

The Impact of Environmental Factors on Rural Welfare and Development: The Malawi Experience

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Abstract

This paper attempts to show how factors in the environmental context of peasant production in Malawi have variously constrained household production. It is argued that while the Malawi peasantry is the least socio-economically privileged, they constitute, by far, the largest section of the population. They are the major source of the national agricultural output. However, failure to achieve adequate levels of household production has seriously compromised national social welfare and economic development objectives. It is further argued that government policy is at the centre of many problems. Accordingly, the paper recommends public policy improvements in matters affecting the peasantry.

Introduction

This paper attempts to show the manner in which the peasantry in Malawi often suffer from a combination of environmental forces. It argues that state policy is often at the centre of such peasant predicament, and makes suggestions as to how the problem could be addressed.

Environmental factors are central to the ability of the peasantry to achieve a level of production that is consistent with their needs and the energies that they expend in production. Other factors which influence production include: availability of land, population size, state policy on land distribution, availability of state service-support, and market conditions. These factors have a tremendous impact on producer incomes and the overall socio-economic conditions of the producer population.

The Environmental Context of Peasant Production

The basis of analysis of the environmental context of the peasantry is defined by the perception of the peasant household as a unit of production. By this is meant that the peasant household's life centres on the necessity to achieve a level of agricultural output sufficient to feed itself and to sell whatever surplus that is left for a more comfortable level of living. The basic necessity is the land, which must be of sufficient size and quality to produce that output needed for consumption. But the household needs to produce more than this amount if it is to acquire other basic necessities, including those needed to assist the

production process. For this it needs the wider market system for exchange of the surplus produce.

From the point of view of the peasantry, therefore, there are several overlapping sets of environmental dimensions. First, we can distinguish between the internal and external (wider) environmental dimensions. Immediate to the household are all necessary items available for the production process, including land, tools, knowledge and climate. However, the manner in which these items are available and affect the production process - as well as the welfare outcome - may largely be determined by the specific relations that the peasantry have with their external environment, to which they are generally subordinated. For instance, the state may assist or not assist with production enhancing services like agricultural extension and technologies; or it may enforce a land policy that may create a land pressure situation; or the market may provide producer incomes that are too low to provide production incentives or induce higher socio-economic levels.

The other set can be perceived in the form of either the physical environment or the politico-economic environment. Land, soils, production tools and labour and climatic conditions could be grouped under the former, while factors under the latter dimension influence the manner in which elements of the former are made available to and utilised by the peasant producer, just as the first set. Thus, the last set defines environmental factors as either of natural causes or of human causes, as logically derived from the first two sets.

Thus, from the point of view of the peasantry, environmental factors, by whatever dimension or causes, are closely related. For instance, nature may provide land of varying quality, or rainfall of varying duration and intensity. And human population may be of a particular size, relative to land and may grow at a particular rate. But the manner in which land is available to, and utilised by a household may depend not only upon the manner in which it is shared and managed by the community, but also upon the particular state policy

with regard to land tenure and producer pricing. Similarly, the degree to which the peasantry suffer from natural phenomena, such as climatic and pest hazards, depends upon the manner in which they are prepared to accommodate them. This significantly depends on how the state prepares them for conservation practices.

The Context of the Environmental Problem in Malawi

While Malawi has, from time to time in the past, been afflicted by climatic hazards, the frequency and severity by which these have occurred since the 1980s have been rather unprecedented. Unfortunately, these have occurred at a time when the peasantry had already started facing a deteriorating socio-economic status arising from declining potential of the land resource. Holding sizes have been falling due to a combination of population growth and state appropriation of cultivatable land to the estate sector. Soil fertility levels have also been falling due to absence of appropriate conservation measures, increasing cultivation intensities and monocropping and non-use of soil augmenting technologies.

Malawi's economy is almost entirely dependent on agricultural production. Although since independence the industrial sector has grown faster than the agricultural sector, the latter has remained much higher at a comparative ratio in 1990 of 1.8 to 1. The agricultural Gross Domestic Product (GDP) was 35.4% compared with 19.5% for industry (MG, 1990). The significance of this is quite obvious: Malawi must maintain high levels of agricultural production if it is to be able to feed its population and industry to achieve any economic progress.

