increased from 7 per cent in 2004–05 to 82 per cent in 2007–08. This calculation is based on subsidies to PDS kerosene and domestic LPG provided in the government budget, plus implicit subsidies through issue of oil bonds. The product subsidy percentage is computed as a ratio of subsidies to the total revenue collected by the central government through excise duties and levies on petrol, diesel, PDS kerosene and domestic LPG.

In the Indian power sector, electricity prices are controlled by government at the state level. Every state provides electricity to the agriculture sector for free or at a price that is below the cost of production. In some states, to help those below the poverty line, there is a policy of distributing some amount of free power. As a result of these policies, state-owned electrical companies incur large operating losses but no official data exists on the cost of these subsidies.

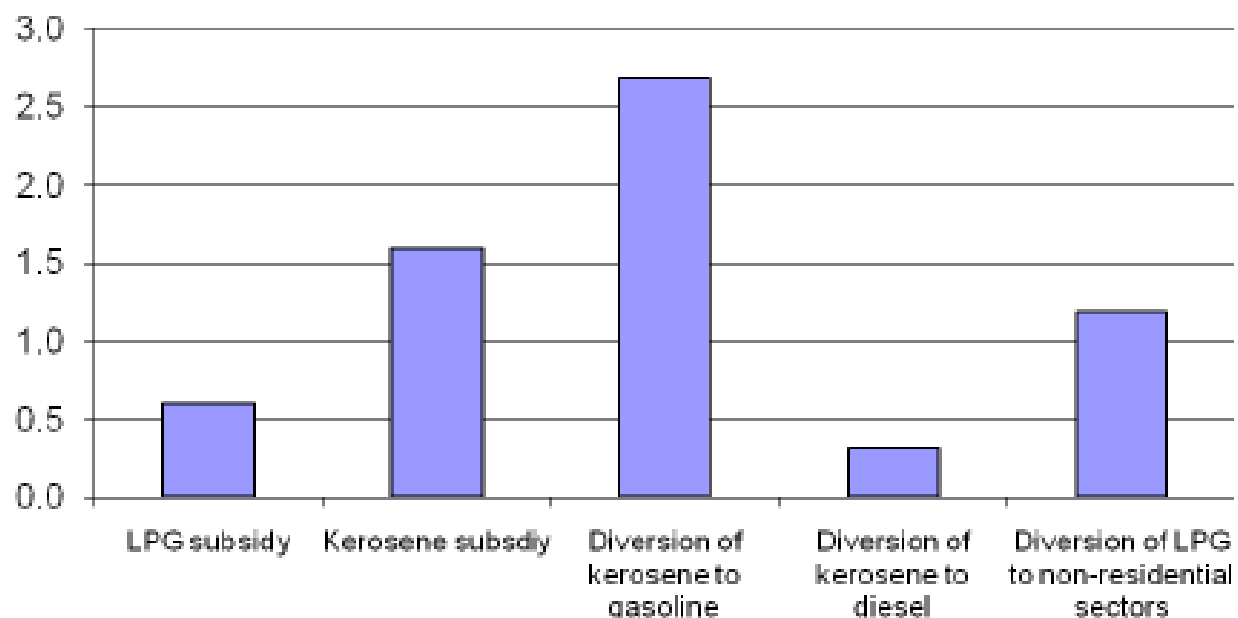
Natural gas was under-valued in India for many years. Until exploration was opened to foreign oil companies in the early 1990s, gas was produced only by the government oil companies. Considered an inferior by-product of producing oil, and with no means of distributing it to smaller customers, the natural gas was used either by government utilities to produce electricity or by fertilizer companies. Since both electricity and fertilizer prices were controlled, gas prices were also controlled. There were implicit subsidies through low prices (Shenoy, 2007). Even after exploration and production was liberalized and gas began to be sold to industrial consumers other than fertilizer manufacturers, the government continued to sell gas at prices below its true market value (as determined by comparison with competitive products like diesel or fuel oil and the market value based on international prices).

### 3. The Rationale for Reform

A 2005 study revealed that around 38 per cent of PDS kerosene was diverted to the black market and did not reach the intended recipients (NCAER, 2005). In some states, diversion is as high as 50 per cent or more. This was the first comprehensive and definitive research done at the national level by a reputed institution to study the problems affecting PDS kerosene. There have been other studies of PDS kerosene (Ministry of Environment & Forests, 2003) but most examine problems at the state level (Alam, Sathaye and Barnes, 1995) and with lesser scope (Morris, Pandey and Barua, 2006).

