

**POVERTY ERADICATION AND
ENVIRONMENTAL CONSERVATION IN THE
TRANSITION ECONOMIES TOWARD “WIN-
WIN” POLICIES.**

**PAPER PREPARED FOR THE
INTERNATIONAL SEMINAR ON POVERTY
AND ENVIRONMENT IN TRANSITION
ECONOMIES: AT THE CROSS ROADS FROM
COPENHAGEN +5 TO RIO +10.**

KIEV, UKRAINE

NOVEMBER 26TH – 29TH, 2001

NARESH C. SINGH, Ph.D

1. INTRODUCTION:

Sustaining human development and economic growth has been and continues to be an enormous challenge for most of the countries with economies in transition in Eastern Europe and the CIS during transition to a market economy. Even in the countries that have been able to recover economic growth and that have been more successful in the transition to a market economy than others, overall income inequality has increased and substantive pockets of poverty persist. Many, often interrelated, factors contribute to the persistence of poverty and this seminar looks at social development strategies in connection with environmental protection, in an effort to identify options for win-win situations, i.e. promoting social development and fighting poverty while protecting the environment, in transition economies. The countries in the regions involved have been home to some of the most devastating environmental disasters and are often dealing with a legacy of industrial pollution, while some of the mechanisms for saving and protecting natural resources have come under increasing pressure during the transition. The resulting environmental problems have become a major impediment for economic growth and sustainable development.

More than a decade ago, the World Commission on Environment and Development (the Brundtland Commission) underscored the links between poverty, inequality and environmental degradation, and defined sustainable development as development that

meets the needs of the present without compromising the ability of future generations to meet their own needs. The major conferences convened by the United Nations in the 1990s built upon the work of the Brundtland commission, emphasizing different aspects of a comprehensive vision of sustainable development. This includes the World Summit for Social Development in Copenhagen (1995), where the central issues discussed were eradicating poverty, achieving full employment and strengthening social integration. The Copenhagen Declaration on Social Development states that “equitable social development that recognizes empowering the poor to utilize environmental resources sustainably is a necessary foundation for sustainable development”.

Socioeconomic Development, Poverty And The Environment

Since the UN Conference on the Human Environment in 1972, there has been near universal agreement by the international community that the poor are the ones most affected by environmental degradation and are often the least able to protect themselves. The action plans and declarations from the UN conferences during the 1990s have clearly put poverty eradication and environmental regeneration at the center of development efforts, but except for some successful efforts to address both poverty and environment, these goals are not being put into practice. Two common assumptions still persist that hamper many efforts in this regard, the first being that environmental regeneration cannot be undertaken in poverty-stricken areas, and the second assumption seeing poverty and environment inextricably linked in a ‘downward spiral’.

In reality, causal linkages between poverty and the environment are often poorly understood, very complex and context-specific, and in many areas the majority of environmental damage is caused by the non-poor, by commercial companies or by state agencies. It is beyond doubt, however, that degradation of the environment significantly reduces output and opportunities for economic growth and development –through the depletion of natural resources, soil erosion and salinization, water and air pollution etc.–, and that people who live in poverty are often disproportionately affected. In rural areas, the poor are often very dependent on natural resources, and exhaustion or degradation of these resources has a direct impact on their livelihoods. In urban areas, the effects of insufficient or polluted water provision, outdoor and indoor air pollution, substandard housing and a lack of adequate sanitation systems, particularly affect the health of the poor, and thereby their ability to work. Furthermore, environmental degradation may adversely affect the investment climate, thereby reducing opportunities for generating employment.

During the last years, discussions, research and analyses of best practices have resulted in a number of recommendations on addressing poverty-environment interactions. Empowering the poor and improving their asset base plays a central role, because improved access to and control over different types of assets enables the poor to better meet their basic needs and create more flexible livelihood options. Experiences have shown that policy interventions addressing both poverty and the environment need to be carefully tailored to local circumstances. Community level initiatives and decentralization are considered crucial but depend on the existence of social capital, including networks

and capable, representative and responsive institutions at the local level. These conditions are often not or only partially met in countries with economies in transition

At the macro level, many economic reform programmes have had the unintended consequence of reducing the poor's share of economic resources and of weakening state institutions, including those responsible for environmental protection. Incorporating the poverty and environment dimensions into day-to-day economic decision making remains a challenge that most Governments have not yet taken up.

Recent developments in countries with economies in transition

Economic stagnation, the fall of real wages and income, increasingly skewed distributions of income and of productive assets, high unemployment, and the collapse of many social security systems have contributed to sharp increases in both income poverty and human poverty in countries with economies in transition, although more so in some countries than in others. Since the onset of the transition, most countries have not been able to sustain extensive public services and social protection systems, and the legacy from previous investments in human development has started to erode, as is reflected in rising morbidity and mortality, declining educational enrolment rates and numerous accounts of the decreasing quality of health services and education.