Further, Malawi is a relatively highly populated country, with about 98 persons per square kilometre. Even more significant is that about 88% of the population is based in the rural subsistence sector. (MG, 1987) This suggests that the

industrial sector has remained too weak for employment purposes, and also that there is pressure on agricultural land. Furthermore, the peasant sector has remained not only the major source of agricultural production, but also virtually the only source of the nation's food crops. It also retains the larger proportion of the labour force and has contributed significantly to export earnings. In 1990, peasant production constituted 77% of the agricultural GDP, having declined from 83% in 1978. (Reserve Bank of Malawi, 1987, 1988). And in 1978, it was still able to absorb about 89% of the agricultural labour force and 77.7% of the national labour force (which included a 4.4% share for the informal sector), and to command about 31% of the economy's labour force income, compared with only 6.4% for estate agriculture (World Bank, 1989)². The implication of this is that Malawi must concentrate efforts on improving, and maintaining high productivity levels in the peasant sector, for both household and national survival, and economic welfare. At least this should help to divert attention from the necessity for the rural population to seek wage employment elsewhere, for sheer survival and socio-economic betterment.

Malawi, unfortunately, has suffered on all these fronts, particularly since the 1980s. In the one sense, it can be argued that the peasant population suffered from national hazards - in particular unfavourable climatic conditions and crops pests - to the extent they did, simply because of their inability, and the government's unpreparedness to counteract or accommodate them. In the other sense, it is arguable that it was precisely because of government's apparent pre-occupation with the need to achieve rapid national economic progress under a rather short-term perception, - partly to serve the economic interests of certain classes - that the peasantry came to suffer as severely as they did. Below we outline in more specific terms the nature of these environmental problems.

The Impact of the Environmental Factors

Of late, there have been rather unusual changes in the world climatic conditions which have affected the availability of rainfall. There has also been generally global warming and a quickening of the hydrological cycle. As a result, rainfall has been rather erratic, unpredictable and of shorter duration. On the other hand, it has been either too light or too intense. All these conditions as they have manifested in either droughts or floods, have adversely affected agrarian activity in many parts of Africa, from the Sahel to the Horn of Africa, down to Central and Southern Africa where Malawi is located.

In Malawi, such conditions came at a time when the already high population growth rates had been exacerbated by the influx of Mozambican refugees, who came to number about 1.5 million (about 20% of Malawi's population), a large proportion of whom were absorbed into the agrarian community of a similar cultural background. In short, climatic hazards came at a time when the agrarian population was already suffering from a combination of pressure on land, falling fertility levels due to land mismanagement and high cultivation intensities. Below is a discussion of how all these have occurred.

Climatic Conditions

Malawi's rainy season extends from November/December to March/April.² This period is long enough for a complete crop production activity. However, there are a few exceptions to this pattern. First, rainfall is not evenly distributed across the country, with some regions receiving heavier and more prolonged rainfall than others which are in the rain shadow area. Although this has determined cropping patterns, there have been occasional crop failures in the latter areas. Secondly, since the later half of the 1980s, there has been either too little or too heavy rainfall across the country, resulting in general crop failure in

both cases, damage to cropping land and to crops, and even in loss of human and livestock, especially in the case of floods.

After a period of widespread drought followed by an invasion of army worms from the late 1980s came along (and in 1991 alone) general flooding throughout the country. Mud/rock avalanche in Mulanje destroyed two villages and rendered farming land completely unusable. Many people lost their lives and the survivors were left destitute, having lost their homes and personal or commercial property. In other low lying areas such as Zomba, Nkhata Bay, Rumphi and Karonga districts, floods destroyed crops and homes and threatened human life. Immediately after the floods an earthquake destroyed homes in Salima District.

Since then, Malawi has continued to suffer from unpredictable climatic conditions particularly droughts and short rains. This has seriously affected not only its export capacity but also its ability to feed itself. International assistance has poured in, in the form of food, clothing, reconstruction of the infrastructure as well as readjustment of the country's international financial obligations. But the apparently intended short term relief work seems to have turned into a longer term commitment.

The Population Factor

While it is true that the occurrence of the climatic conditions stated above are natural causes and therefore could not have been prevented, it is equally true that Malawi would still be facing a growing rural welfare problem given its declining household land due to rapid population growth in a country which is already over-populated by African standards. Many a peasant household today has too little land to provide a sufficient basis for subsistence, let alone to achieve surplus production for a cash income at the available levels of technology. According to sample study statistics, the average peasant holding size in Malawi

is no more than 1.17 hectares (ha). There is a more serious situation to this. First, as population densities vary from place to place, there are many households, particularly in the Southern Region, with no more than 0.7 ha. Secondly, as the population has been growing, average holdings have fallen from 1.54 ha in 1968 to 1.09 ha in 1990. The proportion of households with less than 1.5 ha increased from 60% in 1968 to 76% in 1990, while that of households with up to 0.5 ha increased from 23% in 1985 to 26% in 1990. In the highly populated Southern Region, particularly in the Shire Highlands, it is not uncommon to find households with less than 0.3 ha³.