Large rents (black money) are collected by those who have access to subsidized products such as kerosene and LPG and diverted to other non-subsidized sectors. Figure 1 provides an estimate of these rents based on the tax and price regime prevailing in June 2009 and crude oil price of US\$70 per barrel. The black money generated is based mostly on the price differential between kerosene and petrol or diesel and residential LPG compared with LPG sold to commercial or transport users (Figure 2).

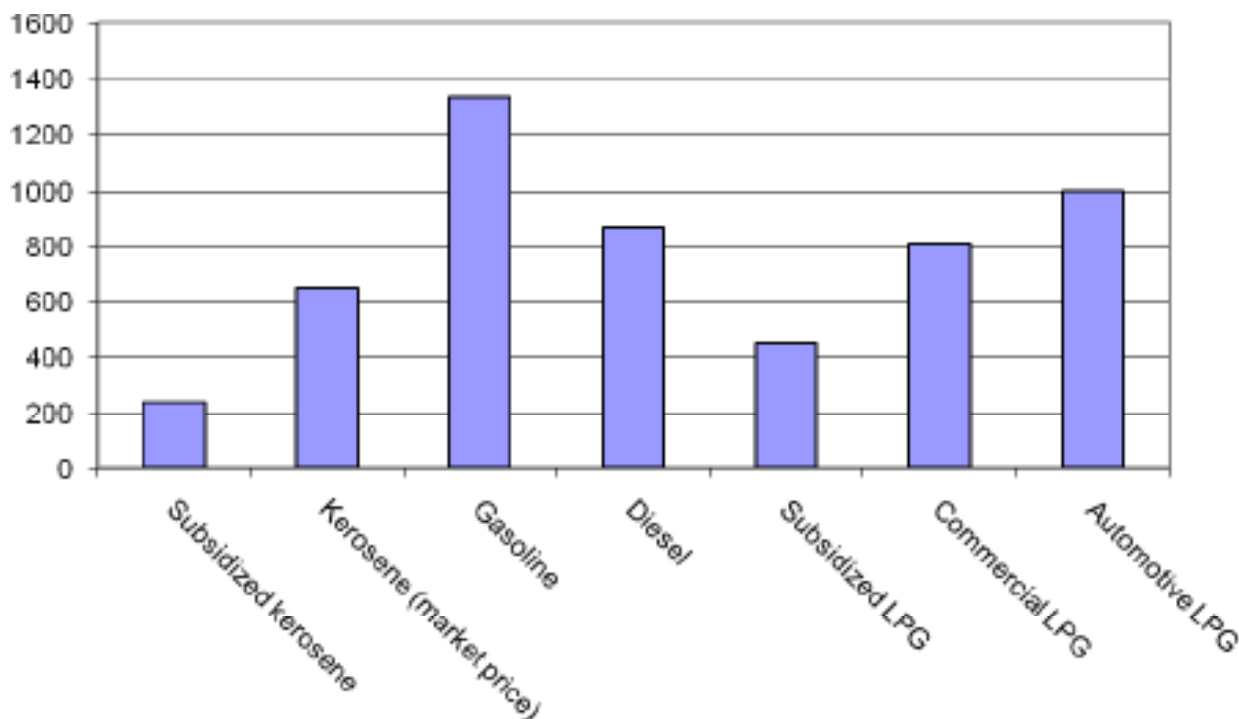
**Figure 1** Estimated amount of rents (black money) collected from misappropriation of subsidies and diversion of kerosene and LPG in India (when oil is priced at US\$70 per barrel) (in US\$ billion)



Notes: The first two columns provide estimates of the amount of subsidies for PDS kerosene and residential LPG that are misappropriated by non-target recipients. The remaining columns show estimates of the additional financial benefit collected as a result of diverting fuel to higher valued products.

Source: Based on the computer model developed by the author.

**Figure 2 Drivers behind adulteration: Price differentials (US\$ per MT when oil is priced at US\$70 per barrel)**



Note: LPG for transport is a higher price than commercial LPG because it has a higher tax component.

