

**POVERTY, GENDER AND ACCESS TO ELECTRICITY AND WATER AS A
SOCIAL BENEFIT IN THE AGE OF MODERNITY: The Case of Jamaica**

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ABSTRACT

The concepts which currently set the intellectual agenda for dynamic changes in the utility sectors (particularly electricity and water) in many developing countries are a modernization approach. This examines the principles of reform initiatives, its impact on consumers and policy transfer.

This paper will seek to assess the notion of public good as it relates to the delivery of utility service to the consumer, especially those who are of poverty status. The World Energy Assessment (2000) and the United Nations Report (2002) estimate that 1.7 people around the world are without electricity, while 1 billion are without safe water. In Jamaica, 551,208 customers have legal access to electricity and approximately 400,000 to safe water. However, illegal access to electricity stands at approximately 11.8 percent; while safe water (theft and leaks) is approximately 35 percent. This is not to say that everyone of poverty status is without utility access and visa versa. Interestingly however, illegal connection has been the remedy to a lack-of-access for many consumers. Jamaica's Minister of Finance, in tabling the 2006/2007 budget debate announced that poverty stood at 14.8 percent – a reduction of 2.1 percentage points over 2004. For the period 1995-2005, poverty level declined from 27.5 percent – a reduction of 12.7 percentage points.

The International Monetary Fund's (IMF's) recommendation of utility privatization as a panacea to poor performing public sectors and poverty in developing countries has in many instances, made the poor worst off in terms of (i) poorer quality; (ii) inequitable access; (iii) higher charges; (iv) restriction of energy choices; (v) environmental degradation; and (vi) the privatized company's unresponsiveness to the needs of a diverse clientele because of profit maximization.

This paper brings into being matters relating to poverty and utility access (electricity and water), gender implication, and policy implication as it relates to efficiency and policy change/transfer.

Key words:

Tazhmoye Crawford, utility, electricity, water, poverty, gender, policy, Jamaica.

METHODOLOGY

Primary analysis was used to conduct this research through a variety of survey methods (distribution of questionnaires); observation; and elite interviews with policy advisors. Secondary analysis is also used: desk research/secondary data, including policy documents and annual reports from Jamaica Public Service Company (JPSCo) Limited and the National Water Commission (NWC) respectively. The statistical package for social scientists (SPSS) is used to analyze the data. The unit of analysis is households with and without the services of electricity and water. They are also the observation unit.

The reason for the use of this methodological approach is to capture a more accurate response from the subjects. It is more manageable at capturing grievance, as well as satisfaction expressed by the respondents. The distribution of the questionnaires provides 'on-the-spot' clarity, and additional information that is not requested by the questionnaire.

POVERTY AND UTILITY ACCESS IN JAMAICA

The Minister of Finance, in tabling the 2006/2007 budget debate in Jamaica[1], announced that poverty currently stands at 14.8 percent – a reduction of 2.1 percent points over 2004. For the period 1995 – 2005, poverty level declined from 27.5 percent – a reduction of 12.7 percentage points.

According to the Millennium Development Goals Report (2004)[2], Jamaica's target for 2015 is to halve extreme poverty, as well as the proportion of people without sustainable access to safe drinking water.

Table 1 below indicates that the highest incidence of poverty in Jamaica was 1991 and 1992, representing 44.6 and 33.9 percent respectively. While there has been a fluctuation over the years 1989 to 2001, the lowest years were 1998 (15.9 percent), 1999 (17 percent) and 2001 (16.9 percent). The other periods bear no significant differences.

Table 1: Percentage of persons living on and below the poverty line in Jamaica, 1989-2001.

Years/Period	% living on poverty & below poverty line.
1989	30.5
1990	28.4
1991	44.6
1992	33.9
1993	24.4
1994	22.8
1995	27.5
1996	26.1
1997	19.9
1998	15.9
1999	17
2000	18.7
2001	16.9

Source: Jamaica Survey of Living Condition, Planning Institute of Jamaica.

Further in this paper, poverty will be linked with utility access, to ascertain the extent to which incidence of poverty has a relationship with not being able to afford utility access; as well as the extent to which inadequate utility access encourages poverty, especially in terms of social welfare development.