Available data indicate that at the existing technological levels, the average household (of five members) needs at least 1.0 ha all planted in order to produce enough to feed itself. It is only by producing hybrid maize with the use of fertilizers would the household need only about 0.5 ha. In practice, almost all households with less than 0.7 ha run out of food stocks well before the next harvest. They do not plant hybrid maize because they can hardly afford it. (Quinne, et al, 1988)

The State (Economic) Policy Factor

Although population growth has led to falling per capita holding size in the peasant sector, the rapid pace at which this problem has been occurring is due to state economic policy. Peasant households have not been able to expand their cultivation as the land which would have been available for this purpose has already been appropriated for private agricultural estates; or reserved for natural reserves and pine plantations, game reserves, national parks. (World Bank, 1987).

Although land under forest reserves is relatively marginal land, this idea no longer holds under conditions of land scarcity due to an expanding population.

The same applies to game park land. But of obviously more impact, and one which has been more controversial, is the policy of expansion of government leasehold estates. These estates have taken up the very land which peasant households would have cultivated when need arose to do so.

The history of estate agriculture is as long as the history of the modern state of Malawi. The onset of colonialism in the 1880s was accompanied by a scramble for agricultural land by the European settlers, which the colonial administration encouraged and supported. Pachai (1978) states that soon afterwards about 1.5 million hectares (or 16% of the territory's land area) of freehold land was appropriated for European estate agriculture. However, from the point of view of the peasantry there were several mitigating factors at the time.

First, land was plentiful and there was little commercial need to necessitate, and there was rudimentary technological level to allow, the cultivation of larger pieces of land. Secondly, the settlers, in being unable to farm much of their lands due to capital and labour constraints, allowed the peasantry to settle on, and utilise, part of the estate land. And eventually this land was given up to the peasantry's use. Due to economic and management problems faced by the settlers, estate land steadily contracted, and by independence time in the early 1960s, this land had shrunk to a mere 2.5% and on to 0.1% by 1971.

Meanwhile, government policy on estate agriculture had changed. By 1965, government had considered that estate agriculture was necessary, along with peasant agriculture, if the country was to achieve the envisaged and desired high rate of economic progress. This time, it sought to involve the few Malawians with the ability to secure finance capital to engage in this type of activity. And since tobacco growing was the most promising, almost every one who went into estate agriculture did so with the aim to cultivate tobacco. There was apparently so much enthusiasm about this that between 1974 and 1990 estate hectareage grew

from 10,500 ha to 843, 000 ha involving a growth in the number of estates from 1,200 in 1979 to 14,700 by 1990 (World Bank, 1988; Mkandawire, et al, 1990).

Admittedly, estate agriculture has made significant contribution to overall national output, export earnings and employment. Statistics indicate that by 1988 almost all of Malawi's agricultural exports (except tobacco) may have come from the estate sector, (Harrigan, 1988), which employed about 105,000 people as tenants (Duncan, 1990), and constituted about 23% of agricultural GDP (MG, 1990). However, it can be argued that there is very little real net gain, if any, in the idea of the estate sector for several reasons. In the first place, estate production may have been realised at the expense of peasant production, in so far as the peasants would have utilised the land under estates if it had been available to them. Second, tobacco estates depend on tenant workers, rather than full time wage labourers. This indicates that these workers would have been working their own land if given the opportunity. And even if they had been wage labourers, it can be argued that they would have been forced into this activity by the absence of the opportunity to work their own land for subsistence and income purposes. There is no doubt, further, that whatever they produce on the estate is shared with the estate owner who gets a larger value, while the whole gain would have been earned by the producer if the land so worked were his own.

The estate sector has further weaknesses. First, by concentrating on the non-food, high value export crops - tobacco and tea - it leaves the responsibility for feeding the nation and domestic industry to the peasant sector. This has also meant that government has had to force the peasantry to grow those crops meant for domestic consumption - maize, groundnuts, rice, cotton and pulses. The prices of such crops have been deliberately kept low to allow a profitable domestic industry, and access to low cost foodstuffs by the urban population (Kydd and Christiansen, 1982; Bates, 1981). Second, the estate sector has not been able to create as much employment as expected given its size and

opportunity cost. Not only has it concentrated on tenancy arrangements, but also it has managed to generate only about 11.7% of the total agricultural labour force (World Bank, 1989a, 1989b). Furthermore, much of the estate land has remained uncultivated, and is ostensibly held for speculative and social security purposes. Recent studies indicate that cropping intensities on estates average only between 15% and 28%, with the larger farms having the lower intensities (Mkandawire, et al, 1990). Yet productivity on these farms is generally lower than expected.

