

Conflict or Sustainability: Contrasts and Commonalities Between Global Rural Systems

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The paper seeks to take the theme of the Conference, 'Harmony and Conflict in Rural and Ex-Urban Space' and to contrast the need for harmony both within and between rural systems, with the conflicts that exist, particularly between the situations in Developed (DC) and Less-Developed Countries (LDC). The overall goal is to use the need for conflict resolution and recognition of commonalities between DC and LDC systems to promote a unified approach to rural systems based on sustainability. Sustainability is presented as a simple goal framework which combines five key objectives; agronomic, micro-economic, social, macro-economic, and ecological sustainability, and which provides a common basis for rural system analysis and evaluation.

FRAMES OF REFERENCE

The initial frame of reference for this paper: 'Harmony and Conflict in Rural and Ex-Urban Space' is a provocative statement which contrasts the ideal with reality for most contemporary rural systems. In theory or imagination, rural space is the setting in which one expects harmony; reality, of course, is that rural space which is increasingly a focus for conflict; not only between human activities and the environment and within rural communities, but also between rural and dominant urban systems. The particular aim here is to broaden, yet sharpen this initial frame of reference, by deliberately focusing on conflict at the global systems level and by emphasizing one, overriding concept of harmony, namely sustainability. Whereas conflict occurs and its resolution must be sought within individual rural systems, the ultimate concern must be global. Likewise, although there are innumerable problems to be resolved, the need is for an overall conceptual framework which both equates with the ideal of harmony and which provides guidance for conflict resolution. The emerging concept which is being explored from individual to global systems levels is sustainability. It is here proposed as an integrative framework which combines elements essential to understanding the nature, conflicts, and needs of rural systems; namely a strong ecological context

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(I.U.C.N. et al., 1980), the need for global economic development (WCED, 1987) and pragmatic, sectoral blueprints (Brown, 1981; Brown *et al.*, 1984–1991), and which defines the ideal of re-establishing and maintaining a fundamental balance between the life-supporting natural environment systems and basic human needs, as well as focussing attention on the current gross imbalances and conflicts that threaten survival. The adoption of sustainability as the overriding construct, forces recognition of existing inter-dependent relationships, critical appraisal of present conflicts, and the need for alternative approaches. The major focus is upon the fundamental global division between rural systems that are either part of so-called Developed Countries (DCs) or of so-called Less Developed Countries (LDCs). While the DC–LDC distinction goes beyond the purely rural context, it is the single most obvious global dysfunctional relationship. Consequently, the paper briefly reviews some contrasts between DC and LDC rural systems, and resulting conflicts which threaten global sustainability. Turning to the resolution of conflict through the pragmatic framework of sustainability, the paper identifies some commonalities that exist between DC and LDC systems. While essentially shared problems, and current conflicts within or between rural systems, they are related to a simple prescriptive model ‘Elements of Agricultural and Rural System Sustainability’ (Fig. 1), which has five ‘sustainability objectives’ and provides a goal framework for a unified approach to problems common to DC and LDC systems. Overall, this is suggested as a means whereby global rural system sustainability might find an investigative focus.

Figure 1: Elements of agriculture and rural system sustainability.

Given the goal of Agricultural and Rural System Sustainability, the prevailing concern should be the identification of and adherence to a set of *Sustainability Objectives*, as follows:

1. *Agronomic sustainability*—the ability of the land to maintain productivity of food and fiber output for the foreseeable future,
2. *Micro-economic sustainability*—the ability of farms to remain economically viable and as the basic economic and social production unit,
3. *Social sustainability*—the ability of rural communities to retain their demographic and socio-economic functions on a relatively independent basis,
4. *Macro-economic sustainability*—the ability of national production systems to supply domestic markets and to compete in foreign markets,
5. *Ecological sustainability*—the ability of the life support systems to maintain the quality of the environment while contributing to other sustainability objectives (as they must contribute to ecological requirements).