Water

The United Nations (2002) stipulates that the right to safe water by everyone, is based on conditions of:

- **availability** – water must be sufficient for drinking, domestic uses, and should respond to the World Health Organization (2002) guidelines;
- **quality** – water must be safe, free from micro-organisms, chemical substances, and radiological hazards;
- **accessibility** - service should be accessible to everyone without discrimination. This should be in physical reach to the population. The water should be culturally appropriate and affordable; and
- **information accessibility** – the right to seek, receive and impart information concerning water issues.

A mere 12 percent of the population outside Developing Countries uses 85 percent of its water.[10] Across the world, over 1 billion people have no access to clean water.[11] Of

the 1.9 billion children from the developing world, there are 400 million with no access to safe water. There is approximately 1.4 million persons dying each year from lack of access to safe drinking water.[12]

The depletion and unequal distribution of water is exacerbating existing poverty. States have to adopt effective measures to realize, without discrimination, the right of all citizens to potable water. The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses.[13] An adequate amount of safe water is necessary to prevent death from dehydration; reduce the risk of water-related disease and provide for consumption, cooking, personal and domestic hygienic requirements.[13]

Table 2 represents the various sources of consuming water in Jamaica. Over the period 1993 to 2004, the data has shown fluctuations in consumption. Majority of residents use piped water obtained in their homes, followed by public standpipe users. Since 1999, however, users of public standpipe have shown a steady decline from 15.3 to 9.5 percent. The year 2001 carried the most piped users (70.9 percent) and 1993 the least users (62.3 percent). The figures for those who consume untreated water from river, spring or pond and those who consume water from wells were not significantly different. This represents a mean value of 3.41 and 3.28 respectively. Users of rain/tank water was highest in 2002 (15.3 percent) but declined significantly in 2004 (7.9 percent). Truck/bottle water was not surveyed until 2002 and 2004, representing 1.9 and 1.8 percent respectively.

Table 2 - Source of Water (Percentage) 1993-2004

Source	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2004
Piped Water	62.3	63	63.4	66.8	66.1	65.7	67.6	66.6	70.9	64.5	68.2
Public Standpipe	20	20	16.5	14.9	15.1	14.2	15.3	13.2	13.1	12.1	9.5
Truck/Bottle Water	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.9	1.8
Untreated River/Spring/Pond	3.1	2.1	2.9	2.3	3.8	4.4	3.2	3.2	3.1	3.3	4.1
Rainwater (Tank)	11.4	11.4	13.2	12.9	11.4	13.1	10.5	11.7	11.6	15.3	7.9
Well/Other	3.1	3.2	4.1	3.1	3.5	2.6	3.5	5.4	1.3	3.0	2.3

NS = Not Surveyed

Source: Jamaica Survey of Living Conditions, 2004

In trying to ascertain the relationship between poverty and access to water, the findings show that of the 54.8 percent respondents who were not able to afford water from the NWC, 5.2 percent were of poverty status and 4.2 were illegally connected mainly because of this reason. There were consumers who claimed that they did not need to have piped water in their homes from NWC because the public standpipes were in very close proximity to their houses. Only 2.8 out of 9.5 of these individuals were poverty inclined. Of the 11.9 percent of respondents who lived in hilly terrain, 3.2 were of poverty. An example of this community is Haddoc in Westmoreland. There were also respondents who had no water in their community and had to travel miles to obtain a pan of water each day. This was concentrated mainly among women in the rural areas. This represents 14.3 percent, with only 1 percent poverty and 1.1 percent of illegal connection. Examples of such communities are Stettin and Freeman's Hall in Trelawny.

Table 3 - Reason for no access to water

Why no safe water service to household	Numbers	Percent	Poverty (%)	Illegal connection (%)
Unaffordability	69	54.8	5.2	4.2
No need for service	12	9.5	2.8	1.2
Hilly terrain reduces water pressure - restricts access	15	11.9	3.2	0.0
No water in community	18	14.3	1.0	0.0
Others	12	9.5	1.3	1.1
Total	126	100.0	13.5	5.5

It is imperative to note that the total poverty reflected in table 3 above (13.5 percent) is not significantly different from the overall percentage poverty in Jamaica, being 14.8 percent.