Many countries in the region are dealing with environmental legacies from their previous experience with centralized planned economies that had very resource and energy intensive industries, and several countries have been affected by some of the world's biggest environmental disasters. The best know examples in the region include the disaster at Chernobyl in 1986, nuclear pollution in the semipalatensk area in Kazakhstan and the desiccation of the Aral Sea. In the Aral sea region, for example, thousands of jobs directly or indirectly related to the fishing industry have been lost, and the soil around the sea can no longer be used for agriculture because of salt deposition from the dried up seabed. Since the onset of the transition, production-based pollution has decreased in many countries due to the sharp fall in output, but on the other hand, some other prior environmental advantages decayed or were abandoned including mass transportation, which is increasingly replaced by individual auto transport, central district heating and comprehensive resource recycling.

There is a wide variety in experiences between and within countries, both in terms of the type and intensity of environmental problems, their effect on development and the resources available to address poverty and environmental degradation.

In general, more resources are available in Central and Eastern Europe than in the CIS, both because their economies experienced less damage during the transition and because of European Union assistance in helping accession candidate countries to meet EU environmental standards. Resources at the municipal level are often inadequate and most local governments have limited capacity to generate internal resources.

The purpose of this paper is not to provide comprehensive analyses of the poverty or the environmental situation in the countries being invited to the seminar, but rather to focus attention on possible win-win policies which are both good for their environment and for

poverty reduction as they pursue sustainable development objectives in a market economy. In order to do this however brief overviews of the poverty and environmental situation are useful to provide the context in which the possible win-win policy options can be considered.

2. THE POVERTY SITUATION

While the existence and spread of poverty is recognized in all countries:developing , transition or developed, there is no unanimity as regards its definition and measurement. People regarded as poor in a given country may be considered rich when measured by the yardstick of another country. The definition given by “outsiders” may not be acceptable to those who are being defined and similarly self- perception may contrast with outside observation or even statistical indexing. Poverty is multi-dimensional. Monetary or income/expenditure/consumption poverty lines might need to be supplemented by measures of unmet basic needs and by deprivations in human capabilities. Distinctions have been made in former socialist countries between the capitalist poor and the socialist poor, the latter being regarded as a contradiction in terms or as an aberration .Distinctions are also made between those who are hereditarily poor and those who are the new poor. Thus the use by UNDP of measures of both income and human poverty .For making international comparisons the World Bank decided to use US\$ 1(PPP)a day as an absolute poverty line. However for the countries in transition , US\$4 was considered more appropriate by UNDP. In Russia all people who receive less than the average income are regarded as below the poverty line but are grouped into three categories: indigents, poor and destitute; depending on the distance between the average income and their own . In Bulgaria a distinction is made between the social minimum and the living minimum as upper and lower poverty lines ,while in Romania three different measures are used, namely subsistence minimum, decent minimum and minimum determined by the Ministry of Labour and Social Protection . Similarly, the political refugees and the environmental refugees have something in common but strategies to address their situations might have to be different. (Yogesh Atal, Poverty in Transition and Transition in Poverty, UNESCO.1999)

Some of the peculiarities of poverty associated with economic transition and therefore common to many of the participating countries have been described as the human costs of transition in the Human Development Report for Europe and CIS (Transition 1999-UNDP). These include

- the loss of lives represented by the decline in life expectancy in several major countries of the region most notably in the Russian federation and most strikingly among young and middle aged men.
- Rise and persistently high levels of morbidity associated with TB, HIV/AIDS etc.

- Extra-ordinary rise in both income and human poverty – e.g. in 1996 55% and 71% of the population in Armenia and Kyrgystan respectively were below the poverty line, while in Georgia and Ukraine the figures were 67% and 50% respectively. This has been attributed in part to slumps in national incomes, high rates of inflation, and sharp increase in income and wealth inequality as measured by the Gini coefficient.
- Rising gender inequalities with reduced numbers of women in positions of economic and political decision making and in paid employment and increased numbers facing personal and economic insecurity.
- Considerable deterioration of education as measured by expenditure; enrolment and attendance rates at all levels
- Rise in unemployment, under underemployment and informalisation of employment. Most countries have more than 10% of their labor force out of paid work , but to this must be added millions who have dropped out of the labour force in discouragement and the millions who are on “administrative leave” as in Russia, Ukraine, Belarus and Kyrgystan. The informal and black economy was estimated at between quarter to half of GDP in Russia in 1997 and over half in Ukraine (including barter).
- Dramatic and widespread deterioration of human security resulting from a summation of the above combined with regional conflicts and a large numbers of displaced persons.