(Modified, after Lowrance, 1990).

CONTRASTS BETWEEN GLOBAL RURAL SYSTEMS

The purpose here is to establish distinctions between DC and LDC rural systems and primarily to summarize key contrasts which constitute conflict between rural systems individually and globally. First, however, given the ultimate concern with global sustainability, some common characteristics and goals should be discussed.

a) Common Bases

All rural definitions include several consistent elements. Rural space and activity is essentially extensive, based on agricultural and/or forest land uses and production of renewable resources. Rural settlement likewise, albeit small scale and relatively homogeneous in form and function, contributes to widespread rural systems. While basic goals are simple, namely, maintenance of primary production and cultures that stress ties to land and its dominant uses, rural systems have exhibited diversity and resilience and are repositories of environmental values, such as stewardship of land, and social and political values pertaining to family and community. These definitional characteristics apply to both DC and LDC systems and are basic parameters in any model of rural sustainability.

Rural systems share common ancestry as the outcome of the First Agricultural Revolution. While that process saw the shift from steady-state, negative feedback to positive feedback and set-off the inexorable growth of human populations, it led to a world dominated by agricultural-rural systems which, evidence suggests, functioned well within the limits of global sustainability from ca. 10,000 BP to about 1600 AD. Rural systems were the dominant settings for human activity and cultural development. Despite considerable variation in the development of distinctive attributes, traditional rural systems in existence before ca.1600 AD had more characteristics in common than those differentiating them and generally, maintained a situation of long-term sustainability with the physical environment, albeit often at barely adequate levels of output. This still has some validity for many LDC rural systems; particularly as regards direct involvement by the majority population in securing their own food supply. On the other hand, the sustainability of traditional rural systems is less certain today, especially because of recent rapid population growth and pressures to modernize to meet increased demands for food. This pressure has focused attention on the modernization process, which for some time operated somewhat independently of traditional systems, but which is now a dominant factor underlying basic contrasts between DC and LDC systems, and something to be weighed in terms of sustainability.

b) Contrasts between traditional and modern rural systems

Over the last 400 years, the relatively homogeneous pattern of traditional rural systems was altered by the creation of a new distinctive set of modern rural sys-

tems. Whereas, from its beginnings, the modernization process was disruptive to certain traditional systems, initially modern systems seemed to offer models that were generally sustainable while achieving the higher levels of productivity demanded to meet growing numbers of people populations. More recently, however, both well-established modern systems, and the modernization process being applied to traditional systems, are being questioned as to desirability and sustainability.

Initially, the distinction between traditional and 'modern' rural systems was based primarily on the latter's changing economic orientation. Throughout the 19th and into the 20th centuries the new rural societies contained the majority of local population and remained the setting for the dominant lifestyle. Although this situation has changed radically, the nature and image of this dominant rural society has significance. In many DCs it represents the 'traditional model', but one where the transition from subsistence had been made, and which seems, in retrospect, to have had a considerable degree of sustainability in both socio-economic and ecological terms, especially as regards relatively low levels of dependence on non-renewable energy and high degrees of community self-sufficiency. Notwithstanding the domination achieved, and degree of sustainability suggested, the new rural systems were part of larger national socio-economic systems whose drive towards an urban-industrial mode became the dominant impact on rural economies and societies in the 20th century, and has determined major characteristics of today's DC rural systems. The critical, ongoing processes have been further modernization of agriculture towards its increasing industrialization and, concomitantly, the decline to residual importance of all DC rural systems, in the face of urban socio-economic and political domination.