According to the NWC's Annual Report (2003-2004), over 770 billion gallons of potable water was produced by the NWCs water supply facilities. In 2005 (according to the Economic and Social Survey of Jamaica (2005:15.10), the NWC produced approximately 296,454.1 megalitres of potable water. This was 5.8 percent higher than production for 2004 and reflected increased production in the 14 parishes.[14]. Despite this level of production, many consumers are still without safe water. The Planning Institute of Jamaica (PIOJ) postulates that overall access to potable water in Jamaica is 86.2 percent.[15].

In a discussion with Marie James of the OUR on April 5, 2006, it was postulated that the Government of Jamaica is currently embarking upon implementation of a Rural and Water Sanitation Programme. Under this programme, currently there are 5 community water projects; namely: Hamstead in St. Mary, Rowlands Field in St. Thomas, Bibrook Skibo and Belleview in Portland, and Mountain Path in St. Catherine. Wells have been identified; small companies will be formed and managed by the benevolent society; and license will be applied for from the OUR in order to conduct a formal operation of these projects in remote areas. Such will be funded in part by the European Union. This scheme of arrangement should take place effective the latter part of 2006. Residents will be allowed to pay a flat rate of J\$500.00 (US\$7.57) for the utilization of water.[15]

Electricity

Approximately 1.7 billion people in the world lack access to electricity.[17] In Jamaica, 92 percent of its consumers have legal access to electricity. This is contributed in part by the Rural Electrification Programme (REP), which was implemented in 1975. Under this programme, the Government of Jamaica has been providing electricity to rural residents, whose geographic location would not have been financially viable for JPSCo., to provide access. In order to electrify the various communities, it costs J\$1 million (US\$15,384.62), for each kilometer of wire.[17] In facilitating rural residents, a long-term payment plan is put in place, whereby customers pay 10 percent of the total cost of wiring (J\$15,000.00 = US\$227.27). These customers are billed on a monthly basis by the JPSCo., and are required to pay the remaining 90 percent of the remaining sum over a 4-year period. This discourse has led to a remarkable increase in electricity access since privatization in 2001 brings percentage access from 70 percent to 92 percent.

Table 4 below shows the total number of JPSCo customers over the period 2001 to 2005. This includes both residential and commercial customers, and represents households, and not the total population (as per individual) of 2.6 million. This table shows a steady increase in customers, rising from 494,591 in 2001 (at the time of privatization) to 551,208 in 2005. Prior to 2001 (specifically 2000), according to the annual report of the Office of Utilities Regulation (2004/2005:39), average customers represents 477,279.[21]

Table 4 – Total JPSCo. customers – 2001 to 2005

2001	2002	2003	2004	2005
494,591	506,390	516,681	538,568	551,208

Source: ESSJ (2005:15.10).

Despite the efforts of the REP to improve electrification, there are residents who have never experienced electricity in their homes. These include Rosewell in Clarendon, Chesterfield in St. Mary, Chatteau in St. Elizabeth, and Adeous Valley in St. Thomas. This is mainly because of housing distance from the power grid, and in some cases, poor economic status. The donor agencies of the REP stipulates that wiring should only be done within 1 mile of a 26 housing cluster.[18]. Houses that fall outside this stipulation may never get electrified unless the area becomes more populated.

In view of table 5 below, the respondents who were least poverty inclined were among those who had no need for the service, and who lived distance away from the power grid. This represents a percentage of 1.9 and 2.4 respectively. Among those who could not afford electricity service (55.8 percent), 6.1 percent were of poverty status. The respondents who claimed that they had no need for electricity service represented 5.4 percent illegal connection, while 2.3 percent claimed that the service was unaffordable.