3. THE ENVIRONMENTAL SITUATION:

Most of the literature on the environmental situation in these countries seem to have focused on the so-called “brown” environment referring to pollution and degradation of air, water and land resources associated with domestic, municipal and industrial solid, liquid and gaseous wastes. Apart from some notable exceptions such as studies of Boreal forests, the Aral sea and Lake Baikal, ecosystem health and integrity do not seem to have received an adequate amount of attention.

With regard to the brown environment, pollution levels have declined largely because industrial production has fallen. A combination of lower output and measures to decrease emissions has resulted in falling ambient levels of lead and heavy metal dust. Emissions of particulates and sulfur dioxide from the power and metallurgy sectors have decreased significantly from the combined impact of industrial decline and price adjustments. Similar trends have occurred with nitrates, heavy metals, and toxic chemicals in drinking

water. Waste water collection and treatment in some of the international drainage areas such as the Baltic and the Black seas have also improved.

Progress, however, has been mixed. Air quality has often not improved by as much as emissions have fallen. Sixty one million people in fifty-seven cities in the region are still exposed to severe air pollution. This is because emissions from small sources such as cars, stoves, and small boilers have increased, even though emissions from large sources have fallen.

Poor water resource management, particularly relating to irrigation, affects the livelihoods of some 30 million people. Deteriorating infrastructure and lack of funds for adequate operation are causing a jump in waterborne diseases. Increasing poverty and sharp rises in utility prices are putting pressures on natural resources (e.g. fuelwood) in some parts of the Newly Independent States and the Caucasus.

The general environmental situation can be illustrated by reference to two actual country situations for example Bosnia and Herzegovina (BiH) and Republic of Macedonia (FYR). These assessments are extracted from the 1998 National Human Development Reports of these countries prepared by national authorities.

Before the war Bosnia and Herzegovina (BiH) was one of the most polluted regions in Europe with major concentrations in metallurgy and chemical industry which are major producers of direct pollutants. In addition, most of BiH's industry depended on energy produced by coal, which is a major pollutant. Another unfavourable factor was the very low quality of raw materials used for the production of metals. According to estimates made in 1989, BiH accounted for 20% of the total surface area of ex-Yugoslavia, 18% of its population and 12% of its GDP, but contributed 32% of air pollution, enormous aquatic pollution and land devastation.

Notwithstanding all the negative effects of the war, positive environmental changes occurred in BiH due to the closure of industry. Nature revitalized the rivers and a large area of land. The River Bosna and its tributaries were not much more than waste canals, but today are in a higher ecological category; moving from category IV to category 111 (denotes the return of living organisms). Agricultural land in the industrial zones that was polluted by heavy metals, sulphur from smoke emissions, acid rain from industry and thermal-energy plants is cultivable today.

BiH has never had a comprehensive environmental protection programme covering all relevant aspects: protection of the atmosphere and global changes; protection of waters; protection of land; waste collecting, selecting, processing, applying and disposal of waste (particularly hazardous waste); researching the correlation between environmental pollution and the health of humans, animals and plants; social aspects of environmental protection and protection of its cultural and natural heritage.

The comprehensive environment protection program developed by the Republic of Slovenia could become a model for the ecological re-structuring of BiH. This, however, would not be easy since BiH has an economic structure characterized by several unfavourable elements:

- high concentration of heavy industry such as chemical industry in the Tuzla economic region and metallurgy in the Zenica regions;
- high energy consumption per unit of production from thermal-energy plants that use coals containing 2.5% - 7% sulphur;
- direct and indirect pollution of all three ecosystems (air, water and land), from production and energy plants;
- land devastation through exploitation of coal, minerals and ores as well as disposal of ore deposits, and other industrial, communal and sanitary wastes;

A careful and selective approach that takes fully into account all environmental aspects is required for reconstruction projects if the existing BiH economic and industrial capacity is to be revitalized.

When locating new projects and developing corresponding infrastructure, attention should be given both to spatial economy and ecological requirements corresponding to international standards. It must be ensured that all programmes and projects from which financial support of the international community and the World Bank is sought contain aspects of environmental protection. The government should allocate the necessary financial and human resources for this purpose.

In the FYR, since the beginning of the transition process in 1990/91 the quality of water started to improve progressively as a result of the decline in output leading to decreased disposal of hazardous substances in the water. Thus, the water quality of the Vardar river improved, although there are still problems with some other rivers, for example the Bregalnica river has very high level of nitrates and suspended solid particles.

