

WDR Background Paper on Asset Inequality and Agricultural Productivity

**Asset Inequality and Agricultural Growth:
How are patterns of asset inequality established and reproduced?**

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Purpose

The purpose of this study is to explore the relationship between distributions of asset inequality, how these distributions are created and maintained, and agricultural growth. We intend to investigate what policies and institutions tend to promote equally shared growth. The motivating question that guides our study is: How does differential access to productive assets in the agricultural sector, at various levels (regional, community and household), effect inequalities in agricultural outcomes in terms of productivity and poverty? The dominant discourse on agricultural productivity and distribution has been largely technocratic, focusing on input-output relationships, defined and measured with a yardstick specific to the discipline of economics. We review certain strands of this literature in depth. A less well-known strand of literature emphasises the social and political constructions and reproductions of a variety of inequalities. While this is a relatively small literature we use it to broaden our understanding of the processes and institutions that link inequality and productivity. Furthermore, we use Ethiopian agriculture as a case study to highlight the persistent nature of inequality as causally related to historical choices and path dependency. Rather than unidirectional causalities, what we observe is a complex system whereby inequality affects growth which in turn reinforces processes that exacerbate and reproduce inequalities.

Overview

The first section of this paper will review the international literature on inequality and agricultural productivity, with a focus on sub-Saharan Africa. The majority of work linking agricultural productivity to inequality is rooted in the mainstream agricultural economics literature. One strand focuses on the technical relationships between asset distribution and agricultural growth: for instance, the large literatures on the inverse farm-size- productivity relationship, economies of scale, and land tenure reform. The policy implications coming from this literature emphasise a redistributive role for the state. Other research focuses less on distributional outcomes and more on asset accumulation and wealth differentials. In this literature an increasing number of econometric and dynamic simulation studies aim to explore the linkages between risk, wealth accumulation, market failures and production. This work shows that it is the combination of asset inequality and market failures that have a negative effect on growth, rather than asset inequality per se. We will review this work and the implications the results have for policy. Within the economics literature in general, agricultural productivity is typically equated with production efficiency (allocative and/or technical) where farm productivity is defined by a range of physical factors of production, such as land, machinery, labour, irrigation and livestock. Inequality in this literature is

defined in terms of wealth differentials (outcomes), where wealth can refer to income or a range of different assets.

Less well cited, in relation to agricultural productivity that is, is research that steps outside conventional understandings of inequality. This literature differentiates between inequalities in ownership/control, access and empowerment, and necessarily investigates the processes and institutions whereby inequality (or equity) is established and reproduced and the impacts this has on production via changing production relationships. Importantly, this work shows that it is not simply market failures that lead to unproductive outcomes, but structural inequalities that frustrate different groups' ability to access institutions. Furthermore, the implications affect growth as well as equality. Suppose a perfect market in education and in credit for it. There exists a level of income-per-head, in a household with given numbers of adults and under-fives, below which children's access to education is likely to be irretrievably impaired, e.g. because brain development is hampered. This has implications for inequities in empowerment of certain groups and individuals. Once we focus our attention on equity (defined as fairness) of opportunities in agriculture we necessarily confront a political question of the trade-off between equity and efficiency outcomes with respect to agricultural growth.

Kanbur (2004) poses some challenging questions to the 'inequality and growth' research community, ones that this background paper will take as a guiding framework. He highlights the fact that most discussion on policy levers for responding to inequality is removed from academic research on inequality.¹ That is, in the economic analysis of growth and inequality, little or no attention is afforded to the question: What policies and institutions are causally related to equitable growth? Kanbur argues that the intersection of analytical and policy debates fails to answer this question. He also makes the point that there has been an over-reliance on outcome variables, such as changes in per capita income and inequality, to the neglect of policy variables that enable such output factors to be causally related. While this background paper will not attempt to fully answer the above question, we will frame our literature review and country case study to draw out some implications for the relationships between outcome indicators (such as land and livestock distribution, gendered rights to assets, locational inequalities, agricultural productivity) and policies, processes and institutions.

In the case study paper (annexed) we focus on land, livestock and agricultural productivity in Ethiopia. What is interesting about the Ethiopia case is that land is relatively equally distributed among smallholders, however the agricultural sector is stagnant. We explore the linkages between inequality and agricultural productivity by investigating the history of the current land tenure and farm productivity situation, exploring why the agricultural sector has not become dynamic by looking at different constraints to farmers in terms of market failures and structural inequalities that have not enabled increases in agricultural productivity.

I: Terminology

As mentioned above, agricultural productivity is usually referred to in relation to the factors used in a production process. These factors can include physical capital, such as tractors and combines, labour (hired and family), land, water, livestock, chemical and other inputs. Productivity is defined by the

¹ This is true in general, but the discussion of the impact of different land policies seems an exception. For example, Hayami and others show that tenancy reform without land reform, while designed to reduce inequality, is normally incentive-incompatible as a lever to do so - because landlords expel tenants and resume direct cultivation, thereby raising farm size, and hence (for transaction-cost reasons) replacing labour by capital and cutting employment.

amount or value of output produced by a given bundle of inputs. The term agricultural productivity is somewhat confusing as it can relate to the productivity of (1) specific factors; or (2) relative factors; and/or (3) total factor productivity. The former measurements are partial productivity measures, such that the value of labour in the production process is evaluated holding other factors constant. If, as in the latter case, all inputs of production are considered together we can estimate total factor productivity (TFP). An increase in productivity occurs when output for a given level of input(s) is raised. Increases in productivity can come from a variety of sources. In economics these sources often relate to changes in the quality of technical production factors, such as the use of more and better capital stock (capital deepening and capital widening) which will increase the returns to labour; an increase in labour effort; improved technologies such as irrigation mechanisms or high yielding seed varieties. In the institutional economics and political science literature productivity changes also emerge from tenure security, institutions upholding property rights, organisational factors such as leadership and entrepreneurship, etc. Increased productivity makes an important contribution to the achievement of higher rates of economic growth.

Related to 'productivity' is the notion of efficiency, which refers to the relationship between scarce factor inputs and outputs of goods. Efficiency is used as a criterion in judging how well markets have allocated resources. The efficient firm both minimises its long-run average cost with a given technique, and chooses 'efficiently' among alternative available techniques. Clearly, a firm can increase production without increasing efficiency, and can, in some circumstances, raise efficiency by cutting production: however a productivity increase implies a more efficient use of resources. For purposes of this paper we will not be addressing productivity and efficiency measurements directly, due to the paucity of studies that link productivity to inequality. Instead we will review studies that link agricultural growth to inequality. The reason we have to take this line is because many of the studies reviewed contain implications for productivity and output growth without controlling for input levels. That is, studies linking inequality to agricultural production do not typically contain technical productivity analysis. More research needs to be conducted in this area if technical statements are to be made about agricultural productivity and inequality.

As is standard practice in economics, inequality (as well as poverty and growth) is defined over income, or the monetary value of consumption resulting in very different inequality measures. The distribution of 'real' income across individuals allows for calculations of mean incomes and changes in mean incomes over time (this provides measurements of income growth and income poverty). It also enables us to establish measurements of dispersion within the distribution, and this provides the basis for measurements of inequality, such as the Gini coefficient or the Wolfson index (a measure of polarisation).