Agricultural modernization, while leading to major increases in productivity, has been achieved through increased dependence upon non-renewable inputs and decrease in the relative and absolute importance attached to the rural-farm sector. Emphasis on economies of scale, capital intensification and specialization at the farm level are articulated by links to agribusiness suppliers of inputs and processors and distributors of agricultural output. Relationships based on ideals of economic efficiency and use of common agro-industrial technology, result in an industrialized sector which dominates total output and is increasingly distinct from both non-industrial farm units (often the majority) and the remaining rural, non-farm system (Troughton, 1986). The result has been drastic reduction in farm numbers and populations in all DCs, such that the latter, and the agricultural labor force, are now generally below 5 percent of national totals; furthermore, despite increased productivity, agriculture generally contributes less than 10 percent of Gross Domestic Product (GDP). Insofar as farm-based agriculture was the primary basis for the establishment and initial vitality of modern rural systems, its reduction and polarization into industrial and non-industrialized components represents a major weakening of the rural system. The reduction of the rural farm populations and farmed areas places greater emphasis on non-farm

rural populations and land uses. In overall terms, the situation has shifted from one in which the rural majority was dominant, combining economic with social and political power, and playing a significant role in decision making, including decisions over rural space *per se*, to one in which it is the urban majority who make the decisions.

Rural systems in LDCs have not remained static over the last centuries, nor are they as uniform as present DC systems; nevertheless, some general contrasts can be identified. While some traditional systems remained relatively isolated and virtually intact until quite recently, very many felt the impacts of commercial agriculture, without its beneficial changes. Coincident with the establishment of European settlement, came various forms of colonization, most of which involved land alienation and the establishment of plantations or similar exploitive forms of commercial production. In some cases this activity operated side by side with traditional food production but in others it completely disrupted such systems. Even after slavery, colonial governments disrupted traditional systems by forcing cultivation of export crops to support taxation, but whereas plantation crops were supported on a capital intensive basis, most food production received no capital inputs and remained at subsistence levels well into the 20th century (Warnock, 1987). Consequently, the impacts of the Second Agricultural and Industrial Revolutions were denied until recently, to be overshadowed by the so-called Hygiene and Medical Revolution which has supported the 'population explosion' in most LDCs. Despite attempts to adopt technological and organizational improvements, agriculture in most LDCs is still primarily concerned with domestic food production, based on minimal levels of secondary inputs. Of critical importance, as the single greatest distinction between LDC and DC rural systems, is the fact that in LDCs the majority of the total population still lives in rural areas and is directly dependent upon the agricultural sector for food and employment. Furthermore, despite recent massive rural to urban migration and much higher urban than rural population growth rates, the absolute number of most LDC rural populations continues to grow, placing intense pressure on the farmland base. In many cases, not only are farms very small, but the largest proportion of rural dwellers are landless or near landless, experiencing severe underemployment and often dire poverty (World Bank, 1990). Thus, although many LDC agricultural systems have increased output, and have seen some capital and secondary inputs, the ability to generate surpluses, to accumulate capital and to modernize is very restricted. Many LDC systems still operate under situations of onerous tenancy and/or communal landholding, each of which inhibits technological changes such as 'the Green Revolution'. On the other hand, without agrarian reform, imposition of technological change, for example via plantation crops, may further marginalize large segments of the rural labor force. In a broader context, there remain problems of cash versus food crop allocation, low and fluctuating commodity prices and the persistence of neo-colonial dependence. Finally, although rural populations in many LDC rural systems are still numeri-

cally dominant, they rarely enjoy any position of economic or political power. Rather, there is a tendency for them to be the most disadvantaged within generally disadvantaged societies.

c) Conflicts

At the global level, possibly the greatest dilemma facing humankind is the division of the world into two unequal sets of countries and populations, the DCs and LDCs, with the distinction between rural systems as an integral part of the division and range of problems. The overriding factor which distinguishes DCs from LDC rural systems is the gross inequality of access to resources, especially agricultural land. At present DC rural systems contain about 45 percent of the world's arable land. LDCs which contain 75–80 percent of global population, contain only about 55 percent of the arable land. Exacerbating this imbalance is the fact that, whereas in DCs only 5 to 10 percent of population relies on agriculture directly for employment and income, and rarely more than 20 percent resides in rural areas, in LDCs, commonly 50–75 percent live in rural areas and rely directly on the agricultural land base. The situation goes back to the processes whereby predominantly European populations pre-empted huge areas in the Americas and Oceania for their own food and related raw materials consumption. In contrast, when LDC populations experienced major growth, especially after 1950, the formerly available areas were all alienated and expansion had to be absorbed totally *in situ*, resulting in pressure on land, and difficulties in raising levels of basic food supply and consumption on a declining per capita base (Grigg, 1985).