Water supply in urban areas is relatively good. Nearly 99% of urban households have water pipe lines in their homes, whereas only 64% of the rural households. Waste waters pose a difficult problem. Only 65% of the urban population is covered by sewerage systems. Moreover, sewerage and precipitation networks are joint in one system leading to pollution particularly during heavy rains and floods.

Increased number of controlled and especially the number of uncontrolled landfills pose a serious threat to soil. Hazardous refuse is neither registered nor deposited separately, but rather is dumped on the municipal or industrial landfills. Although there is some evidence that a large number of unregistered landfills exist, there are no precise data on

their number nor on the areas they cover. Therefore, there is no precise information on soil contamination, water infiltration and hazards to human health.

With regard to air pollution, there are no complete and validated data, however, there are indications that the quality of air is seriously jeopardized. The reasons are numerous including an absence of institutional framework (and monitoring stations) for air quality monitoring, absence of a list of major pollutants, and inadequate (or absence) of systematic data processing.

As in other environment components, decline in economic activity at the beginning of the 1990's led to slight improvements in air quality. However, the improvement was not completely consistent to the decline in economic activity, and industry is still the major polluter.

The general picture of the major sources of unfavorable environmental conditions justifies the establishment of an ecological dimension in human development. The roots of today's conditions lie in:

- structural economic distortions;
- intensive energy consumption;
- outdated technology in the industry; and
- inadequate location (on macro- and micro-level) of certain industrial plants and other facilities (for example, cattle breeding farms).

4. THE POVERTY : ENVIRONMENT NEXUS :Towards Win-Win Options.

Win-win options, i.e. the policy options which are good for both poverty reduction and environmental enhancement, operate at the macro and micro levels as well as all the intermediary levels.

At the macro-level, seven sets of reforms are widely regarded as essential to the success of the transition process. According to Transition 1999, these are:

- 1 Creation of domestic markets :
 - Establish macro-economic stability
 - Creation of a legal framework
 - Secure property rights
 - Create market institutions
 - Create viable and efficient commercial banking system
- 2 Liberalize trade
- 3 Enable private sector
- 4 Reform state enterprises
- 5 Reform tax system
- 6 Privatised state enterprises
- 7 Liberalize external capital account .

Accepting these as providing a necessary basis for a successful transition, how then might the transition countries choose a policy path that could help them reduce poverty and conserve the environment while pursuing their transition reforms? Set out below are a wide range of policy options which have been developed at a global level by UNDP and the European Commission, many of which, and in some cases all of them might be applicable to the countries in transition. These options are presented for discussion by participants, for amendments, additions and deletions if necessary, and for final adoption of a set of voluntary options which transition country governments in collaboration with their development partners might implement as they see fit, in the context of their commitments and follow up to the Rio and Copenhagen processes.

5. POLICY RECOMMENDATIONS

Macro-economic reform can help a country become more competitive, but investing in the fastest growing sectors can draw resources away from long-term investment in the resources of the poor. Changing global markets can exert downward pressures on living standards, and in some countries have obliged many poor people to increase their pressure on natural resources just to survive. Countries may be tempted to overexploit natural resources to handle balance of payments problems. And sometimes new and distant markets can encourage the depletion of local resources to the detriment of the poor.

But much can be done through sound national policy. Policies that support both enhanced livelihoods for the poor and more sustainable management of environmental resources—the win-win scenario—depend on the nature of the resource and the groups involved. Policies that are win-win for the environment and the poor can also mean the non-poor must forfeit some resources or perquisites, and this requires political will. In general, however, there are several categories of win-win policy options that can be pursued. Many promising experiments are still young and have yet to face second generation challenges. Still, enough research has been done and enough experience has been accumulated to suggest a few general principles and some concrete ways forward.

Policy Option 1: Protect the Assets of the Poor

In many cases the poor have the right to manage key environmental resources, but they are not able to protect their rights. Large farmers may take excess irrigation water; trawlers may scour the fishing grounds of coastal villages; companies may obtain concessions to tribal forests; and municipal funds meant for improvement of poor areas may be siphoned off for other projects. Industrial pollution of rural resources by both large and small enterprises is a major cause of environmental degradation and rural poverty in some areas. The state often does not have the resources to monitor in a timely and effective manner the remote and dispersed resources that the poor depend upon. Corruption, incompetence, and indifference can also deprive the poor of the rights they

already theoretically enjoy.