Table 5 - Reason for no access to electricity

Why no electricity service to households	Numbers	Percent	Poverty (%)	Illegal connection (%)
Unaffordability	77	55.8	6.1	2.3
No need for service	12	8.7	1.9	5.4
Difficult for JPSCo/REP to access premises	21	15.2	2.4	0.0
Others	28	20.3	3.2	1.4
Total	138	100.0	13.6	9.1

It is realized that unlike water, poverty was higher for electricity among those who claimed that they had no need for the service. It should be noted also that like water, the total percentage poverty for consumers who have no access to electricity is not significantly different. That is percentage 13.5 and 13.6 respectively. This again bears no significant difference with overall poverty in Jamaica (14.8 percent).

Based on the foregoing, it is reasonable to question, “in this age of modernity, where there is no access to electricity, what then is the alternative to contribute to better social welfare development?” Crawford and Duncan (2006) intimate that there are claims that the distribution of households throughout the world (rural and urban) by fuel shows that the total rural households (48.4 percent) use kerosene for lighting and 86 percent use firewood, chips and dung cakes for cooking, and whereas the corresponding percentages in urban households is only 10.3 percent and 52.3 percent.[19]. In Jamaica, the communities which shared this experience were those of New Fine in St. Ann, Haddoc in Westmoreland, and Warsop, Freeman’s Hall and Joe Hut in Trelawny. These alternatives to lighting tend to cost more than electricity itself. Such case in point may be seen in Guatemala, where households with electricity pay less than \$0.10 per kilowatt hour for lighting, while those without, rely on candles that cost the equivalent of \$5 per kilowatt hour.[20]

As a point of improvement, table 6 indicates that while access to electricity increases, the use of kerosene steadily decreases over the period 1993 to 2004. The percentage of all lighting users and non-users shows a fluctuation. However, other users and non-users remain at minimal percentages, as low as 0.2 for the former, and 1.2 for the latter. Other source of lighting has also shown significant improvement since 2004 (1.3 percent) compared to the previous years.

Table 6 - Source of Lighting (Percentage) – 1993-2004

Source	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2004
Electricity	68.1	70.8	71.5	76.9	78.2	80.4	80.8	86.9	86.1	87.1	89.0
Kerosene	29.1	26.9	25.7	21.1	17.9	15.9	14.8	11.2	11.3	10.8	6.9
Other	0.2	0.7	0.5	0.8	0.6	0.4	0.5	0.7	0.8	0.6	1.3
None	2.6	2.4	2.3	1.3	3.3	3.3	4.0	1.2	1.7	1.4	2.8

Source: Jamaica Survey of Living Conditions (2004)

Efforts to alleviate poverty are usually confronted by social welfare issues (education, health care, employment, technology and others), which are sometimes ignored in governments' haste to privatize the utility sector for the benefit of economic development and efficiency. Whenever this happens, access becomes limited, hence illegal connection grows; economic growth slows for want of energy; energy shortage curtails productive activities (causing a reduction in employment); study hours becomes reduced because of frequent blackouts; tariff may increase in order to recover loss (hence un-affordability and corruption); and mistrust by consumers.

GENDER IMPLICATION

Arising from the 1992 United Nations Conference on Environment and Development (the Earth Summit), the consensus is that women suffers more from a lack of electricity. In addition, Karlsson, G. *et al* (2001) points out that of the 1.3 billion people living on less than one dollar a day, 70 percent are women.[22]

During the interview sessions, the findings reveal that whenever there is an absence of water, the parents send their girls to school, while the boys stay home and retrieve water from rivers, streams, wells, and other sources. In addition, there are times when the girls are preferenced to wash and iron their uniforms for school; while the boys have to wait until electricity or water are available a few days or hours later. Contrary to this view point, Karlsson, G. *et al* (2001) claim that a lack of energy cause overburden mothers to keep their daughters from school to assist with household activities including fuel and water collection, thereby limiting opportunities for girls to be educated. This increases the likelihood of poverty.[22]

The absence of water also contributes to better hygiene for men than women. This means, that while it is more convenient for men to cleanse himself at a river, the women are more conservative, and rather cleanse in a pan at home.