The conflicts that arise from this continued resource inequality include three areas of critical concern; namely, availability of food (quantity and quality), control of capital, and perpetuation of economic and political control. The individually meagre land resource base and growing populations of most LDC systems means restricted food supplies for many populations. The linkage between lack of an adequate resource base and quantitatively and qualitatively inadequate food supplies is a clear one, contributing to the persistent 'hunger gap' between DCs and LDCs of approximately 1,000 cal. and 40 grams of protein per person per day. In addition, DC use of additional land resources has been profligate with ever-increasing inputs of non-renewable energy resulting in huge grain and vegetable harvests, surplus to domestic demand. However, instead of using these to redress this DC-LDC food supply imbalance, they have increasingly been converted into animal foodstuffs, resulting in DC average diets 140 percent higher in indirect calorific and protein amounts, but up to 700 percent higher in indirect calorific consumption.

A common characteristic of DC food supply is that it is topped-up by items produced within LDCs, items which include tropical and sub-tropical fruits and vegetables, sugar, beverage crops, ground nuts and vegetable oils. This production, plus several key non-food stuffs (rubber, fiber crops, even flowers), repre-

sents high levels of external control over LDC rural systems. Many production systems were established during the colonial period using slave and/or indentured labor. Although this extreme situation has moderated, control of capital and markets persist, as do impacts on local rural labor forces and maintenance of local land owner elites. Often, where peasant populations do participate in production and sale of crops they face problems of lack of access or depressed prices within DC controlled commodity markets. Calls for better terms of trade, via UNCTAD or a N.I.E.O., have generally gone unheeded. In an even broader context, perpetuation of control is evidenced by rising levels of indebtedness and by IMF attempts to bring it under control, both of which impact most directly on the poorest population, including the rural masses. These contrasts between rural DCs and LCDs represent a situation of fundamental conflict in terms of refusal to share land, food, capital or other resources on anything like an egalitarian scale. As noted in the Brundtland Report (WCED, 1987), and numerous commentaries, sustainable development cannot include a perpetuation of the *status quo*; rural development requires a fundamental reallocation of basic resources.

COMMONALITIES: SHARED PROBLEMS OF GLOBAL RURAL SYSTEMS

Brief examination of global rural systems, particularly the contrasts and conflicts that distinguish DC and LDC rural systems, reveals dysfunctional relationships to both, as regards the internal functioning of each set of systems and any collective contribution to global harmony. Both sets are in trouble, with part of the problem the lack of complementarity; DC systems which could, theoretically accommodate many more people, more activity and increased output of basic items, including foodstuffs, are tending to shrink and forego that opportunity; LDC systems are, in many cases, close to breakdown while failing to fulfil even basic needs of burgeoning populations. There is no comprehensive approach being taken to current operation or future development of either set, let alone at the global level, where sustainability seems unattainable. If, however, the ultimate goal is global harmonization, there is need to identify common problems or commonalities between DC and LDC systems which, while they may currently be evidence of failure or severe stress, offer a common investigative focus. As noted previously, a simple model framework is provided by the fivefold 'sustainability objectives' defined in relation to the concept of agricultural and rural system sustainability (Figure 1).