Source: Indian Oil Corporation ([www.iocl.com/products.aspx](http://www.iocl.com/products.aspx))

India's poorest families suffer as a result of shortages of kerosene arising from fuel diversion. Families are sometimes without lighting or unable to cook food because they cannot access their quota of kerosene. But the kerosene is plentiful on the black market at higher prices (see Box 1). Scarcity of essential commodities like fuels for the poor can, in turn, lead to civil unrest.

The kerosene dealers and wholesalers are the beneficiaries of almost half of the kerosene subsidy funding intended for the poor. The government-mandated commission for kerosene wholesalers or retail dealers is small. However, kerosene dealerships are highly sought after due to the potential to collect huge rents through fuel diversion. The same is true of dealerships for gasoline stations, where the commissions provided by oil companies to operate the stations are low but there is considerable demand to secure gasoline dealerships due to the opportunity to earn a black-market income from blending PDS kerosene with gasoline and diesel.

The government has quotas for awarding such dealerships. In 2004, when it was discovered that there was corruption involved in awarding service-station concessions, the Supreme Court cancelled all such contracts and ordered the government to award them in a more transparent way. However,

it remains the case that the politically connected often own the gasoline dealerships. And corrupt politicians and officials in the bureaucracy in charge of distributing and regulating kerosene collect bribes from kerosene marketers.

In addition to the misappropriation of government funds, there are other consequences of kerosene-related corruption that affect the broader population. The black market money generated from the subsidy system funds the election expenses of political leaders, which results in corrupt governance. Kerosene blended with petrol and diesel causes engine damage, affecting motorists. Adulterated fuel gives rise to air pollution because of inefficient combustion. In the longer-term, there are also likely to be long-term deleterious impacts on India's energy security as the subsidy interferes with the ability of pricing signals to balance the supply and demand for energy sources. And because price signals do not operate properly under the subsidy system, there is less incentive to reduce energy consumption or for renewable energy sources to compete.

### Box 1

### Long lines for PDS kerosene



In 2006, Seethamma from Manjunathpur, a slum area in Mysore City, would get up at four in the morning with the hope of securing cooking fuel for her family. She walked with a fuel can to the Public Distribution Shop (PDS) in Yadavagiri, which is two kilometres away and would wait for four to five hours until the kerosene cart arrived. She would be joined in the long line by many others, including school children. Even after such a long wait, she may not get her monthly quota of kerosene of six litres (reduced from eight litres), as the kerosene cart may not come at all. She would follow the same routine in the following days until the kerosene cart arrived. At the time, PDS kerosene was sold at Rs. 9 per litre, whereas diverted PDS kerosene was available in the black market for Rs. 35 per litre.

The cooking fuel today for those above the poverty line is LPG. Usually they need not worry about availability of kerosene. However, there are many families with a single LPG cylinder. They depend upon kerosene when their LPG supply is exhausted. The government provides two litres of kerosene per month to meet such emergency situations. But this backstop exists only on paper. From time to time, there is a shortage of LPG in Mysore. During such periods, consumers have to wait for days to get their replenishment.

Source: Shenoy, 2006.

The aim of targeting subsidized kerosene to the poorest families has some merit, in principle, but there is no strong rationale for providing subsidies to LPG, gasoline and diesel. These fuels are mostly used by the relatively well-off.

Like kerosene, the subsidy for residential LPG is subject to abuse. As noted in Figure 2, there is a large difference between LPG prices in the residential sector and the commercial and transportation sectors.<sup>4</sup> This price difference gives rise to diversion to the black market, as quantified in Figure 1. Although the government would like to reduce the subsidy on LPG and allow the market to determine the selling price, it is unable to do so due to the political unpopularity of such a move.

In addition to their fiscal impact, subsidies for gasoline and diesel seriously disadvantage private fuel distributors with operations in India, such as Reliance and Essar. Private companies are indirectly forced to close their marketing operations when the government forces government-owned distributors to sell retail gasoline and diesel at prices below the cost of production. This is what happened during the crude oil price increases between 2006 and 2008 (Agarwal, 2008). Essar and Reliance had together captured about 17 per cent of the domestic retail market for diesel and accounted for 10 per cent of petrol sales by 2005 before heavily subsidized sales by state-run firms undercut the private companies and drove them out of business.