The key to protecting the poor from these abuses is encouraging the development of democratic governance systems from local levels upward. The State needs to support representation by institutions accountable to the people so that monitoring of action and enforcement of rights can take place at all levels. Citizen oversight boards, communitylevel review processes for State-initiated development plans, and ombudsman systems for dispute resolution are examples of such mechanisms. It is also important to strengthen the judicial system as an impartial and independent institution, and to foster the emergence of institutions of civil society that can mediate between different actors.

Policy Option 2: Improve the Access of the Poor to Resources

A highly unequal distribution of assets often depresses subsequent rates of growth. Reducing income inequality tends to increase aggregate growth and further reduce poverty indirectly. Improving the access of the poor to natural resources and the productivity of those resources not only addresses directly the equity issue, but also provides new markets for other goods and services, thereby stimulating the economy as a whole.

Policy should focus on "environmental entitlements," which includes the broad set of social structures and networks that allow poor people access to a healthy environment and resources for sustainable livelihoods. This often involves turning resources over to the poor as individuals or to organizations composed of the poor.

Where land distribution is highly skewed, land reform can be one option. Because agricultural productivity and investments in agriculture per unit area are negatively correlated with the size of holdings, conducting land reform can increase both production and encourage environmental improvement. Another possibility is regulatory reform, including provisions of rental, lease or harvest (gleaning) agreements for both private and public lands. These can include longer-term rental contracts, explicit agreements about the distribution of benefits from resource improvements, or the granting of formal tenure rights to individuals or groups currently squatting on public lands or in urban areas, so that they can legitimately seek technical assistance, credit and other services and have incentives for conservation.

Historically, governments have had a difficult time with centrally managing dispersed resources in which local people also have a stake. Turnover of the resource to local groups can be one solution. Granting rights to groups involves establishing or strengthening local people's institutions. Where only State or private ownership is allowed by law, legal change may be necessary to accommodate multi-user tenure. Any program to assign rights to resources should be checked for overt or implicit barriers to women [and the poor] obtaining rights, in both design and implementation. For example, modifications in local property rights that accommodate common property management have been key elements in African "success stories" for land reclamation, forest management, local fisheries management, small-scale irrigation, resource protection,

range management, and wetland cultivation.

Awarding resources to poor people sometimes can lead to environmental degradation, especially if their tenurial rights to the resource are not secure. But in numerous other cases, it has been shown that improving poor people's control over the environment provides a powerful incentive for them to protect the environment. But it is important to understand the local context and to promote equitable local organization. Resources that have been devolved to local levels for community management can be differentially captured by local elite's, unless the state plays appropriate monitoring and enforcement roles.

Successful examples of turning over water rights to landless people or to local groups of farmers have been recorded, especially in Asia. In a number of cases, governments have turned over the rights to the forests to local groups, as in Nepal, which has led to both greater environmental benefits and more income for poor people. These efforts have been most successful when the new arrangements have built upon the management systems communities were already practicing. Ownership of resources can be fostered through the availability of locally based finance and credit schemes or through selective investments in the resource base at the time of turnover. In urban areas one of the key resources that can be awarded to the poor is the right to occupy the land they live on. Many urban poor live in illegal squatter villages where they are systematically denied access to municipal services. In such cases, poor people can benefit from more secure tenure to the land on which they build their houses. This not only permits public utilities to be extended and upgraded in their area, but also encourages the poor to make investments in their housing and surroundings.

The question can arise as to whether people have the technical knowledge to manage a resource well. When people move into new settings or when conditions change, then a period of learning and adaptation is needed. The poor may not always be immediately aware of the effects of gradual and sometimes imperceptible degradation. In general, however, evidence shows that the poor have an enormous store of indigenous technical knowledge and a body of customary law that provides a social platform for collective action. Scientists and extension workers have discovered that many indigenous technologies and management practices are suitable for dissemination or as the basis for improvements. These technologies and local organizational forms have already been ground-tested by people. Extra effort is needed on the part of government agencies to understand and appreciate this important body of local knowledge. For example, customary rights are location specific and highly dependent on negotiated solutions, and unless care is taken, poor groups and women can lose out as a result of policies and processes to formalize these relations into forms recognizable by the State.

Policy Option 3: Co-Manage Resources with the Poor

When a resource has multiple stakeholders with conflicting objectives and differential power, the government may wish to work out co-management arrangements. The government seeks to strengthen local organization, but also to provide technical

assistance and to mediate the overlapping and conflicting claims on the resource. This approach is favored by governments as it enables them to continue to exercise a regulatory role (important where there are environmental externalities associated with the use of the resource), and to retain control over components of the resource of direct value to the State.

Typically, successful co-management partnerships give local people specific control over the output in return for involvement in decision making and various duties related to the protection of the resource.