Kanbur (2004) outlines some mechanical relationships between growth, inequality and poverty:

"First, holding inequality constant, an increase in per capita income (growth) reduces poverty. Second, holding per capita income constant, an increase in inequality increases poverty. If the objective is to reduce poverty, then obviously growth is a plus for poverty reduction and inequality is a minus."(pp3)

However if growth is not viewed in isolation and is accompanied by increased inequality then the net effect on poverty is ambiguous, as it will depend on the relative magnitude of the two opposing forces. Dollar-Kraay claim to refute this, but in fact show only that the *expected* growth of the mean income of a

country's poorest quintile is best predicted by the growth of its mean income overall.² This result does not hold much weight as there is wide consensus that there is no empirical relationship between growth and inequality (using countries as the unit of observation). The famous Kuznets curve was refuted over a decade ago (Anand and Kanbur, 1993) and amassing evidence indicates that this relationship does not hold (see Deininger and Squire for an overview of the literature, 1996). These studies imply that there is no feedback from growth to equality in early economic development. However there is some evidence of the positive feedback from equality to growth (Alesina and Rodrik, 1994; Clarke 1995; Aghion 1998).³

Furthermore, recently a clear distinction has been made between the effect of income inequality on growth versus asset inequality on growth. Evidence indicates that the empirical link between asset inequality and growth is strong and negative. For instance, there is wide consensus on feedback to growth from equality of access to education, initial land distribution (Birdsall et al, 1995; Birdsall and Londono, 1997) and to operated farm land (Deininger and Squire, 1998).

Birdsall and Londono (1997) venture that 'the effect of income inequality on growth apparently reflects differences in a fundamental element of economic structure, namely, the access of different groups to productive assets.' Importantly, their econometric work shows that any region-specific effect of income inequality disappears once asset inequality is accounted for (this result is in relation to Latin America and the Caribbean). Overall their findings show that an unequal distribution of assets, especially human capital and land, affects overall growth. It affects income growth of the poor disproportionately. A better distribution of assets increases the income of the poor, increases aggregate growth and reduces poverty – but (this evidence suggests) better income distribution, without asset redistribution, will **not** accelerate income growth.

Recent ways of thinking about inequality in the micro-economics literature, especially in agricultural economics, complement the above macro-economic studies. This literature focuses on inequality in terms of wealth differentials, where wealth can refer to income or a range of different assets (such as land, labour, livestock, capital). These micro-studies will be discussed in greater detail below. The implications of a focus on asset rather than income distribution necessarily broadens how policy responds to these inequalities, such that we need to address more explicitly institutional factors that inhibit equitable outcomes. These factors range from land reform, property rights, access to legal systems and credit, and fair competition and are crucial to opening up opportunities for the poor and eliminating hidden privileges.

While economists tend to view the terms equality and equity as definitionally distinct (the latter term being reserved for the realm of welfare economics and public finance theory), once we begin to think of the causes of inequality as more than simply distributions, but as the processes that create distributions, then conceptualisations of 'inequality' and 'equity' become less demarcated. Research from other disciplines steps outside conventional understandings of inequality. This literature differentiates between inequalities in ownership/control, access and empowerment and thus investigates the processes and institutions whereby inequality (or equity) is established and reproduced and, with respect to agriculture, the impact this has on production via changing production relationships. Recent work moves away from

² This doesn't alter the fact that in some places and times growth has been extremely unequalising (see Walton 1997 on China) and in other cases growth has been extremely equalising, or – to say something closely related – *decline* in mean income has been lined to growing inequality (Milanovic on the FSU in the 1990s).

³ Evidence from a 13-country empirical study in the 1990s reported a negative effect of inequality on growth (Benabou, 1997). (inequality is seen to contribute to social inequality, political unrest and in turn affects people's capacity to contribute to sustained economic growth.)

visualising inequality in terms of outcomes and segmented spheres (i.e., rural/urban, male/female, landed/landless), rather it focuses on how institutions mediate access to resources (land, capital, credit) and the effect this has on agricultural productivity.

For purposes of this paper we will focus on asset inequality in the agricultural sector (with a heavy focus on land and other natural assets such as livestock, and financial assets, such as credit). Given the cross-country regression results reviewed above we feel that asset inequality is a more pertinent issue than income inequality. While we recognise the contribution of disciplines other than economics to our understanding of inequality, for clarity we reserve the term inequality to refer to distributional outcomes that reflect processes of asset acquisition or accumulation. The ways in which people acquire, maintain or accumulate assets are discussed in terms of equity (access, control and empowerment). That is, considerations of equity determine production of distributional outcomes.

Brief mention needs to be made of the limited amount of empirical studies and data that exists on SSA with regards to the relationship between inequality (economic, social or political) and agricultural productivity. We would recommend that more research activities need to be facilitated that look particularly at these relationships in poor African countries.

II: Farm size, scale economies and land reform

Evidence of production benefits from technical scale economies related to large-scale farming is scarce. Binswanger, Deininger and Feder (1995) examine the extensive literature and studies examining the presence-or-not of economies of scale in agriculture. In measurements of the relative efficiency of small versus large farms they find only exceptional cases which are consistent with what they call ‘the myth of the efficient large farm.’⁴ With the exception of a few plantation crops (such as bananas) they find that empirical studies have shown that the scope for economies of scale in agricultural production is very limited. Deininger (1995) argues that “agency costs”, which result from the need to supervise and enforce effort on large-scale operations, will reduce profitability of large-scale units of production.

The evidence against the existence of technical economies of scale in agriculture is robust; however, the literature highlighting potential benefits to larger scale farming in the face of market failure appears to counterbalance this. The theory on imperfect markets or market failure is extensive.⁵ Market failure covers all circumstances in which equilibrium in free unregulated markets (that is, markets not subject to direct price or quantity regulation by the government) will fail to achieve an efficient allocation. Among the factors that may influence this sub-optimal allocation are the following:

- Transaction costs: there exists a literature focusing on many factors that may turn market exchanges into costly exchanges. Among the most frequently studied are information asymmetries, moral hazard, and labour supervision costs when labour is hired in.
- The absence of production insurance against unfavourable stochastic shocks.
- The absence of futures markets coupled with shallow markets where prices are negatively correlated with the household supply of goods.

⁴ However, evidence shows that economies of scale can exist around certain agricultural activities, such as marketing, managerial ability and financing.

⁵ The work of Stiglitz was a catalyst for bringing considerations of imperfect markets into the study of economics. “The study of less developed countries is to economics what the study of pathology is to medicine: by understanding what happens when things do not work well, we gain insight into how they work when they do work as designed. The difference is that in economics pathology is the rule” (Stiglitz 1989).

- Limited access to working capital credit constraining production decisions.

Eastwood, Lipton and Newell (2005, forthcoming) provide an extensive review of the literature and empirical evidence on farm size and transactions costs. Two of the questions that their study addresses is: What patterns can be discerned in the distribution of farm sizes across countries and across time? And how do different factors, such as development, environment and behaviour, interact to affect farm size? Their work has some implications for farm size distributions (and thus inequality in farm size holdings) and agricultural productivity.