Despite the electricity supply being limited, lower prices and subsidies do not give rise to a large amount of corruption. Opportunities to divert electricity on a large scale, unlike petroleum products, are limited. It is difficult to establish a large industry inconspicuously in a low-income residential area and not be detected while drawing subsidized electricity. Still, some consumers do get subsidized power by claiming themselves as farmers or poor consumers. And commercial losses of state electricity boards are large, mostly on account of transmission and distribution losses. In some states, these losses are more than 50 per cent. This is not because of the subsidies but because of the mismanagement on the part of the state electricity boards.

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4 LPG is used for transportation because it is competitively priced compared with gasoline and because some cities have mandated its use by taxis as a means of reducing air pollution.

## 4. Reform Strategies

The federal government has tried several strategies to better target kerosene subsidies to ensure they reach the intended recipients or to liberalize the fuel market and thereby eliminate the opportunity for profiteering and corruption. All of these strategies have failed. Although some showed some promise, they were not followed through.

On paper, the government has an elaborate system to detect diversion and prosecute the guilty. But, in reality, few are detected and punished. In 2005 an officer of Indian Oil Company, Mr. Manjunath, was murdered because he planned to expose an owner of a gasoline station selling fuel that had been adulterated with subsidized kerosene. Soon after the murder, the Prime Minister of India announced that the government would streamline petroleum pricing and take every step to eliminate the adulteration. It is more than four years since that announcement, and the price differential between kerosene and gasoline only increased, as have opportunities to skim off rent. Even in early 2010, after oil prices returned from the record highs of 2008, the price differential between kerosene and gasoline was still greater than what it was in 2005.

### 4.1 Strategies to better target intended recipients and detect diversion

#### 4.1.1 *Global positioning systems*

In October 2005, just a few weeks before Mr Manjunath's murder, the Petroleum Minister launched a new initiative called "Jan Kerosene Pariyojana" (PKJ) to improve kerosene supplies to poor consumers and prevent the diversion of kerosene. This plan was to involve local government at village levels. Under PKJ, dedicated tankers fitted with Global Positioning Systems supplied kerosene to wholesalers to keep track of their movements. A study done by NCAER in 2007 showed that the benefit derived from PKJ was less than its cost. The program, launched with great fanfare, was finally terminated in 2008 (Financial Express, 2008).

#### 4.1.2 *Distinctive colouring for subsidized fuel*

In the 1980s, the government tried blending blue colourant with PDS kerosene to help detect the diversion of PDS kerosene. However, where officials were colluding with gasoline station owners, few corrupt activities were reported. Also, a dye to neutralize the blue colouring material was soon developed, rendering the additive ineffective.

In October 2006, Petroleum Minister Murli Deora announced that the government would begin dyeing kerosene with a non-removable marker imported from Authentix of the United Kingdom, saying it was intended to end the adulteration of automotive fuel (Financial Express, 2008). The annual cost of US\$33 million was small relative to the cost to the government of fuel diversion. This revolutionary "marker" was supposed to detect even the minutest adulteration by kerosene. However, the pump owners soon found that they could neutralize the marker simply using natural clay. The supposedly tamper-proof marker was dropped within two years of being launched (Ranjan, 2008).



### 4.1.3 Coupon system

In 1989, the Mysore Consumer Council found that more than 30 per cent of PDS kerosene sold in Mysore was diverted to black marketing for blending with higher-priced products. The Council recommended to the district government a simple strategy of supplying kerosene through a “coupon system” (Shenoy, 1995).

At the beginning of the month, each beneficiary would be given coupons to buy an allocated quantity of kerosene. The dealer should sell kerosene to only those with coupons. Next month, the dealer would be supplied kerosene based on the coupons he had collected from the beneficiaries. If he had sold kerosene in the black market or diverted it for other uses, his next month’s supply would be reduced accordingly since he would not have coupons for such sales. Thus, a dealer could divert the sale only once, after which his quota would be reduced automatically.

Soon after the coupon system was implemented in a town, the Mysore Consumer Council assessed the views of the dealers and consumers. Consumers were pleased that they did not have to wait in long lines and they could show up any time to buy kerosene. They were able to obtain their allocated quota of kerosene without any hassle. The dealers were not happy, however, and complained that they had to wait for consumers to come and cash in the coupons before they could replenish their supplies for the following month.