Co-management responses are more successful than complete turnover when the capacity to manage at the community level have become eroded or broken. But transaction costs associated with organizing fragmented communities to take on responsibilities within co-management systems require intensive and sustained involvement by external bodies. It is especially important to make sure that the poorest users of the resource are not excluded under the new arrangements.

The challenge in co-management efforts is to reconcile poor peoples' needs and environmental enhancement goals, and to channel the returns to those who carry the costs. Positive examples of forest co-management systems can be found in the Joint Forest Management program in India, and in the game park management efforts for the Campfire program in Zimbabwe. Co-management programs in forestry have been most successful in villages bordering extensive tracts of degraded forests, where the forest-to-household ratio is relatively high, where ethnically homogeneous communities possess forestry knowledge, and when benefits accrue from minor forest products at a relatively early stage. Joint management has also been successful in the mangrove areas when the protection against flooding and erosion from improved management directly and immediately benefits local people.

For some large-scale or technically complex systems, the State may have some comparative advantage in management. Water supply and sanitation systems, large irrigation systems, and power generation facilities, for example, all require specialized personnel. But while in many cases these personnel work for the state, better mechanisms of accountability can be set up so that they are more responsible to the people they serve. Efforts toward co-management can include setting up citizen oversight boards, linking salary adjustments to user evaluated performance, or actually putting the technical staff in the employ of the user group.

Policy Option 4: Co-Invest with the Poor

In other cases, transfer of ownership or management authority is not the issue. Instead the State co-invests with the poor on the lands they already own. Co-investment with local communities or farmer organizations may be used to mobilize longer-term investments, such as soil conservation or improvement, irrigation and drainage infrastructure, grazing land rehabilitation, land-leveling, or micro-watershed revegetation.

Notable examples of this can be seen in government programs to assist hill irrigation systems in Nepal and Bhutan, the irigasi desa programs in Indonesia, and various tank rehabilitation and micro-watershed improvement programs in India. In some projects, the villagers themselves contribute up to 90% of the value of the investments. Keys to the success of these systems are that farmers retain control of the authority and responsibility to manage their resources, and that investment from the State catalyzes the mobilization of additional resources from the farmers themselves.

In both rural and urban areas, improving access to better water supply, sanitation, and energy services is critical for reducing the health effects associated with indoor cooking smoke and poor hygiene, and for reducing the illiteracy often found in houses with poor lighting. But the poor often face high initial costs in the form connection fees, the cost of LPG canisters, or other one-time costs. The government can help improve the access of the poor to municipal services and modern energy technologies by subsidizing initial costs or by developing innovative financing mechanisms. Expanding the market for advanced technologies (for instance, household lighting systems using photovoltaic technology or efficient biomass or LPG stoves) for the poor will also help bring down unit costs. Subsidies may be used in the earliest phase of the program to generate interest and wide participation in unfamiliar technologies, but subsidies beyond management costs are neither necessary nor desirable. The poor can usually pay the monthly costs of electricity, gas, and water—indeed, they usually already pay more for poorer quality—but the primary obstacle can be the high initial costs associated with better quality services.

Policy Option 5: Employ the Poor

Some macro-environmental improvements, like watershed protection or nature reserves, are public goods whose benefits accrue only partially to poor local people. Many of these activities are labor-intensive, and offer an opportunity for public and private-sector organizations to provide paid employment to the poor. Longer-term livelihood opportunities for the poor may be integrated into plans for environmental management, such as hiring the poor or landless as guards in community and national parks, forests, and biodiversity reserves; hiring the poor to establish and protect wildlife corridors in agricultural regions; or for local water quality monitoring.

Employment of the poor for large-scale resource improvements may be financed through municipal governments, which, for example, may be concerned to protect water resources, or through temporary public works programs intended for relief or employment generation.

Direct employment projects appear most likely to be successful where there are well-established supervisory organizations, reliable funding arrangements, and where the people hired—and who will be using the resources over the long term—are involved in the process of the design and selection of interventions.

Policy Option 6: Compensate the Poor.

In some cases, the rural poor may have few economic incentives to manage their natural resources more sustainably, but other groups have an abiding economic or environmental stake in maintaining or improving the resource. Here, it may be possible for governments or other institutions to develop mechanisms for them to be compensated for the costs incurred in changing their management or use of resources.

Examples of compensating the poor include systems to pay local farmers to control agricultural burning to achieve national or international carbon emission or air quality targets or various tradable rights systems. Municipal water companies may be able to reduce the cost of acquiring water by paying farmers to use water-conserving practices. Municipal authorities may also invest in watershed improvement to reduce erosion into reservoirs supplying urban areas.