Through a review of the evidence, an important argument that Eastwood et al make is that factor-specific transaction costs will play a part in determining the efficient distribution of land. For instance, in a labour-intensive, capital-scarce environment, small and relatively equal farm sizes are rational for farm production (controlling for land quality and farm size). This is due to the high labour monitoring costs associated with hired labour. As capital becomes less scarce and the relative price of labour to capital increases then larger farm sizes become more efficient. The prices of capital and labour are important in determining efficient farm size distributions. The efficient size of the family farm will also depend on available technology. In general then, transaction costs associated with labour are lower on small farms and transaction costs associated with capital are lower on large farms. So highly labour intensive agriculture leads to big transaction cost advantages in small farms and highly capital-intensive agriculture leads to big transaction cost advantages on large farms. Therefore, factor-specific transaction costs lead to a switch in optimal farm size which has implications for inequality. In capital-intensive agriculture larger holdings are necessary on pure productivity grounds due to transactions costs in capital markets, although this of course may have negative poverty implications as people leave the land and may not be able to find employment in non-farm sectors. Smaller farmers could theoretically achieve this through land pooling, cooperation or rental markets. Of course, the above results are tempered by history and actual farm size can be frozen or influenced by colonisation or land reform.

Country specific farm-size distributions confirm this analysis, with the UK and North America being characterised by capital-intensive large farm sizes and South and East Asia and much of sub-Saharan Africa having labour-intensive small farms. Exceptions to this general observation, such as land distributions in Latin America and Southern (and some of East) Africa, provide interesting accounts of how past policy choices or land tenure changes create distortions in the efficient use of labour and capital. Evidence indicates that land reform in some of these countries, such that the distribution is made less unequal, will have positive equity and efficiency outcomes. Further complicating the above analysis, the efficiency with which agents are able to use assets will depend on access to other inputs and markets and factors: for instance, access to infrastructure and inputs and access to agricultural research, the way in which property rights and water are distributed and accessed.

Eastwood et al's work suggests that the relationship between farm size distribution and productivity is mediated by a number of factors, such as the history of policy choices, geographic and land quality factors, factor-specific transaction costs and factor prices. To hypothesise a causal link between distributions of farm sizes (inequality) and productivity is problematic, as the prior question should be: why certain farm size distributions exist in the first place? In other words, how do agrarian structures evolve? What policy choices and institutional constraints lead to hysteresis in the agricultural sector?

How do agrarian structures evolve and why does land reform work in some contexts but not in others?

In light of the economic theory that predicts efficient farm-size distributions in accordance with context-specific transaction costs two questions arise:

- A. What are the implications of transactions costs in agriculture for land reform and the distribution and access to other assets? And,
- B. Why is it that inefficient distributions of farm size and land exist and are perpetuated?

A. Land reform

It is important at this point to distinguish between inequality in owned land versus inequality in operated land. If markets work perfectly, ownership distribution (land inequality) has no implications for efficiency, it does however have major implications for income distribution. In terms of efficiency and productivity, operated land becomes the interesting factor of analysis. ‘As Binswanger and Rosenzweig (1986) argue, unequal ownership of land need not, in theory, prevent an equal distribution of operated land emerging, since large landowners can obtain capital cheaply and pass it on to tenants without incurring substantial transaction costs: there is already a contractual relationship between landlord and tenant and their continuing interdependence is likely to inhibit voluntary default. Moreover, to the extent that equilibrium land prices contain a collateral-value component, would-be family farmers cannot profitably buy land on mortgage, so that tenancy rather than land purchase is the equilibrium outcome’ (Eastwood and Lipton).

However, in the face of imperfect markets, efficiency of resource use depends crucially on the distribution of the assets and property rights. The implications of this inverse relationship for land reform are that there may exist opportunities for policy interventions to achieve both equity and efficiency through the same land reform instrument. For instance, in a situation of high land inequality, if poor people have lower transactions costs on labour than richer people, and production is labour intensive, both efficiency and equity may be achieved through a transfer of assets to the poor. Eastwood, Kirsten and Lipton (2004, forthcoming) hypothesise ‘that very unequal land distribution (arising for historical and/or geographic reasons), retards agricultural development by concentrating much land, in countries still facing labour surpluses and capital constraints, into inappropriately large units with high capital/labour and land/labour ratios’ (page 2). In this interesting article, they trace, in a South African context, the effects of high land inequality in early phases of development upon low *agricultural salience*, rural livelihoods and ultimately rural dependency.

The purpose of large-scale land reform is to induce the well-known investment demand and credit supply effects. But we know from a vast array of evidence that these effects are contingent on a multitude of factors, including informal tenure arrangements, political commitment to land reform, legal institutions, exclusionary practices and transaction costs in credit markets. A further predicted outcome of land reform outlined by Carter and Olinto (1996) relates to a structural effect known as the *efficient redistribution effect*. It is expected that land tenure reform will facilitate the transfer of land to more productive rural households by enhancing the fluidity and depth of the agricultural land market. Feder and Nishio (1997) state that at any given point in time, the distribution of land ownership or possession does not necessarily coincide with the distribution of skills and means to make the best economic use of land. “It is thus possible that the productivity of land under its present holder is lower than the productivity it would have been under a different operator.” Land sales and rentals are expected to resolve these temporary inefficiencies in land allocation, as those with potentially higher value uses for land are able to offer a higher price which is higher than the capitalised value of land to the present user, thus inducing an exchange of ownership or possession, and ultimately an increase in productivity. Again this

prediction has not been borne out in practice, evidenced by the limited impact of market-led land reform on matching land with skills, distress sales and the inability of the poor to enter the land market. Theoretically, land reform through titling, redistribution, land consolidation, markets and other avenues, should be both equity and efficiency enhancing, but history shows that this has not typically been the case (Migot-Adholla et al. 1991; Place and Hazell 1993; B, D and Feder, 1995; Eastwood and Lipton, 2004).

Another implication that transaction costs have is that they create incentives for opportunistic behaviour, resulting in adverse selection and moral hazard in transactions. As de Janvry and Sadoulet point out, 'this gives rise to the quest for institutions, whether alternative or complementary to the market, that place checks on opportunism and reduce transaction costs' (pp 255). Typical institutions include sharecropping or interlinkage of markets. Unfortunately, history again reveals that the most efficient institutions will not necessarily be chosen. 'This may be due to existence of transactions costs in institutional change itself, leading to path dependency and permanence of dysfunctional institutions (Akerlof, 1976). Sunk costs, asset specificity, complexity of private bargaining, lack of cooperation, and barriers to entry all serve to block institutional change' (de Janvry and Sadoulet, pp255). This explanation takes us some way to answering the second question posed above: Why is it that inefficient distributions of farm size and land exist and are perpetuated?

What then do we learn from the literature on land reform as a means of reducing inequality, providing equity of opportunities and increasing agricultural production? Not much. This is because this literature pays little attention to the social and political inequalities that will many times serve to undermine any well-thought out economic policy.

B. Why do inefficient land distributions persist?

Other explanations explaining the hysteresis in inefficient land sizes, or property rights distribution emerge from political economy perspectives. Eastwood et al. (2004) discuss the different types of 'concerted human action' that determine the size of farm size, and their effect on equity or inequity in land holdings: colonial land grabs, land reform and policy interventions. Due to factors such as the low quality of land in West and central Africa and British India, colonisation had little effect on land inequality, as relatively little land was grabbed. However in Latin America, the Caribbean, and Southern and Eastern Africa, colonisation led to a highly unequal, large farm system which was largely inefficient. An argument for large *ownership* holdings being possible at the same time as small, efficient, *operated* farms has been made, but this did not happen in the colonial areas. The large inefficient land holdings continued because of several reasons, such as ethnic barriers limiting local competition, large farmers surviving because of inheritance and extra-economic status and income rather than efficiency, and insecure property rights which deterred leasing.