a) Agronomic sustainability

This is the most basic concept; the land's ability to maintain productivity of food and fiber for the foreseeable future; a reminder that the ultimate goal of all agricultural and most rural systems is food production, plus other renewable resources, notably timber. The common focus is on the state of the physical

resource base, which is under huge stress in both DC and LDC systems, stress which threatens future productive capacity. Common evidences of stress are not difficult to identify; water and wind generated soil erosion is common to both sets of systems, as are degraded natural pastures. While some might see cumulative stresses peaking in key LDC areas, notably Sub-Saharan Africa and South Asia, definitive studies have found widespread evidence of desertification plus its potential extension, in North America, Eurasia and in Australia (United Nations, 1977; I.U.C.N. et. al., 1980).

To some extent causes of land degradation reflect different types of system; in many LDCs stress is due to absolute pressure on land, including areas of marginal quality and high susceptibility to erosion etc.; whereas, in many DCs pressure is concentrated on lands of highest potential, with problems specifically linked to impacts of intensive application of chemicals and mechanization. This link to application of agro-industrial technology means that its spread to LDCs may carry similar dangers.

While loss of forests to clearance for subsistence cultivation, and the huge fuelwood demands of many LDC populations are not problems in DCs, pressures on some tropical forest areas are related to both direct pressure from DC-based agribusiness or forestry companies and, indirectly, to underlying inequalities of the resource base and access to basic food and energy supplies. Agronomic sustainability requires reallocation of inputs under both DC and LDC conditions and a global approach to agricultural and rural land management.

b) Micro-economic sustainability

If agronomic sustainability identifies critical levels of physical well-being, then micro-economic sustainability, with an emphasis on the farm and the family production unit, singles out the critical human context. A paradox of many current DC systems is that, despite (or perhaps because of) reductionist situations resulting from increased production efficiencies and adoption of the industrial model, the relatively few remaining farmers continue to face severe economic problems (debt, low net incomes, bankruptcy) and, simultaneously, find themselves isolated or decoupled in terms of rural social relationships. Conversely, huge numbers of farms in LDCs struggle with inadequate land and capital resources. Whereas some achieve a reasonable standard of living, the LDC rural majority live at or below the poverty line, with increasing numbers of sub-family units or total landlessness.

In many LDCs the need is for basic land or agrarian reform to create systems of family farms and the infrastructure and institutions to allow their effective function. While the DC situation rarely involves that basic need (except, perhaps, redistribution of former collectivized lands), there are analogous problems of control over resources and decision making by small numbers of large landowners or multinational agribusiness organizations which wield economic power. Overlap between the systems includes the suggestion that further application of

agro-industrialization will further reduce farms to miniscule numbers in many DCs and exploit peasant labor in LDCs, creating a rural proletariat rather than an individual farm-based agrarian society (Sorj and Wilkinson, 1990). The need is to search for common models which involve the greatest numbers in sustainable rural economic activity and livelihood.

c) Social sustainability

While economic considerations are primary catalysts for change to rural systems, the viability of both the individual farm and family unit and the wider rural community, depends on social sustainability, seen here in two distinct but inter-related contexts: whether rural systems engender and sustain communities both structurally and socially cohesive; and whether levels of employment, services and amenities are adequate to support and maintain a rural lifestyle that will compare favorably to the city's.

Rural communities are under extreme pressure in both DCs and LDCs. In many DCs the loss of economic base has meant lost population, especially working adults, and with weakened demographic structure, loss of capability to sustain more than residual communities operating at lower levels of activity. 'Traditional' DC rural communities are rapidly disappearing, and while many newcomer-based communities occupy urban fringe areas, they lack links to land, local employment and to truly rural institutions. Rural settlements evidence disadvantage vis-à-vis key functions, with the traditional rural employment base, farm, non-farm, and service, lost, leaving few opportunities to retain young families. In addition, levels of health, transportation and even retail services, are inadequate for the young and elderly, while schools and churches, the backbone of rural community activity, are closing.