Policy Option 7: Support Infrastructure Development for the Poor

People living in poor rural areas can benefit from State-financed or subsidized improvements such as rural electrification, feeder roads, irrigation development and long term investments. It is important, however, to develop or work with local organizations to collaborate with the government on planning these investments, so that the cost of subsequent routine maintenance is largely carried by the users.

In urban areas, poor people suffer greatly from air pollution caused by inefficient transportation systems. Since transport is one of the fastest growing sectors of energy use in the developing world, and mobility is linked to access to jobs, the planning of efficient land-use patterns and transport corridors in urban areas will have significant long-term implications for both energy and poverty. Clean fuels and efficient public transportation systems can reduce pollution in urban areas, improving health dramatically. Zoning reform that allows the poor to live closer to the areas in which they work also can reduce pollution and the cost of transportation to the poor. Improved telecommunication systems have had the proven effect of cutting down on trips meant mainly to seek information.

Many accidental injuries, fires, and health problems are linked to poor quality, overcrowded housing. Governments can improve the condition of housing for the poor, both through direct investments in construction and allied infrastructure, as well as through indirect means like credit provision and improving tenure rights on the land.

Strengthening the capacity of city and municipal governments to address the lack of sewers, drains, piped water supplies, garbage collection and health services is also a pre-condition for building the national institutional capacity to address air and water

pollution, protect natural resources and reduce greenhouse gas emissions. Cities such as Ilo in Peru and Manizales in Colombia have developed local Agenda 21 plans that have brought major benefits for low-income people. Through more democratic local government, Porto Alegre in Brazil has provided nearly all its inhabitants with piped water, regular garbage collection and reasonable sanitation facilities. In these examples, innovative city government has been the driving force. In other cases NGOs have been able to play strong stimulating and intermediary roles in urban improvement efforts.

Policy Option 8 : Develop Technologies that Benefits the Poor

Developing technologies and resource management systems that raise overall productivity and protect or improve the environment requires a conscious reallocation of research funds away from the most favored environments and toward the resources upon which the poor depend most—fragile and rainfed lands, livestock development, agroforestry systems, and subsistence crops. Technologies need to be tailored for use on specific soil types and climates, requiring a heavy investment in on-farm adaptive research. New institutional strategies are needed to reduce the cost of this research, by linking extension efforts and people's organizations.

In the energy sector, most countries have a regulatory environment that does not promote the adoption of innovative technologies and approaches and instead favors conventional energy supply options. Policies must be designed to improve the access to energy services for poor people, with incentives offered to private power developers to make use of the best-suited technology options. In some cases, where grid access is convenient and cost-effective, flat rate, yet low cost, billing can overcome costly metering. Similarly, many conventional problems of theft can be avoided by encouraging local, self-governing institutions to manage distribution of energy services, for instance, through bulk sales to co-operatives.

To improve the health of the poor and reduce stress on the environment, innovation in sanitation and water treatment that does not use chemicals is required. Technical innovation (and changes in regulations) could better enable human excreta to be recycled for both urban and rural agriculture. Ecological sanitation would prevent disease, conserve and protect water sources, and recover and recycle nutrients in a nonpolluting way

Policy Option 9: Intervene to Overcome the Deficiencies of the Market

Market forces may lead to efficient allocation of resources when maximizing short-term return is the goal. However, markets are not always environmentally friendly, and not always supportive of poor people. In many cases, markets barely reach poor and isolated communities. In other cases, integration of poor areas into national or international economies, or the popularization of products that were formerly consumed only locally, can create demand that outstrips sustainable supply. Resources that had been used only for local consumption can be suddenly over-exploited as markets increase, as happened in the case of the shrimp industry in Southeast Asia.

Trade for industrial or niche exports markets often expose rural households to high levels of risk, particularly where the trade has encouraged people to move away from more diversified and less risky agriculture-based livelihoods. When the government promotes a certain market, it must also avoid playing the middleman by obliging farmers to sell to government marketing bodies, or to traders to whom concessions have been granted, or to compete in the same market from State-owned enterprises, many of whom receive various forms of subsidies.

Market development should be gradual and accompanied by efforts to help the poor adapt their institutions to new conditions. When government promotes products for industry, while the poor give priority to products that help meet subsistence and protection needs, market inefficiencies can appear and the poor can be vulnerable when any subsidies are removed. For example, growing trees as cash crops has proved to be appropriate primarily for those who had other land for food or cash crops, or those who had off-farm income, not for the very poor.