Though the idea was accepted by the bureaucracy and several progressive political leaders, there was resistance to implement the scheme. Despite this, it was implemented successfully in some parts of the state of Karnataka (Deccan Harold News Service, 1996). After a few months, however, with the change in leadership and strong lobbying by kerosene dealers and politicians belonging to all parties, the coupon system was slowly dismantled.

The coupon system showed promise and, in fact, could have been adapted to be made more flexible. The government could have used the coupon system to allow the distribution of PDS kerosene by non-government retailers, for example. Kerosene could be distributed more efficiently if any dealer could sell kerosene (as is the case with subsidized edible oil in India).

Better targeting the subsidy would allow the total subsidy amount to be reduced considerably. Coupons could be given to those below the poverty line who could use those coupons at any shop to buy kerosene and value of the coupon would be printed on it. Then consumers would go to the shops that allow them to maximize their purchase amount. Thus the government could remove itself from the business of setting and monitoring the PDS shops. Like currency notes, there is always the risk of counterfeiting the coupons. But this is a manageable risk.

#### 4.1.4 Smart cards

In 2005, the Planning Commission of India published the report *Integrated Energy Policy* (Government of India, 2006). The report recommended using a smart card—a high-tech alternative to the low-tech coupon system. Such a system would assist in better monitoring of the distribution of PDS kerosene and was expected to be foolproof and tamper-proof. In 2007, the Petroleum Ministry considered implementing a smart card system on an experimental basis in the three states of Bihar, Maharashtra and Uttaranchal. However, all three declined the offer and the plans were dropped. This is an example of how the political class opposes any system to reduce diversion of PDS kerosene (Bhaskar, 2007).

Soon after the formation of a new government in 2009, the Prime Minister appointed Mr. Nandan Nilekani, one of the founders of Infosys (one of India's largest IT companies) to lead the implementation of a “unique identification card” for every citizen of India. Now there is a renewed hope that such a biometric card, with all the relevant information on citizens, can help the government to distribute welfare measures to targeted sectors with minimum diversion or misuse. But, given the circumventions of earlier strategies—high- and low-tech—only time will tell whether this latest development will be the one that finally succeeds.

## 4.2 Other strategies to reduce fuel diversion and subsidy demand

### 4.2.1 Liberalization of petroleum prices

The Integrated Energy Report of 2006 recommended that the oil companies be given the freedom to control the prices based on market forces (Government of India, 2006). In the same year, a high-powered committee headed by Dr. C. Rangarajan, chairman of the Economic Advisory Council to Prime Minister, strongly recommended implementation of market-based prices rather than the government-mandated, politically-influenced prices (Rangarajan, 2006).

Within two years (July 2008), another high-powered committee report headed by B. K. Chaturvedi, a member of the Planning Commission, also recommended that “government should keep itself at arm's length distance from actual price setting and should allow flexibility to oil companies to fix the retail price subject to the indicative ceiling so as to introduce an element of competition” (p. 51). This committee also recommended the reduction of the LPG subsidy (Box 2).

In 2009, a high-level committee headed by Dr. Kirit Parikh (a former member of the Planning Commission) was asked to study petroleum product pricing because of the unsustainable level of under-recoveries by oil companies. The report, titled *A Viable and Sustainable System of Pricing of Petroleum Product Prices*, recommended liberalizing gasoline and diesel prices and reducing subsidies on LPG and kerosene. The report also commented on the diversion of subsidized PDS kerosene and residential LPG. However, there was no discussion on the amount of black money generated by these two products. Only the economic impact of subsidies is discussed.

### **Box 2      The High Powered Committee on the Financial Position of Oil Companies, 2008 (the Chaturvedi Report)**

In June 2008, Prime Minister Dr. Manmohan Singh constituted a committee under the Chairmanship of B. K. Chaturvedi, member of the Planning Commission, to examine the financial position of oil companies.

The committee's terms of reference were to examine the impact of the increase in oil prices between 2004–05 and 2008 on the financial position of India's oil companies, including upstream exploration companies, refiners and downstream oil marketing companies. The committee was to also analyze the cash flows and profitability of all the companies, examine "under-recoveries" and the deficit faced by oil marketing companies as a result of price constraints imposed on them.