A famous article by Binswanger, Deininger and Feder (1995) argues that even though farms that rely mostly on family labour have higher productivity levels as compared to large farms operating with hired labour, unequal distributions of ownership and operational holdings exist in large parts of the world. This is because rights over land and concentration of ownership are a result of power relationships resulting in distortions in the land markets. These imperfections in the land sales markets, which fail to redistribute land to the poor, have necessitated land reform measures. These measures have had varying success, due to: 1) the assumption that land reform policies themselves are immune to power play, and 2) because many things called 'land reform' are not incentive-compatible, i.e. they create incentives to do things that go against, and outweigh, the intended results of the reform. For instance, tenancy restrictions without

enforced ownership ceilings lead to reduction in supply of land to rent and hence larger size of operated farms.

The article argues that inequalities in land holdings have arisen over a period of time through a conscious coalition between two major power holders, viz. the overlords and the state, who introduced distortions in land and labour markets. The free peasants were induced to give up their land and join larger landholdings (called manorial estates) through mechanisms such as reducing the land available for peasant cultivation by assigning them to members of the ruling class; imposing differential taxation on workers vis-à-vis free peasants; restricting market access; and confining agricultural related public goods and services such as roads, extension and credit only to the farms of the rulers.

The authors show that land reform is a political process and that all major land reform has been associated with revolt, revolution, conquest, or the demise of colonial rule. Further, they say that ‘attempts at land reform without massive political upheaval have rarely succeeded in transferring much of a country's land (Brazil, Costa Rica, Honduras) or have done so very slowly because of a lack of political commitment to provide the funding to compensate owners’ (pg 24-25).

Equity and efficiency are stated as the main objectives underlying interventions in land markets, though they may not always be compatible. Binswanger et al. (1995) claim that in ideal conditions, government interventions in land registration are neutral in its effect on equity. However, titling can lead to concentration of land, because of asymmetric information and inequalities in political powers. Interventions such as taxation can also increase inequity by increasing land concentration, especially if there is high risk and unavailable or imperfect insurance markets. (example: India, reference to Hamid, 1983). Further, progressive land taxes aimed to induce large landowners to sell, might not have the desired effect, and so are unlikely to alter the distribution of land, in addition to having high administrative and litigation costs, thereby reducing efficiency. Similarly, interventions seeking to regulate land sales through setting maximum ceilings may have little effect in increasing equity, and in fact reduce efficiency.

Tenure security and rent control legislation have also had the opposite effect of eviction of tenants and concentration of land into ‘Junker estates’, thus reducing equity, along with reductions in efficiency. The authors argue that *‘tenancy has long been an important transitional stage allowing peasants to accumulate capital and gain agricultural experience, so elimination of sharecropping as a rung on the agrarian ladder will certainly not contribute to equity in the long run’* (Binswanger et al., pg 76).

Successful land reforms require political will allowing adequate compensation to land owners, at the same time instituting measures which help beneficiaries to build viable farms along with paying their mortgage. The authors conclude that ‘before any land redistribution program is introduced, the implicit and explicit distortions which drive land prices above the capitalized value of agricultural profits need to be eliminated...The poor must be provided with either the land or a grant to help them buy it to compensate for their lack of equity’ (Binswanger et al., pg. 78). Efficiency on the other hand, depends on the availability of technology and of competitive input and output markets.

Deininger (2001) argues that the initial land endowment has affected the scope for broader economic development. The more unequal is the land ownership pattern, the less is the scope for economic growth. He argues that this is because of:

- where land is highly concentrated, landlords have an effective monopoly over the labour (and output) markets, making the accumulation of human capital or any other investment, much less rewarding. Examples are given of Colombia and Costa Rica, where small-scale land holdings

dominated, and the coffee boom led to increase in human development indicators. The contrast is given for El Salvador and Guatemala.

- high concentration of land either reduces the incentives for provision of public goods such as infrastructure or irrigation, or biases the provision of such goods in a direction which is more favorable to landlords. India and Mexico are examples where communities with more egalitarian land access are characterized by higher levels of collective action.

India also provides examples of where non-landlord areas as compared to landlord dominated areas, still show better human development indices as well as public goods such as irrigation and schools, despite more than half a century of land reforms. This shows that historical assignments of property rights have had far reaching implications on long-term development.

Complementary factors markets

Productivity effects also depend on the type of land redistributed, skills of beneficiaries in farming these lands, and subverting corruption. The equity effects of land reform need to also take into account negative effects on associated people such as farm workers, who need not be beneficiaries, but may lose their jobs on large farms when reform is carried out. Zimbabwe presents an example of this. Deininger (2001) stresses that for equity and efficiency benefits of land reform to be fully realized, access to assets needs to be complemented by credit and output market access, along with transparent and participatory selection of beneficiaries, as well as fiscal viability. Some other suggestions include: integration of land reform strategy with a broader strategy for rural development, incentives to maximize productivity gains, unconditional and secure rights to beneficiaries, quick and decisive implementation of multiplicity of paths to access land, undistorted policy environment, decentralized implementation, grant financing targeted towards the poor, training and technical assistance and respect of existing property rights (pg 155-156).

Excessive state control combined with unclear legal provisions and lengthy procedures can increase the tenure insecurity, which in turn pose an obstacle to productive use of land. However, measures to increase security in *private* tenancies – while helping some poor (and some non-poor) sitting tenants – harms potential tenants by reducing the supply of such tenanted land. Where state land has been occupied by private households, giving formal rights to occupants can have large equity benefits. Examples have been demonstrated in Brazil and India. In addition, devolution of state-owned lands in situations of high population pressure and rising land values will also have major benefits in terms of equity and investment. Correspondingly, unregulated expropriation can affect governance and reduce efficiency and equity. However, externalities such as protection of broader social and cultural values justifies limits on individual land use decisions through zoning and land use regulations.

The point of the above section has been to show that we need to question any hypothesis that causally links inequality in asset distribution (in particular, land distribution) to productivity in the real world of market failures. The simple relationship does not make sense, as we need to ask first: inequality of what? Ownership, operatorship, land, other assets? To assume there is an instrumental relationship between inequality and productivity presupposes that inequality is affected by an exogenous change in the productivity level. However, evidence shows that inequality is not, in general, pushed one way or the other by such a change. Institutions are imbued with power relations, that reproduce inequalities. This sense of path dependency and asset inequality is taken up in the following section. A hypothesis linking distribution to productivity also ignores the prior question as to why certain patterns of inequality exist and how and why they are sustained. Using the example of land and farm size, we have shown that

inequalities in asset holdings do not necessarily reflect efficiency or productivity differentials, rather constraints to access and opportunities embodied in institutions and history. In the next section we continue to review the economics literature in order to show empirically the dynamic and path dependent effects of asset inequality on agricultural growth. The third section will bring the literature on social and political inequality to bear on this economic literature. A socio-political understanding of how institutions mediate access to resources will be presented.

III. Asset and endowment dependency and enduring inequality

An increasing number of econometric and dynamic simulation studies aim to explore the linkages between risk, wealth accumulation and production under multiple market failures. The common hypothesis these studies is that when informational asymmetries constrain financial markets, and when labour markets are weak and labour effort is unobservable, then 'economic productivity and efficiency are potentially sensitive to the distribution of endowments' (Carter and Zimmerman, 2000, pp 266). Transactions costs resulting from imperfect markets mean that 'identical' farmers use resources differently from one another due to differential effective farm-gate prices and other reasons. This can lead to substantial productivity losses. To the extent that transactions costs are related to access to assets, and asset inequality between agents or groups, then productivity gains may be achieved through policies that alter the distribution of resources or alleviate transaction costs.