The researcher observed that in some rural communities, a number of families depend on firewood for cooking. It is the woman (not necessarily the head of the household), who transport the woods and water on her head for household purposes. Consonant with this observation, Karlsson, G. *et al* (2001) in a UNDP report informed that many women in developing countries spent long hours gathering fuel and hauling water over long distances. They are vulnerable to the adverse impacts of deforestation, desertification and ecosystem disruption. They are sometimes faced with health problems (including their

children) being exposed to large amount of smoke and incompletely burned particulates from indoor fires, together with pollutants such as carbon monoxide, benzene and formaldehyde. As a result they suffer from respiratory infections, lung diseases, cancer and eye problems. Worldwide, close to 2 million premature deaths per year are attributable to indoor air pollution from cooking fires. In addition, the carrying of heavy loads of wood and water damages a woman's body.[22]

POLICY IMPLICATION

Efficiency

The JPSCo. and the NWC make provision for efficient and effective operation as a mandate under the standards and license agreements. Despite this effort, the complexities of their policies, based on its nature, sometime mutilate against their successful intentions because of inadequate resources in a developing country such as Jamaica. Nevertheless, the Westminster-Whitehall model has provided structural and institutional support under a constitutional framework to ensure that the rights of citizens are not violated, neither should inequality be exacerbated in the name of profit, efficiency achievement or self interest. The matter of self-interest brings to mind the Neo-Marxist perspective that the Capitalists, in 1914, use regulation to subvert their purported public purpose.[15]. Similarly, the Public Choice Literature points out that this is the reason why government is not effective in delivery of public goods to serve the public's interest, because too, self-seeking behaviour in politics takes priority.[15] Therefore, policies governing utilities (whether or not they are state-owned), should seek to obtain social welfare development in the pursuit of equity and socio-economic efficiency.

According to the economic rationalist thought, the basic concept of economic efficiency is to ensure that things are re-arranged so that the collective benefits or advantages flowing from the re-arrangement exceeds the collective disadvantages or costs, without regard to who gain and who loses.[3]. If there have to be consumers who lose (no electricity and piped water), then compensation (nearby streetlights and trucked water) should enable them to be gainers too. This can only be the case if compensation is not itself the cause of too much great loss of economic efficiency.[4]. This development could gradually change the parameters of state action, and challenges established expectations about the role of the government. In addition to this perspective, Rawls (1958), in applying the 'difference principle' under his ideology, 'The Metaphysics of Morals,' posits that inequality may be applied, providing that it is justifiable. In other words, social and economic inequalities should be arranged so that they are both to the greater benefit of the least advantaged persons.[6].