The committee recommended:

- raising prices of petrol by US\$0.05 a litre per month until March 2009 and those of diesel by US\$0.02 per litre until 2010 to eliminate subsidies on the two fuels;
- temporary duty changes and the method of calculating retail selling price of fuel;
- levying a Metro Extra tax of US\$0.04 per litre on diesel in four instalments in large cities where the fuel was being used in expensive cars;
- lowering the benchmark used for domestic retail pricing by 10–15 per cent by shifting away from the current principle of trade parity pricing;
- changes in distribution of domestic LPG by restricting only six refills per connection a year;
- reducing the import duty on petrol and diesel to zero (from 2.5 per cent), as has been done in the case of crude oil and domestic kerosene;
- imposing a new tax on oil produced from fields awarded prior to the advent of New Exploration Licensing Policy in 1999—state-run firms like ONGC would be stripped of any gains above US\$75 a barrel while private companies like Cairn would be taxed at 40 per cent for gains over this benchmark rate.

Sources: Chaturvedi, 2008; Thaindian News, 2008; PTI, 2008; Jog, 2009.

#### **4.2.2 Energy diversification: Increasing electrification to reduce subsidy demand**

The Chaturvedi Report, using data from a national survey conducted during 2005 and 2006 (National Sample Survey Organisation, 2008), also found that rural households use kerosene primarily for lighting; only one per cent use it for cooking. With increases in electrification, the rural use of kerosene for lighting has fallen to 42 per cent in 2005–06 from 51 per cent in 1990–2000. The report recommended that all those rural households below the poverty line (about 50 million) be provided with one solar lantern costing US\$75 each. The total cost of this strategy would be US\$ 5 billion, amounting to roughly two thirds of the total annual subsidy element of supplying PDS kerosene.

Like the other recommendations of the report, this policy was not implemented. Even if it were to be implemented, it still might not lead to a reduction in the kerosene subsidy. The Chaturvedi Report brought out an important fact: despite large increases in access to electricity, the allocation of kerosene has remained essentially the same over the years. For example, 24 per cent of rural kerosene consumption goes to states that have achieved 100 per cent electrification and thus presumably do not need the fuel for lighting. This is another telling example of how there is no political will to control the misuse of the kerosene subsidy.

## 5. Lessons Learned and Forgotten

Several specific lessons can be observed from India's experience in attempting to reform its kerosene subsidy. These are outlined below.

### 5.1 Subsidies become permanent

The first lesson of this case study is that once a subsidy is granted to any sector of society, it becomes very difficult to reduce or eliminate it. When the LPG subsidy was introduced, it might have been justified to promote it as a cooking fuel. But once it became a popular and sought-after fuel, the government should have removed the subsidy. This is a lesson known to most political scientists and economists. Once the subsidy genie is out of the bottle, putting it back in is a difficult task indeed.

### 5.2 Subsidies lead to corruption

When offering a subsidy, it is better to offer it in the form of monetary (cash) benefits rather than through a reduction in the price of a good. There is every possibility that a large share of the subsidized products will be diverted to the black market or used for blending with higher-value products. Thus, the society loses in two ways. First, some of the subsidies do not reach the intended beneficiaries. Second, the misused subsidy feeds the black economy, providing money that can be used to influence corrupt bureaucrats and the political system. Today this is such an accepted fact in India that the media has stopped reporting on it because it has lost its sensational value. Finally, corruption can help to entrench subsidies further, by creating a new set of influential stakeholders that lobby against reform.

### 5.3 International financial institutions to impose conditionality

One other way to overcome the problem of political will is to put pressure through international institutions like the World Bank, the IMF and Transparency International (TI). Indirect pressure from the World Bank and the IMF helped in fighting corruption in Georgia (Bearing Point Inc., 2004). Just as the Extractive Industry Transparency Initiative has succeeded in implementing a "Publish What You Pay"<sup>5</sup> strategy to reduce corruption in oil-exporting countries, TI could develop a system to expose the tyranny of downstream corruption from subsidies by publishing the level of misused and diverted subsidies. This may show such losses to be more than their foreign aid. It was certainly the case in India. In many countries, subsidies only enrich the politicians and those who are close to them. Such reports by TI may influence the donor countries to put indirect pressure to eliminate such subsidies as long as they are providing foreign aid.

The recent commitment from leaders of the Group of Twenty (G-20) countries, including the Prime Minister of India, to phase-out inefficient fossil-fuel subsidies also provides useful leverage for India to institute lasting reforms.<sup>6</sup> Citing international obligations can give political leaders the cover that they need to implement domestically unpopular reforms.