There are several disadvantages of the estate sector to the peasantry. First, the estate sector's existence constitutes an opportunity cost, not only in the sense that estate land would have been land available for peasant cultivation but also in the sense that the peasant households are not permitted to utilise the uncultivated portion of that land. Second, the peasantry have not, until quite recently, and due to political pressure, been permitted to cultivate the more lucrative, export oriented flue cured and barley tobacco varieties, which have been reserved for estate production. They have been forced into cultivating food crops and cotton for the domestic market which are paid low prices by the state to serve its rather obvious wider economic and other purposes.⁴ Further, tobacco production has rather an insatiable appetite for fuelwood for the curing process. This is manifested not only in bare estate land but also in the stripped bare neighbouring natural forest land. Although government regulations require a portion of estate land to be replanted with trees, such tree production has not kept pace with the consumption rate, partly because the tree maturation rate is too slow for the level of demand for fuelwood.

The Administrative Factor

In a sense, the support for and expansion of estate agriculture could be welcome and advantageous if it did not adversely affect the development of peasant agriculture at the same time. In Malawi, government's apparent pre-occupation

with supporting estate agriculture in which almost every politician and high level public servant are engaged, has tended to detract public sector efforts from the need to develop peasant agriculture, with obvious consequences.

Indeed government has, especially since the mid-1960s, embarked upon a programme of rural development supported by the World Bank. However, there have been at least two major weaknesses with state rural development policy. In the first place, only about a quarter of the peasant population by the 1980s had been brought into such programme, as government opted for a programme of specific area-bound projects. Secondly, these projects were located in those areas considered to have a higher potential to make a noticeable impact (see Lele, 1975). The majority of the population which probably needed government assistance more were left out to fend for themselves.

Actually government policy has been too concentrated on the generation of a national agricultural surplus, rather than on directly assisting the peasant population to improve their socio-economic well-being. As a result, the bulk of extension service does not help them to produce more than they require for subsistence, and to ensure that their farmland retains its production potential. Clearly noticeable in the rural areas is that the peasantry have not been undertaking the sort of land husbandry practices that would conserve the soil, or protect the land from damage by rainfall. Also, due to population pressure, land which is too steep or sandy is brought under cultivation without conservation measures in place. It is not uncommon to notice that the crop on the land would not yield anything to depend on. Without use of fertiliser or natural manure, much of the land is unable to yield anything, and yet government does not extend any input facility to such non-project households.

Summary of the Implications

The implications of the above environmental context are quite clear. The peasant household needs to have land of sufficient quantity and quality in order to produce, at a given level of effort, what it requires for subsistence and for a cash income. Given this, what is then required is suitable rainfall and a profitable market for the surplus produce. However, of late, hardly any of the above conditions have been met to an adequate level. A combination of population growth and expansion of the estate sector have reduced per capita holdings to an average below subsistence level at the existing technological levels. Climatic hazards have ruined farming land and crops. And lack of proper conservation measures has rendered farming land victim to gully erosion, flooding and drought conditions.

Thus, the peasantry have suffered from the combined force of declining holding sizes, soil fertility levels, production and productivity levels and producer income levels, and therefore falling welfare levels. One wonders how they are managing to survive. Although it has been a tradition for rural families to receive cash and material remittances from relatives in urban employment, it is possible that many of them are increasingly dependent upon such assistance to survive, and that many more are supplementing their production with some commercial and/or piece-work activity.⁵

Finally, considering that peasant production has so far been higher than estate production (77% as against 23% in 1990),⁶ the declining situation of peasant production is ominous of Malawi's disastrous basic and economic situation. This is not only in the sense that the country cannot afford to export very little or no agricultural products, but also because it cannot afford to feed its large peasant population, partly by turning the estates from export to food production. After all, the estate sector cannot expand any longer since non-estate land is already under peasant cultivation.

What May have to be Done

While the occurrence of unfavourable climatic and biological conditions cannot be prevented, and population growth cannot possibly be halted, at least in the foreseeable future, the seriousness of their effects can be reduced. All it requires is the will, appropriate policy and efforts on the part of the government to redress the peasant situation. Appropriate measures to accommodate natural hazards are already implied in this discussion. Farm land gets flooded and eroded simply because appropriate mechanisms to drain or contain the water are not in place. What is needed is for government officials to advise on appropriate land husbandry practices and, if necessary, to enforce them. Secondly, households do not produce much partly because they are too rainfall dependent. Diversifying cropping activity into irrigation production should substantially increase output. This is one area which has so far also been ignored in administrative policy. It is hoped that the proposed major irrigation project for the relatively arid lower Shire Valley will demonstrate this, although this demonstration is hardly necessary as peasants traditionally have been engaged in production of horticultural and other products using the same method.