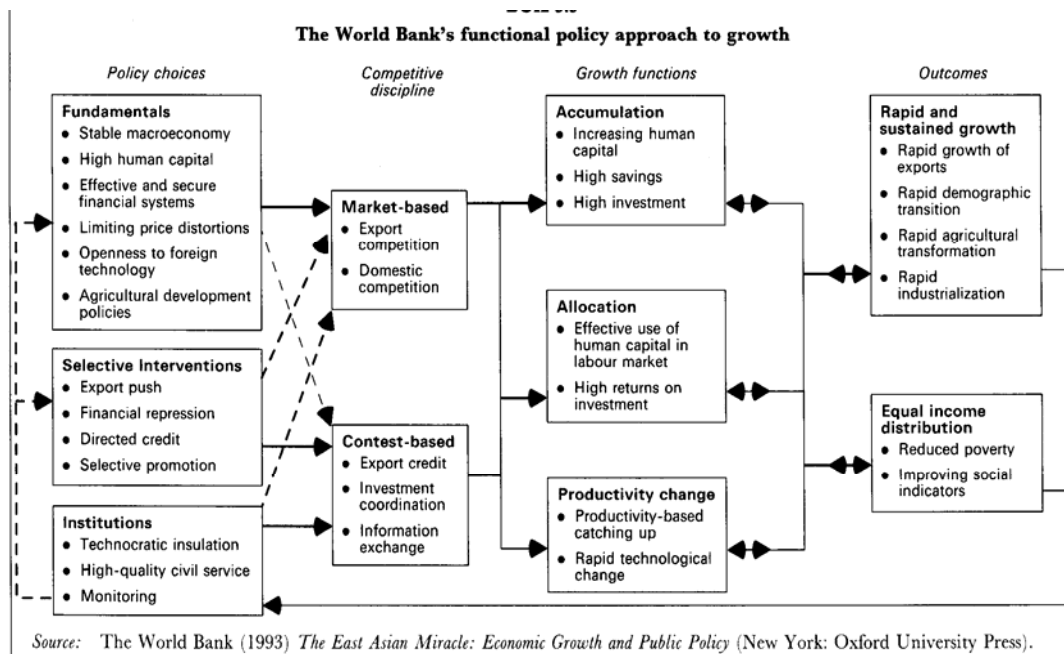
Policy Change/Transfer

Policy change and/or transfer in the case of any utility sector, usually occur when there is a shift in ownership and/or control. A case in point is where the Government of Jamaica divests the electricity supply industry (JPSCo) for better service delivery than what the State can provide. Decisions of this nature are usually controversial in that the privatized company may increase efficiency of the enterprise but ignore social objectives in the bargaining process. Such action could drive consumers into poverty.

The World Development Report (1997) points out that if government ignores this possibility, then programmes could divert resources and services from the people who need them most.[7]. Government's commitment and sound governance and regulatory content should therefore be adapted and maintained in order to (i) maximize the use of scarce resources of the State through the integration of distinctive competencies; (ii) distinguish the role of the State and enterprise ownership; (iii) improve transparency, accountability, and effective public policy; (iv) provide cost effective service and low tariff to ease the burden of poverty and gender inequality.

These arguments can be captured in figure 1 below – a means to accomplish the above 4 factors through linkage of varying combinations of policies from the market-oriented to the state-led. This is also a representation of a framework which links rapid economic growth to 3 functions: (i) accumulation; (ii) efficiency allocation; and (iii) technological catch-up.[9]

Figure 1



CONCLUSION

One of the major contributions of this paper is that it draws on aspects of poverty scenario (utility access) outside of the normal Marxian and World Bank treatment of poverty (food consumption and education). Another value added is the matter of gender as it relates to the provision of utility service. This paradigm shift is another way of dynamically conceptualizing the ideologies of New Public Management and Modernity. Modernity is garnered by access to utility service as a public good and social benefit – needs that are vital for keeping persons out of poverty. These 2 basic utilities (electricity and water) which were discussed are regarded as *sine qua non* to be delivered to all.

The findings of this paper reveal that poverty does not always mean a lack of utility access. There were consumers who were of poverty status who had the opportunity of access and visa versa. Some individuals who obtained access illegally, was not because of reason of poverty, but their ethos was that it was the Government's sole responsibility to provide them with free utility service.

In terms of the provision of safe piped water in communities, in many instances, a lack of access is as a result of vandalism to the infrastructure. Therefore, why should the NWC stand to be blamed? In addition, despite the cry for drought in some communities, residents continue to wash their cars and water their plants via a hose which they leave unattended. The flip side is that this action does not always affect the wasteful, but lead to

poverty and the consumption of contaminated water in some communities. According to Gusky (2001) in a paper presented by Crawford and Duncan (2006), more than 5 million people (mostly children) die every year from illnesses caused from drinking poor quality water. Of course, whenever water becomes expensive and scarce, people resort to polluted streams and rivers.[8]

The essence of this paper is that efficient utility access through modern forms of energy hinges on the tenets of modernity. This means therefore, that gender equity should be maximized; the burden of poverty should be eased (significantly reducing the use of fuel wood and the consumption of untreated water); the physical transporting of water on one's head from far distances should be minimized; and the environment should be sustained and not be degraded by utility projects. Therefore, because the provision of electricity and water as public goods and social benefits are by nature natural monopoly, access and affordability are imperative.

RECOMMENDATION

Based on the conceptual underpinning of this paper, the following are recommendations that can steer the path for better access; a decline in poverty as it relates to utility access; and an improvement socio-economic and welfare development.