Policy Option 10 : Develop Insurance Systems for the Poor

Insurance systems need to be developed for the poor—cash payments, in-kind provisions, or public works employment—so that during periods of drought, major crop failure, or natural disaster they can provide for subsistence needs without over-exploiting natural resources. A corollary to this would be to establish formal arrangements for (limited) access to critical environmental resources for the increasing numbers of temporary migrants (e.g., from drought or disasters) and refugees, to limit local overexploitation and conflict. Regular programs in which the poor are put to work improving the environment can be expanded during crisis times to provide a measure of insurance for those most affected.

Policy Option 11: Eliminate Subsidies for the Non-Poor

Many non-poor receive substantial subsidies from the State. Removing these subsidies can be a source of funds for investment in the resources needed by the poor. For example, many governments give farmers in large-scale government-managed systems free or heavily subsidized water. Charging rates that more closely approximate the market price of water in many countries would generate millions of dollars of revenue and would lead to more efficient use of water.

Many countries set import duties and taxes very high for energy technology and equipment, including those that are very energy efficient, but offer subsidies to conventional energy, often to appease particular industry or agricultural lobbies. Thus, many efficient energy technologies that could improve energy services and benefit the are placed out of reach to poorer households.

Furthermore, most prices for conventional energies do not reflect social and environmental externalities. Subsidies are often associated with poor service, such as frequent voltage fluctuations, because energy suppliers find it difficult to generate enough revenue to maintain their equipment properly. If combined with appropriate financing schemes, end-users may be quite willing to use more efficient devices and also pay higher prices in exchange for assured quality of energy services that will lower their total energy consumption. The urban poor often pay more per unit for energy services and water than the non-poor, so reducing subsidies for the non-poor and extending higher quality services to the poor can be financially feasible.

Policy Option 12: Reform Planning Procedures

Community based ecosystem planning can help move from ecological poverty to ecosystem health through natural resource regeneration and maintenance of biodiversity, both on land and in aquatic environments. By linking urban biodegradable waste to agriculture and recycling nutrients, food production can increase, and degraded lands can be reclaimed. An urban policy framework can be comprehensive and eco-friendly if it integrates environmental concerns with natural resource management and problems of other sectors (e.g., agriculture and forestry). This requires better understanding of water and nutrient cycles as they pass through communities and households, and a good inventory of the current natural resource base. It also requires a better understanding of resource uses and users, i.e. who has which and who has access to and control over resources. The different uses and knowledge of the ecosystem of women and men need also to be taken into account.

Planning reform also needs a vision across time, and involves bringing in different groups of poor people in longer-term land use planning efforts to ensure that both their existing use patterns and future needs can be met. Environmental enhancement and poverty eradication strategies also urgently need a spatial vision, so that the solutions for urban-related problems do not cause rural-related problems, and vice versa.

Policy Option 13: Co-ordinate donor policy and action

International agencies must coordinate their development policies and actions to ensure that countries in transition are not forced to deal with conflicting donor requirements nor with demands that seem counter to progressive national development policy. For example, action by one donor that provides funds for infrastructure development by a community run cooperative in order to employ and support the poor will be difficult if another donor insists that government contracts be competitively tendered out to private contractors.

Policy Option 14: Promote environmentally sound micro , small and medium enterprise

Most of the jobs to which the poor will have access in the transition economies as they privatize and restructure large old industrial polluting enterprises, are likely to come from

micro and small enterprises(MSE) in some cases set up by the poor themselves .It is important therefore that attention be given early enough to regulations and national frameworks which will encourage rapid growth of micro and small enterprises in ways that are environmentally sound .This is much more difficult to do than in the case of large scale new industries which can typically afford cleaner technologies and clean production strategies .In the MSE sector environmental management is further complicated by the diversity in the sector and lack of experience money ,time , information , knowledge and interest in environmentally sound management. Methodologies such as cumulative environmental impact assessments , however show that large numbers of small polluting industries can collectively have significant environmental impact although individually they might appear rather benign.

Significant experience has been gained in trying to establish regulatory frameworks and guidelines for this sector in countries such as Brazil , Mexico and India and their experiences might well be relevant to countries in transition .Some of the lessons learned are the need for sensitivity, flexibility ,local level management ,and recognition of diversity.

6.CONCLUSION

The countries with transition economies have both tremendous challenges as well as unique opportunities to utilise holistic development approaches such as win-win options for environmental management and poverty eradication , as they struggle to achieve their sustainable development goals They are heirs to the lessons learned in their own countries during the era of planned economies ,but as well the lessons learned in both developing and developed countries as they grappled and continue to grapple with similar problems albeit in somewhat different contexts and circumstances.

The meeting for which this paper was prepared is a major opportunity for serious reflection on these challenges and opportunities and to help make concrete proposals on the way forward .The paper seeks to assist the meeting in this process by providing both contextual analyses and concrete policy proposals for consideration.