Problems of DC rural communities pale however, besides many LDCs, where absolute disadvantage in rural areas is rampant, resulting in basic lacks of energy, water, sanitation etc. as well as education, health and transportation. In terms of employment and income, key linkages involve access to agricultural land but similar problems exist of selective migration and the need to make villages as viable and attractive as cities. In many LDCs the numerical base for viable communities exists but pressures to provide even basic needs and lack of amenity is increasingly destructive of traditional social values and interaction. New models of viable rural settlement are a universal requirement.

d) Macro-economic sustainability

While sustainability cannot be achieved without stewardship of land, and maintenance of individual farms and farm-based rural communities, in the global context it requires involvement by national governments, and by institutions that control the overall economic and political structures. Underlying the Brundtland Report (WCED, 1987), for example, is the need for mutual economic interde-

pendence, especially to redress some global imbalances dividing DC and LDC systems, which requires a focus on critical economic and political institutional arrangements.

Many LDC systems fail to adequately supply domestic markets and to compete in foreign markets; factors that are often closely related. Many LDC systems lack capital to invest in agricultural development, especially the domestic food sector; this is often given less priority than the export crop sector which is seen as capital generating. All too frequently, this strategy fails because of depressed international prices or lack of access to DC market places. Although DCs profess to want freer trade, their activities through institutions like GATT have generally disadvantaged LDC suppliers of commodities. A recent and disturbing trend is the expansion of the agro-industrial model into LDCs. This model, although revered by many economists and bureaucrats, has wreaked havoc with rural-agricultural systems in many DCs, contributing to reductions of viable farm activity and increasing control exercised from outside rural areas. In LDCs, while many agribusiness concerns are already involved in neo-colonial relationships, evidence grows of widespread adoption of the agro-industrial model, most notably by those in charge of some Newly-Industrializing Countries (NICs). In these countries, often characterized by unequal land tenure arrangements and large rural laboring populations, the attraction is the cheap labor force, rather than any rural development. The alternative, as in DCs is to promote alternative systems that are better long term users of renewable resources, including human capital. Unfortunately, at present, such is the entrenched economic and political power of the agro-industrial sector that alternative models may be overwhelmed before they can be applied; on the other hand, their global relevance may be a critical factor in achieving progress towards their adoption.

e) Ecological sustainability

Most of alternative approaches to agricultural-rural activity are explicitly aimed at greater ecological sustainability, i.e., reduction of reliance on non-renewable inputs and attempts to balance the requirements of human populations with the physical base. While the rationale for this comes, in part, from within rural systems, notably the impacts of current practices on land, soil and water, under both intensive and subsistence systems, there is also evidence that the global system is unsustainable under current practices. Current DC and LDC rural-agricultural practices are contributory factors to widespread atmospheric and water pollution and to problems of global warming and the likelihood of climatic change, as well as widespread malnutrition and poverty.

Ecological sustainability must be the overall goal framework for rural systems because of their absolute dependence on effective functioning and maintenance of the physical base. Human populations must achieve harmony within that framework in order to ensure their survival; interdependence is the critical characteristic. There has been a long period during which a high degree of physical-

human harmony was achieved, mostly by rural populations within a rural systems contexts. The situation has broken down and is currently dysfunctional, but while it cannot be recreated, physical dependence remains and the physical base requires direct human management. A search for ecologically sustainable rural systems is a critical and potentially unifying endeavor.

CONCLUSIONS

The object in this short paper has been to make an initial case for a unified approach to global rural systems based on the common goal of sustainability. Whereas developments over the last 400 years, and especially the last 40, have emphasised distinctions and even conflict between rural systems, sustainability of the global system demands that all rural systems meet the criteria of agronomic, micro-economic, social, macro-economic and, above all, ecological sustainability. This model framework may, it is suggested, represent both a desirable end-product and also a basis for ongoing comparative evaluation of agricultural and rural systems in both DCs and LDCs.

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