As Carter and Zimmerman (2000: pg. 266) point out, the idea that an economy may exhibit endowment sensitivity has roots in the writings of Chayanov, who argued 'that farm households with different endowments of productive resources would use those resources in different proportions, with different productivities.' Irrespective of distortions in the market, the family farming theory predicts some variation in equilibrium farm size (for given prices, technology and household reservation utility) arising from variations in household size and agroecological factors. However it can be shown that beyond household size and land quality factors enduring heterogeneity can exist across households due to the endowment of working capital, that will generate a corresponding heterogeneity in farm size and dynamics that depend, in that case, on the pattern of capital accumulation. Eswaran and Kotwal's (1986) well known research illustrates how the combination of assets and transactions costs helps to explain the differential income strategy which each class of household follows, and predicts patterns of social and behavioural differentiation. Eswaran et al (1986) and others (Roemer, 1982a; Bardhan, 1984, cited in Carter and Zimmerman), 'show that when labour effort is not contractable and access to capital needed to finance a production process is wealth-dependent, behavioural differentiation emerges along an endowment continuum. They also show that under these multiple-market failures, the economy in equilibrium is endowment-sensitive, and that output and efficiency can be enhanced by egalitarian redistributions of land.' More recent work by Bardhan (1998) shows that over a certain range, economic efficiency and productivity decrease as the distribution of wealth and productive assets become less equal.

The above models are all single-period models and while they have much to say about static relationships between asset access, wealth-dependent behaviour and efficiency, they say little about the persistence of inequality over time, or its productivity or efficiency implications. A growing literature addresses these dynamic concerns (Banerjee and Newman, 1993; Piketty, 1997; Dercon, 1998; Barham et al. 2000; Barham et al. 1995; Carter and Zimmerman, 2000; Zimmerman and Carter, 2003). As Barham et al (2000) observe, this research throws up two hypotheses concerning inequality and persistent poverty. The first hypothesis, known as the static *asset dependency* hypothesis, states, that in a context of market failures agents make production and investment decisions in accordance with the assets they hold. For instance, under credit or information constraints, poorer landowners are limited in their capacity to make

productive, wealth-enhancing investments to their land which restricts their ability to accumulate assets at the same rate as wealthier landowners. The second hypothesis is an *endowment dependency* hypothesis which posits that asset accumulation primarily depends on initial endowments, so poorer agents cannot attain the accumulation paths of richer agents. For instance, constraints in capital or insurance markets over time interact with poorer landholders' inability to accumulate assets, leading to poverty traps and livelihood vulnerability. In other words, movements out of poverty appear to be largely determined by the 'fate of initial endowments.'

Dercon (1998) uses survey data from rural Tanzania to look at wealth accumulation in the form of cattle in an agro-pastoral farming environment. Cattle ownership is very unequal in the survey site, with only a third of poorer households owning any, compared to 58 percent in the richer tercile (p 8). The data indicate that: 1) differences in welfare levels appear correlated to differences in cattle holdings; 2) despite high returns to cattle, only half the sample owned cattle and; 3) non-cattle owners specialise relatively more in off-farm activities and relatively less in low-return, low-risk crops. Using a model of activity choice and asset accumulation to explain the above phenomenon, Dercon illustrates that the theory of comparative advantage cannot be appealed to, to explain the latter point. The explanation instead is that missing markets prevent some households from taking up certain activities. Credit constraints combined with risk means that low-endowment households find it difficult to accumulate enough assets to build up their cattle stocks. In keeping with Eswaran and Kotwal, the paper makes the point that if investments are needed to enter certain activities (such as cattle farming), then credit constraints may mean that poorer people are unable to engage in the activity while richer households can, leading to increasing inequality over time. Furthermore, this has a negative effect on aggregate agricultural productivity as households are unable to specialise in those activities in which they have a comparative advantage. In other words, asset inequalities are likely to reflect imperfect markets not inherent differences in productivity. Non cattle-owners would find it profitable to enter into cattle rearing, but face binding constraints on entry into the activity. This persistent inequality is likely to be exacerbated over time as the comparative advantage a farmer may have had at time period one, be lost as the farmer de-skills and/or asset strips or moves into off-farm activities.

Dercon explains that, given the Tanzanian context, land and labour constraints are unlikely to be important barriers to cattle farming, rather credit constraints pose the largest problem. Only richer households are able to enter into asset accumulation paths; this, over time, exacerbates the inequality between rich and poor. Poorer households, who typically face more risk and income volatility are less likely to invest in 'high-risk' cattle; furthermore they will deplete cattle to cope with income shortfalls. Instead they will enter into low-risk, low-return activities, such as low-return crops, smaller livestock and off-farm activities. 'Households with a limited asset buffer for consumption therefore have an incentive to allocate relatively more labour to these activities, even if the result means lower income' (p 15) and lower productivity. Over time a divergence in total earnings between rich and poor will occur.

Dercon's work implies that in an intertemporal framework assets may perform a similar role to credit, such that higher initial asset holdings in time one implies that households will allocate more labour to risky activities (as higher assets provide a buffer to negative consumption shocks) than households with low asset holdings. 'Therefore, household income is determined by initial endowments of land and labour and accumulated asset holdings in the form of cattle.' (1998: 25)

The evidence presented by Dercon suggests that the differentials in asset(cattle) holdings and activities between rich and poor households do not reflect individual productivity differentials. Entry into cattle farming was mainly explained by the endowments in the form of male labour and land. This probably reflects the earning capacity of the household. As the wealth differentials observed are not explained by

comparative advantage they are likely to have a negative effect on agricultural productivity in the aggregate.

Barham, Takasaki and Coombes (2000) move away from focussing on single-asset accumulation to test the endowment dependency hypothesis through an empirical study of multiple asset accumulation and activity choice among peasant households. Considering more than one asset-activity they are able to explore possible cross-effects arising across different assets (that is, households could use one asset to advance their activities in another). Furthermore, they are interested in distinguishing the effects of 'endowment' from those of 'time' or 'life-cycle effect.' That is, is time a dominant constraint to asset accumulation such that in the longer term poorer agents cannot move to the asset mix obtained by richer ones? If yes, then endowment dependency is only a short-medium term phenomenon. However, endowment dependency may dominate in the long run and thus will have different implications for the processes of moving towards more egalitarian asset distributions and efficiency.

Barham et al. use data from an Amazonian tropical rain forest environment where high biodiversity sustains a wide range of livelihood options (pp2). Seven villages are chosen for the study, 5 mainly agricultural villages and 2 mainly fishing villages. Their analysis focuses on two major activities – agriculture and fishing -- and their associated physical assets – agricultural land and fishing capital (specifically, fishing nets). The two activities provide different labour opportunities for asset-poor households, mainly due to that fact that land is scarce and fishing capital is reproducible. The econometric results indicate that lifecycle factors play an important role in asset accumulation. The results 'point to distinctive asset accumulation dynamics among peasant households according to asset types and local environmental endowments. Land accumulation in agricultural villages is primarily endowment driven whereas in fishing villages the accumulation for land is both endowment and lifecycle dependent. Capital accumulation in agricultural villages is primarily life-cycle dependent. Econometric analysis shows that in fishing villages, the accumulation of capital is neither endowment nor lifecycle dependent' (pp20). Importantly, this work shows that different asset types can offset initial endowment differentials by influencing the 'fate' of poor households. In other words, persistent inequality depends very much on the nature of different assets, a household's asset portfolio and other economic and labour opportunities. Unlike in agricultural villages, in fishing villages capital poor fishermen were able to work with richer fishermen and thus improve their incomes and assets. This is due to the nature of the activity and to the reproducibility of the asset.