5 See <http://www.publishwhatyoupay.org>.

6 In September 2009, the leaders of the G-20 committed to phase-out inefficient fossil-fuel subsidies over the medium term, in recognition of expected benefits arising from reduced greenhouse gas emissions, improved energy efficiency and increased GDP.

## 5.4 Need for an efficient justice system

When a society has no strict monitoring system, nor a system for meting out rapid justice, it is not easy to implement any strategy to detect adulteration. This is what happened when blue dye was added to PDS kerosene. India has one of the most sophisticated bureaucratic systems to detect offenders and punish the guilty. But this is only true on paper. Systemic changes to avoid the possibility of adulteration (like the coupon system or smart card) have the potential to reduce fuel diversion but removing the underlying incentive is the only way to permanently address its cause.

## 5.5 Partial solutions will have limited effect while the underlying incentives for fuel diversion remain in place

Except for the coupon system, all other efforts to reform the kerosene subsidy have failed, including using dye to colour PDS kerosene, mixing with sophisticated markers, using special GPS-equipped tankers and using local governments to eliminate fuel diversion. Though the coupon system seems to have worked, the politicians who were harmed by it managed to get it stopped. These policies were quickly evaded or repealed because the underlying incentive for fuel diversion remained in place. The liberalization of fuel prices is the only reform that would address the underlying cause of fuel diversion and corruption.

Though selling a product at different prices may appear to be a reasonable policy under certain circumstances, such as providing cheap fuel to disadvantaged sectors or selling gas at low prices to fertilizer or power companies, such dual or multiple pricing gives rise to rent-seeking behaviour, even in the best-governed society.

Despite the announced intentions of the government to allow the oil companies to determine prices based on market conditions, nothing has come out of them because of a lack of political will. One of the reasons could be that there are a lot of misunderstandings regarding the concept of “under-recoveries.” Even reasonably informed people have no appreciation for such concepts as “import parity,” “trade parity” or “export parity” to compute under-recoveries. They are therefore not aware that the oil marketing companies are losing money. There is also a feeling that it is perfectly justified to appropriate some of the “large” profits from upstream companies like ONGC and Indian Oil. The government and civil society need to educate both the politicians and the public on the necessity of allowing market forces to determine prices. It is only the discipline of the market forces that will give the proper pricing signals.

## 5.6 The invisible hand of self-interest behind subsidies

Finally, a lesson we have not yet learnt or might have forgotten is the one taught by Adam Smith in 1776 in *The Wealth of Nations*. The driver behind the entire oil-sector subsidy system and the absence of political will to dismantle the APM in true spirit is not the desire to help the poor, but it is the invisible hand of self-interest, collecting rents. Smith believed that when an individual pursues his or her self-interest, the good of society is indirectly promoted. But in the case of subsidy systems, this principle does not hold true. Even in India, with brilliant economists (the current Prime Minister,

Manmohan Singh, is one), only a small attempt has been made to educate the public on the enormous amount of black money generated on account of the oil-sector subsidy, mostly by PDS kerosene. There are very few published articles that discuss how much black money is generated. Most have published articles on the diversion of PDS kerosene and domestic LPG only, and have not even tried to show what it costs the economy.



## 6. Conclusion

This case study has shown how corruption connected with PDS kerosene and residential LPG has led to diversion of fuel, fuel shortages for the poor and hindered reform through the creation of powerful stakeholders with an interest in maintaining access to black market-subsidized fuel. Energy-sector subsidies, even when they are not part of the formal budgeting process—as in the case of gasoline, diesel, natural gas and electricity in India—results in government having less revenue to finance welfare measures affecting the poor.

The Indian federal government has attempted to implement several reforms to reduce and better target subsidies in the petroleum sector, but none have produced the desired results. Some reforms, like adding coloured dyes or markers, did not succeed because the black market developed techniques to neutralize them. Relatively foolproof systems like coupon systems or smart cards were opposed by the political class. Even the latest strategy, assigning a unique identification number for each resident of India, may not help the government to reduce the misuse of oil-sector subsidies if political will is missing.

Generating such support for reform is difficult as the beneficiaries of the subsidy know the advantage of retaining the status quo in the PDS kerosene system but the losers usually are not aware of the loss of government revenues that could have been used for development activities or the dangerous health impact arising from air pollution. India's NGO movement is not strong or vibrant enough to inform the general public on the ill effects of the misused PDS kerosene-subsidy system.