- (i) More rivers, wells, and other water facilities should be treated, especially where public standpipes are inadequate.
- (ii) Implement a culture of self-energy and self-sufficiency.
- (iii) Make clear distinction between ownership and control of the utility sectors, especially if divested.
- (iv) Empower citizens/consumers in some of the decision making processes that would likely affect them.
- (v) Government's commitment should include development welfare interest (despite divestment); investment sustainability; the revisiting of policies that are locked in traditional, outdated and inflexible frameworks; and the provision of proper incentive for the regulatory body.
- (vi) Employ governance under a sustainable development approach – articulating the relationship between the state and the citizen, the distribution of resources and allocation of public power and equitable access to utility services.

REFERENCE

1. Davies, Omar, Minister of Finance. Parliamentary Budget Debate, March, 2006, Jamaica.
2. “Millenium Development Goals, Jamaica. (April, 2004).” <http://www.undp.org/rblac/mdg/jamaica.pdf#search=%22incest%amendment%20act%2C%20jamaica%22>. (p. 4).
3. Pincus, J. (nd). Market Failure and Government. (Publisher unknown). p. 264.
4. Ibid. (p. 267).
5. Self, P. (nd). Government by the Market. The Politics of Public Choice. London: Allen and Unwin. p. 87.
6. Rawls, J. “Justice and Fairness” in The Philosophical Review, 67 (1958). Cambridge: Havard University Press (p. 577).
7. World Development Report (1997). The State in a Changing World. OX: Oxford University Press.
8. Gusky, S. (2001). “IMF Forces Water Privatization on Poor Countries. Globalization Challenge Initiative.” <http://www.ratical.org/co-globalize/waterIMF.html>. (p.1). Accessed on February 17, 2006; in Crawford, T. and Duncan, N. (2006). The Missing Dimension between Poverty and the Provision of Utility Service as a Public Good and Social Benefit. Presented at the 31st Annual Conference of the Caribbean Studies Association, May 29 – June 3, 2006, Trinidad and Tobago.
9. Turner, M. and Hulme, D. (1995). Governance, Administration and Development, Making the World the State Work. London: Macmillan Press Ltd. (pp. 60, 61).
10. Shah, Anup (2005). ‘Poverty Facts and Stats.’ <http://www.globalissues.org/TradeRelated/Facts.asp>. (p. 2). Accessed on March 30, 2006.
11. United Nations (2002). Economic and Social Council. (November 26, 2002). ‘Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights.’ General Comment No. 15 (2002). The right to water (Articles 11 and 12 of the International Covenant on Economic, Social and Cultural Rights).
12. Shah, Anup (2005). ‘Poverty Facts and Stats.’ Loc. cit.
13. United Nations (2002). Economic and Social Council. Op. cit. (p. 2).

14. Economic and Social Survey Jamaica (2005). Published by the Planning Institute of Jamaica (April, 2006).
15. James, M. (discussion), April 5, 2006.
16. Planning Institute of Jamaica. 'Statistics: GDP and Income.' http://www.pioj.gov.jm/statistics/statis_gdpi.stm (Accessed on April 6, 2006).
17. World Energy Assessment (2000:374) in Dubash, N. http://pdf.wri.org/powerpolitics_chap1.pdf (p. 2). Accessed on September 12, 2004.
18. Marshall, S. (telephone interview). March 23, 2004. Mr. Marshall is the Chief Engineer at the REP.
19. Rajvanshi, A. 'Key Issues for Rural Electrification.' <http://pune.sancharnet.in/nariphaltan/ruralelec.htm>. (p.1). Accessed on December 10, 2005; in Crawford, T. and Duncan, N. (2006), paper presented at the 31st Annual Conference of the Caribbean Studies Association.
20. Dubash, N. Chap. 1. loc. cit.
21. Office of Utilities Regulation Annual Report (2004/2005), p. 39.
22. Karlsson, G. and McDade, S. (2001). 'Sustainable Energy and Women.' Http://www.undp.org/energy/publications/2001/files_2001a/01_introduction.pdf. Accessed on October 2, 2006. (p. 9).
23. Ibid (p. 8).
24. SUGDEN, R (ed). Industrial Economic Regulation. A framework and exploration. London: Routledge. (p. 4).
25. Ibid (p. 6)