A crucial lesson from this work, and others (cf. Reardon and Vosti 1995) is that any policy addressing the links between inequality, persistent poverty and agriculture must pay careful consideration to various asset portfolios of both households and communities and understand the nature of the asset-activity itself.

There are a number of other studies that investigate the link between asset inequality and productivity (Barham et al. 1995; Carter and Zimmerman., Gunning, Hoddinott, Kinsey and Owens, 2000). The essential point of all this work is that it is the combination of asset inequality with market failures leads to differential efficiency/productivity between asset poor and asset rich, which can cause persistent poverty and inequality. It is not asset inequality per se that creates low agricultural returns. Above we have reviewed the literature on credit market failure which shows that the asset poor are less likely to be able to obtain credit than the rich. This leads to further asset accumulation for the asset-rich, leading to increasing inequality over time and lower productivity of the poor, and possibly overall productivity.

Another useful illustration of the interaction between asset inequality and market failures relates to the lack of insurance and protection of certain groups in the face of risk. Evidence indicates that risks and shocks are a main cause of lower overall growth, as well as lower income growth of the poor. As Dercon

points out, the ways in which poor households cope with risk are typically through risk management or risk coping strategies. The former usually means entering into low-risk, low-return activities (the study reviewed above by Barham et al. showed this to be the case in Amazon villages). Risk coping usually means self-insurance in the form of cattle or ruminants that are depleted in times of crisis, or reliance on informal support mechanisms. In terms of efficiency for these households and in aggregate, these strategies are costly as households tend to enter low-return activities and make low-return investments.⁶ The asset-rich are better protected in terms of insurance and high-return investments. The above evidence of growth losses due to risk indicates that addressing the causes of vulnerability of poor people specifically could have both equity and efficiency enhancing outcomes.

The main implications of this literature suggest that productivity increases could be obtained via asset redistribution or by addressing market failures. Work by Greenwald and Stiglitz (1986) (cited in Dercon, 2003) suggests that market failures (uncertainty, externalities, etc) imply that interventions can be made which will be able to make many better-off without making anyone else worse off. This is particularly relevant for the poor, or for other asset-poor groups as market failures reduce the efficiency with which they are able to use their assets. Interventions focussed on these groups would therefore lead to efficiency outcomes for these groups and may increase overall efficiency. If this is the case there would be no efficiency-equity trade-off as predicted by the standard welfare theorems of economics. As revealed in the farm-size literature, the extent and scale of an efficiency-equity trade-off at the aggregate level will be contingent upon factor-specific transaction costs and factor prices. However if we are interested primarily in equity and agricultural productivity, increasing equality in access to and control of assets will have a positive effect on the productivity of those groups who are most effected by the market failure.

An important caveat to this last point is that, political constraints aside, 'in densely populated areas such as Ethiopia or Bangladesh, redistribution or related policies such as tenure security is unlikely to achieve much more than a dent in poverty levels' (Dercon, 2003). In Ethiopia, technological complements to land use are clearly needed to get much progress; in Bangladesh initial land inequality is rather small, so fewer output gains are to be expected from moving very big and very small towards some optimum size in between. Furthermore, redistributing land and other assets more equally in regions that have a very low resource base and are densely populated is unlikely to have a significant effect on productivity and poverty reduction. Dercon (2003) makes this point in relation to externalities related to the specific local context, for example low local endowments in terms of public goods, common property resources and private asset holdings. He states that 'if growth requires a certain threshold of local endowments to take off, then poorly endowed areas may well find it hard to escape poverty' (pp 9). Evidence from China in the 1980s indicates that community characteristics affect the living standards of otherwise identical households. Geographic poverty traps result from initial community characteristics. Unlocking the growth potential of 'asset-poor areas' or 'asset-poor regions' is likely to be related to a variety of policy responses, such as irrigation provision or health and education provision. Clearly any programme of asset redistribution or distribution will depend on the context. Furthermore, it is not always straightforward to change asset distributions due to political constraints, etc and furthermore, dealing with market failures turns out to be very complicated (credit market literature).

What the above literature has shown us is that the combination of asset inequality and market failures (credit, information, missing markets...) has a negative impact on growth. This is because agents (especially poor people) are unable to act efficiently under these circumstances. The policy implications from this work are either to deal with the market failures (so improving access to complementary factors

⁶ Rosenzweig and Wolpin (1993) showed that farmers hold livestock as a precaution against risk even when more productive investment opportunities are available.

of production) and/or to change the asset distribution. However, even in the absence of market failures we can think of constraints to opportunities that lead to inequalities. For instance, in very unequal societies big farmers may enjoy privileged access to capital because of law, custom, or prejudice'. There may be thresholds below which the poor do not or cannot choose to enter certain key markets even if they work perfectly. If so, the inefficiency of extreme inequality cannot be cured simply by remedying market failures: inequality that creates extreme poverty excludes the poor from competing in certain markets, even with no market failure.

While the above review has highlighted important linkages between asset inequality and agricultural productivity (hysteresis and path dependent nature of asset accumulation) --very little emerges from this literature that addresses the social and political institutions that lead to and reproduce these differential outcomes. In the next section we draw predominantly on the feminist literature to understand what limits people's access to initial endowments, to asset accumulation, to markets and institutions. We move away from an exclusive focus on market failures by making the point that it is not just informational problems and transactions costs, but structural inequalities (discrimination, historical path dependence, cultural norms) that lead to differential equity in opportunities and differential access to the processes that create the distributional outcomes.

IV: How does differential access to assets within the household affect agricultural productivity?

The theoretical frameworks and empirical studies reviewed above represent the dominant academic and policy discourse around agricultural growth/productivity and inequality. Technical relationships between farm size, economies of scale, land reform and inequality are often discussed with respect to national policy levers and the existence of markets. Studies looking at asset and endowment accumulation are typically micro-economic studies, focussing on household behaviour and drawing out implications for persistent poverty and structural changes in the economy. Other studies move inside the household to discuss the implications of individual's differential access to inputs and assets and the implications this has for productivity.⁷⁸

An early and influential study of the effects of intrahousehold gender relations on production is that by Udry et al 1995. Using panel data collected by ICRISAT from 6 communities in Burkina Faso during the 1980s, the study shows that there are substantial inefficiencies in the allocation of factors of production across the plots controlled by men and women within the same households. They explain this result in terms of differences in labour and other input use, rather than in terms of the lower productivity of female labour. Yield differences between men and women's plots were related to differences in input intensity. Far more household male labour was devoted to a hectare of land controlled by men than to land controlled by women in the same household, although some male labour was used on many women's plots. Men's plots also used more non-household labour than women's did. All fertiliser was concentrated on male plots.