Thirdly, flooding has been exacerbated by the fact that land, whether hilly or relatively flat, has been left bare of tree and grass cover. A concerted replanting programme should redress that problem, and should provide the necessary timber, wood and grass for building and commercial purposes. So far, this programme has largely been confined to official efforts rather than extended to peasant households as well.

In the fourth place, so far government population policy has been administered under the buzz-word "child-spacing", concentrating on matters of health, and to shy away from any implication of population growth control. This, though intended to be a serious matter has been ambivalently perceived. While it has

had little real effect on fertility reduction on the one side, it has anecdotedly been interpreted by men that it means spacing out children geographically and by having several women bear one's children. Government needs to come out with a clear policy of family planning.

Finally, the apparent dilemma with regard to having or not having estate agriculture ought not to be that significant. Malawi is already a highly populated country, and getting rid of estate agriculture may not only solve the problem in the short term but may also unnecessarily be economically disadvantageous. Government may have to concentrate its efforts on improving the productivity of peasant agriculture. That should at least reduce the pressure on the available land, in the short term. Meanwhile, measures ought to be taken to develop the industrial base and the technical skill and commercial opportunities in rural areas, and to encourage and support agricultural diversification away from crop production. Urban industrialisation should help to draw people away from rural areas. Other opportunities should draw the people away from crop production as a source of income. Together these should reduce pressure on agricultural land. And within the agricultural sector, livestock production should not only be diversified to include goat, sheep and bird rearing, but also measures should be taken to encourage peasants to move away from the traditional practice of communal land grazing toward consolidated and kraal feeding, and to keeping fewer but healthier numbers of the rather voracious cattle, sheep and goats. All these suggestions indicate that although the Malawi government may have considered these options and has actually done something about them, it has not done so to a satisfactory level.

Conclusion

There is no doubt that the peasantry in Malawi have benefitted from opportunities for subsistence and economic betterment from their immediate and external environment. However, what is more significant is that they ought to have benefitted from it more than has been the case. They ought not to have suffered as seriously from climatic and biological hazards as they did, and they ought not to have suffered from declining land resources as they did, if appropriate state measures had been in place to reduce their impact. Although the peasantry are a part of the wider state and international society to which they are subordinated as far as the Malawi situation is concerned, they are too politically and economically significant to be simply ignored or victimised by the state system.

By ignoring their needs, and by not addressing their problems, the government only risks its overthrow, at least by constitutional means. The Malawi government only survived by the fact that it was a dictatorial, autocratic regime. But the new multi-party democratic regime would not have the same 'safe' position. From an economic viewpoint, the alternative is for the state to think of feeding the whole nation, which it cannot afford, along with having to import agricultural products where it needs to export them. The point is, the peasantry have suffered when they ought not to, and there are feasible measures to prevent or at least to contain the various effects of environmental problems.

Endnotes

1. According to Ministry of Agriculture Statistics, about 25% of the 209,000 employed in the estate sub-sector in 1990 were tenant farmers (MG, *Crop Industry Economic Studies*, Vol.2, Lilongwe, 1990). Similarly, the tea industry employed a large size of seasonal labour force to pluck tea leaves.
2. The rainy season arrives earlier in the south, while it is generally slightly longer in the north.
3. These figures are derived from the *Annual Sample Survey of Agriculture*, (ASA) and *National Sample Survey of Agriculture* (NSSA) studies. National Statistical Office Zomba.
4. For instance, it can be argued that only by making peasant agricultural activity less profitable would it be possible to sufficiently persuade peasants to seek work in the estate sector and enable both estates and urban industry to be more profitable through payment of lower wages or share income.
5. Relatively recent studies found that many peasant households often ran out of food stocks long before the next harvest, and that they had to survive by engaging in piece-work labour on other farms or estates, which was paid for either in kind (foodstuffs) or in food cash (see Msukwa, L.A.H., B. Kandoole, and W. Chilowa, "Survival Mechanisms and Intervention Strategies for Food Deficit Rural Households" Centre for Social Research, University of Malawi, Zomba. Draft).

6. Between 1978 and 1990, the share of the value of peasant production declined from 83% to 77% of agricultural GDP (See Reserve Bank of Malawi, 1987, 1988, and *Economic Report*, 1990.)

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