Exposing the misappropriation of subsidies to the general public is the only means of generating a groundswell of protest against the misuse of public funds and encouraging international pressure for reform. Unless such public or external pressure is applied, implementing any reform to reduce energy sector subsidies will remain a mirage for any country.

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## Annex 1

India's Notional Energy Value Chain Analysis for Oil price AT \$ 70/bbl for 2009 July										
	Product Cost \$MM	Total Revenues \$MM	Non-income Taxes \$MM	Total Costs \$MM	Profit \$MM	Income Tax \$MM	Value Generated \$MM	Public Sector \$MM	Private Sector \$MM	Govt Revenues \$MM
<b>UPSTREAM</b>										
<b>Oil</b>										
Private		2343	597	353	1393	418	2343	0	2343	292
National		14349	3657	3039	7654	2296	14349	14349	0	3215
Total Oil										
<b>Gas</b>										
Private		1760	0	246	1513	454	1760	0	1760	318
National		6177	0	741	5436	1631	6177	6177	0	2283
Total Gas										
<b>UPSTREAM Total</b>		<b>24629</b>	<b>4254</b>	<b>4379</b>	<b>15996</b>	<b>4799</b>	<b>24629</b>	<b>20526</b>	<b>4102</b>	<b>15160</b>
<b>MIDSTREAM</b>										
Total oil pipelines		136	0	0	136	41	136	136	0	136
Total gas pipelines		317	0	0	317	95	317	317	0	317
<b>Refining</b>										
Private Oil Co	18729	21903	0	652	2522	757	3175	0	3175	757
National Oil Co	52906	59999	0	1515	5578	1673	7093	7093	0	1673
Total Refining	<b>71635</b>	<b>81902</b>	<b>0</b>	<b>2167</b>	<b>8101</b>	<b>2430</b>	<b>10267</b>	<b>7093</b>	<b>3175</b>	<b>8008</b>
<b>Marketing</b>										
LPG	6126	4857	490	1085	-2845	0	-1269	-1142	-127	-2560
Gasoline	5813	12433	6238	601	-219	0	6620	5296	1324	-175
Distillate	27493	37160	12383	2449	-5165	0	9667	7733	1933	-4132
Kerosene	6145	2125	659	190	-4869	0	-4020	-3216	-804	-3895
Jet Fuel	2570	2937	206	80	82	25	367	294	73	46
Residual Oil	5213	7559	834	254	1258	377	2346	1642	704	616
Others	18225	22275	2916	607	527	158	4050	2835	1215	258
Total Marketing	<b>71585</b>	<b>89345</b>	<b>23725</b>	<b>5266</b>	<b>-11232</b>	<b>560</b>	<b>17760</b>	<b>13441</b>	<b>4319</b>	<b>14443</b>
<b>Gas Use</b>										
Residential	100	50	4	10	-64	0	-50	-50	0	-64
Commercial	1612	806	64	142	-1012	0	-806	-806	0	-1012
Industry	3250	1625	130	169	-1924	0	-1625	-1625	0	-1924
Power	2975	1488	119	155	-1761	0	-1488	-1488	0	-1761
Total Gas Use		<b>3968</b>	<b>317</b>	<b>476</b>	<b>-4761</b>	<b>0</b>	<b>-3968</b>	<b>-3968</b>	<b>0</b>	<b>-4444</b>
<b>Power</b>										
Hydro	5917	7073	354	460	343	103	1157	1157	0	240
Oil fired	1479	442	22	58	-1117	0	-1037	-1037	0	-1117
Gas fired	9467	3537	177	345	-6452	0	-5930	-5930	0	-6452
Coal Fired	26678	29532	1477	4482	-3105	0	2854	2854	0	-3105
Nuclear	888	1105	55	216	-53	0	218	218	0	-53
Total Power	<b>46536</b>	<b>44209</b>	<b>2210</b>	<b>5862</b>	<b>-10399</b>	<b>178</b>	<b>-2327</b>	<b>-2327</b>	<b>0</b>	<b>-8189</b>
<b>Total Oil &amp; Gas</b>		<b>100767</b>	<b>28495</b>	<b>12691</b>	<b>988</b>	<b>7925</b>	<b>42174</b>	<b>30579</b>	<b>11596</b>	<b>26052</b>