Udry et al's study provides an extremely useful critique of the dominant assumption in economics that households behave as individuals. Furthermore, this work emphasises the importance of the distribution

⁷A different class of studies analyse the effects of inequality beginning from a macro-economic, or even global level: Winters/Trade liberalisation/marketisation/international policy impacts/ GR: cheap credit, exchange rates, cheap capital, etc

⁸ These studies have been reviewed by Whitehead (2001a) - from which this account is drawn.

of resources within the household, rather than between households, and the implications this has for efficiency outcomes. As Whitehead (2001a) points out, the implications of their findings for arguments about intra-household gender dynamics and agricultural growth have been taken up in several policy discussions. Greater productivity and household production could be achieved either by reallocating women's plots to men or reallocating the variable factors of production (labour and fertiliser) from men's plots to women's. This study is widely quoted by others who link intrahousehold gender relations with constraints on growth in rural sub-Saharan Africa. The 1998 SPA Report uses a figure of 10-20% as that by which production could be increased in Burkina Faso by a more efficient and gender equal intra-household allocation of inputs (Blackden and Bhanu 1999, cited in Whitehead 2001a). As Whitehead notes, 'the argument is that allocative inefficiency and depressed production arise in African agriculture because the separation of resource streams implies individual, not shared, incentives with respect to crop outputs. Women's low level of inputs on smaller parcels of land can be seen as a measure of their weak bargaining position, while men act to protect and maximise "their own" production.'

Other studies indicate similar results. For instance, using the same ICRISAT data, Chavas and Smith (2000) argue that men and women have different preferences as to how they spend their time. While men want to maximise cotton cash crop income, women have less incentive to do so and expend more resources on food crops. This work suggests that intrahousehold differences in preferences are one of a number of potential structural constraints to agricultural supply response. Wold (1997) examines the issue of the gendered supply response in agriculture in rural Zambia, and found that the negative supply response was stronger for women in the case of a maize price shock. Wold explained women's response primarily in gender terms, and in particular attributed it to a normative division of responsibilities within the household. 'Given their obligations, it is almost impossible for women farmers not to produce the traditional food crops e.g. they can hardly switch to cotton production' (1997: 30).

'In the above studies the central factor affecting outcomes is a gender division of labour in production, or in production and reproduction, which typically results in there being crops and farming tasks which are largely men's or women's work. The gendered division of labour is fed through the separate and gendered resource streams of households to give a different structure of incentives (and constraints) to men and women. These various studies largely consider specific features of the intra-household relations that might affect men and women's response to price signals, using existing data sets to explore the implications of these aspects of gender relations for agricultural production. They thus fall into the category of gender-specific constraints as outlined by Kabeer and Subrahmanian (1997). Gender-specific constraints on household livelihood activities apply to either women or men by virtue of their gender. As far as women are concerned, some of these constraints reflect their biological role in reproduction as well as their social roles in caring for children and family. Other gender-specific constraints reflect differences in the norms, values and customs which constitute make up local constructions of masculinity and femininity: restrictions on women's movement in the public domain; taboos against women using certain forms of technology (the plough or weaving loom or potter's wheel. Men too face social constraints which militate against their taking up certain 'feminine' occupations or undertaking certain feminine tasks. In Sub Saharan Africa gender specific constraints include not only the respective roles of men and women in reproduction and domestic work, but also in the division of labour in agriculture - assigning men and women to specific crops or specific tasks' (Whitehead, 2001a).⁹

V: The Institutional Embeddedness of Inequality: Including the social and political

⁹ This paragraph has been taken with permission from Whitehead (2001a)

While the above class of studies and literature moves the mainstream literature into the household and, thus, draws attention to structural inequalities that are otherwise ignored within household level studies, like the mainstream economic work this literature remains largely outcome focused in the sense that it is interested in demonstrating the difference in productivity outcomes and supply response for men and women. Also, they all focus on gender specific constraints. In the conclusions of Udry et al's study, brief mention is made of the 'extra-environmental parameters' that affect the bargaining process, and thus the resource distribution, within the household. These include demographic, legal and other macro-economic conditions external to the household, such as 'sex ratios in marriage markets, laws and conventions regarding divorce, the ability of women to return to their natal homes, and prohibitions on women working outside the home' (Udry et al. pp. 419). Furthermore, their discussion moves on to make the point that 'the credibility of guaranteed access [to resources] is the heart of the matter' (pp. 420).¹⁰ In other words, unless people have credible access to resources, policy intervention or changes in resource provision will stimulate a limited supply response. While this analysis is very useful, especially as a critique of mainstream economic models, it only scratches the surface of the nature of inequality, and the processes by which various individuals and groups are able to equitably access institutions, or obtain sufficient trust in institutions that may lead to a productivity response. For instance, what determines credible access to resources and how do people get this access?

Bina Agarwal's work convincingly fills much of the gap identified in the above studies. Agarwal (1997) views access to resources such as land as both subject to and determining bargaining power of individuals in the household. She argues that bargaining by individuals, though often unspoken, accounts for the allocation of resources and tasks within the household. The power of this bargaining in turn depends on control of resources, most often arable land, and also access to common resources. The inequities in land holdings and other resources, along with social perceptions and norms against women (including inheritance rights) and women's self-perceptions are thus important factors behind low bargaining power of women, thereby leading to greater inequities in resource and task distributions within the household. Agarwal argues for strengthening women's fallback positions in order to increase their voice in the home, which can in turn lead to increased land rights for women and thus lessen inequities in land holdings within the household.

In another paper, Agarwal (2000) stresses that women's participation is essential to gender equitable distributional outcomes, and this participation depends on rules, norms, perceptions, personal endowments, and also household endowments and attributes. These rules, norms, perceptions and endowments determine the extent to which women are included or excluded from decision making bodies. Further, the extent to which there is gender equity in costs sharing (such as share of work and responsibilities) depends on social norms governing the gendered division of labour, while equity in benefits sharing is contingent upon rules and norms, perceptions about deservedness, and more importantly, personal and household attributes and endowments. A reduction in the gender bias embedded in these factors would depend on women's bargaining power within the state, the community and the family.

Less well cited, with respect to agricultural productivity, is research that steps outside conventional understandings of inequality (Whitehead 2001a; Whitehead and Kabeer 2001). This literature, which has been driven primarily from a feminist critique of mainstream micro-economic studies, differentiates between inequalities in ownership/control, access and empowerment and necessarily investigates the processes and institutions whereby inequality (or equity) is established and reproduced and the impacts this has on production via changing production relationships. Recent work moves away from visualising

¹⁰ This relates to Amartya Sen's points about exit options for the wife (partly co-operative games)

inequality in terms of outcomes and segmented spheres (i.e., rural/urban, male/female, landed/landless), rather it focuses on how institutions mediate access to resources (land, capital, credit) and the effect this has on agricultural productivity. The great advantage of this work over other studies is that it enables an investigation into the interaction of inequalities with policy choices and implementation of policy choices. Findings from these studies highlight the importance of institutions for managing equity for growth and inequality. The richness of much of this literature allows us to see how the interaction of inequality and policy perpetuate different modes of development, or development paths.

Eyben and Jarrod (2004) understand inequality as ‘the condition, process and experience of unequal power relations that constrain individuals, communities and even wider groups, such as nation states, from the same freedoms that are enjoyed by those with whom they are in a position of subordinate relationship’ (pp. vii). This lens into ‘inequality’ enables us to focus on the social and political in the creation and re-creation of inequality. For instance, what determines the differentiated opportunities that different people or groups experience and how should this inform policy? Related to this are notions of social exclusion, polarisation and marginalisation and how these processes lead to unequal outcomes, that by their vary nature have been created inequitably. Sociological and political understandings of creation of inequality allow us to explore various socio and economic categories, such as class, gender and race. Typically, all involve differential access to resources and processes of exclusion and inclusion, oppression and domination.

In the literature reviewed in the sections above, little attention is given to the processes that explain why responses are differentiated by different groups of people/households, such as by poor/non-poor, by gender or by ethnicity. If we analyse the studies results in terms of equity in process and opportunities rather in terms of outcomes then it is possible to draw the following conclusions. The role of institutions in the formation and functioning of markets matter enormously if we are to understand the segmented nature of market organisations and their rules and norms (see Goetz 1995 and Harris-White 1998 for a discussion of this in relation to gender). For instance, strengthening marketing structures to ease women’s access and to improve the terms of their participation is critical for sustaining a supply response from women managed crops (SIDA 1996; UWONET 1995; Wold 1997). More importantly, the gender based constraints on output lie not only in intrahousehold relations but also in the inadequacies of public policy, especially those relating to “the terms and conditions on which women have access to and control over land and how well served they are by markets” (:1343). The analysis offered by authors such as Goetz and Kabeer and others also refers to gender intensified constraints. These constraints reflect gender inequalities in opportunities and resources. They are ‘gender-intensified’ because, while inequalities in opportunities and resources may reflect factors such as class, poverty, ethnicity, location and so on, they tend to be exacerbated by gender. Gender-intensified constraints reflect the asymmetrical distribution of material resources between women and men within the household. Such asymmetries sometimes reflect the ascribed norms of the community, for instance, customary laws governing inheritance or access to common property resources. However, even where they result from decisions made at the household level, such decisions often reflect responses to ascribed forms of disadvantage rather than expressions of individual discrimination. As a result, regions where women are denied economic opportunities often tend to be characterised by gender-biased investments in the well-being, health and education of members (Kabeer and Subrahmanian, 1997; Whitehead, 2001).

The notions of gender-specific and gender-intensified constraints can be equally well applied to other categories of people or groups that face structural disadvantages, such as the extreme poor, various ethnic groups, and geographically remote groups. Inequalities in resource access for various groups represent ascribed forms of disadvantage and are exacerbated and reproduced due to a variety of cultural, political and economic factors.

There are also forms of disadvantage which reflect biases, preconceptions and misinformation on the part of those external to household and community with the power to allocate resources in ways which counter or exacerbate custom-based forms of discrimination. These are imposed forms of disadvantage because they generally reflect the informal reconstitution of cultural norms and beliefs within these institutions, as well as the personal prejudices and misconceptions of individual actors, rather than an aspect of their formalised rules. Included here are a whole range of disadvantages that come through the effects of public policy e.g. in credit, agricultural extension and land tenure reform (Kabeer and Subrahmanian, 1997).

Various work by Whitehead (2003, 2001a, 2001b) coalesces to discredit many of the commonly held simplistic assumptions about separate gendered spheres of activity within agriculture (such as those of Udry et al., Chavas). Importantly Whitehead's work moves us away from thinking about intra-household models and conceptions to how institutions mediate gendered access to resources (land, capital, credit) and this has an effect on agricultural productivity. Responding to Winter's claim that it is difficult to build gender into trade and poverty models, Whitehead (2001a) provides a gendered account of the effects of trade liberalisation on poverty in African countries. She concentrates on economies dominated by low productivity agriculture in which own produced food is an important output, and seeks to understand the structural issues which lie behind gender disadvantages in economic well being. 'I go beyond a focus on the structure and dynamics of household relations as the main locus where economic processes affect men and women differently. Two particular economic institutions - the markets for agricultural inputs and outputs and rural labour markets - are examined closely for the extent to which, as bearers of gender themselves, they intensify or impose unequal gender relations and gender differences' (pp 3).

Whitehead agrees with Sen, who asserts that we "need to move beyond the critical assumption that gender power relations at the local level are embedded in conjugal intra-household relations alone. The structures of power that women confront at the local level operate not only within the home, but also in the terrain of communities, local markets and local government officials." (Sen 1999, quoted in Whitehead, 2001). Like Elson et al. she understands gender as "a category of social and economic differentiation that influences the division of labour and the distribution of work income, wealth, productivity of inputs, and economic behaviour of agents" (Grown, Elson and Cagatay, 2000: 1148).¹¹

Inequality in Access to Institutions and Poverty

Institutions play a particularly important role in establishing and reproducing inequalities. "Though social institutions may appear to be gender neutral they bear and transmit gender biases. They embody social norms which shape the behaviour of individuals about what it is appropriate to want and to do." (Grown, Elson and Cagatay, 2000: 1148) We might also add that they are also the site of a number of relations of power and inequality, including those of gender.

Goetz and Jenkins (2004) argue that the inequities and deprivations endured by the poor may be exacerbated by failures in the 'institutions designed to assure public probity and regulate economic activity.' These she terms as 'accountability failures', which can play out in four spheres, affecting equity in access to:

- livelihood opportunities, particularly land and fair wages

¹¹ Here, need to refer to the large literature, well reviewed in Whitehead.

- capability enhancing services, particularly education and health care
- decent environment (clean air and unpolluted water)
- physical security, particularly freedom from abuse.

The failure of land reform legislation passed in 1994 in Columbia is provided as an example of how accountability failures affect access to secure livelihoods. In this case, the rich could capture benefits meant for the poor, because of lack of formal accountability mechanisms and a 'land purchase grant' for which sellers and buyers colluded to overstate prices and then divide profits.

According to Goetz and Jenkins (2004), these accountability failures arise due to corruption, but also through reproduction of elite biases. The lack of mechanisms in these institutions to listen to the needs of the poor, combined with a failure to answer for their performance by erecting unintended obstacles to those who might demand answers, help to maintain the cycle of inequities as perpetuated through institutions. In addition, she points out that 'Biases embedded in the *formal remits, operating procedures and informal practices* of accountability institutions can be racist and sexist as well as anti-poor'. Also, political capture of oversight bodies, the judiciary and the police often make matters worse for the poor.

These accountability failures have a disproportionately negative effect on the poor, primarily because the poor have fewer options than the wealthier groups for alternative services, they have lower capacities to raise their voices against corruption, and any payments that they make illicitly represents a greater proportion out of their meagre incomes. Institutions often have 'access barriers', which can discriminate between and exclude certain categories of poor people, such as ethnic minorities and women. Further, the differential impacts of programs such as dams on men and women are often overlooked, thereby creating further gender inequities.

The insights gleaned from this work are particularly relevant in understanding equity of opportunities to assets and services in the agricultural sector. Provision of land access and ownership alone will not be output enhancing if access to complementary factor markets are denied or exclusionary. As discussed in Carter (2004) without complementary addressal of multiple rural factor markets, market forces will be biased towards larger farms and wealthier agents. In other words, policy needs to focus on a range of markets simultaneously. Lack of access to one asset will affect access rights to other assets and services. For instance, Evers and Walters show that lack of property rights to land in SSA affects women's access to other resources, such as credit and water and grazing rights. Secondly, because land ownership is linked to labour relations: 'control over land also confers on men property rights over women's labour' (Evers and Walters 2000: 1342).¹²

History Matters

In a major research study on inequality in Latin America and the Caribbean, Ferranti et al. (2004) argue that in order to counteract long traditions of inequality societies need to undertake deep reforms of political, social and economic institutions, improve access by the poor to vital services and assets - especially education - deliver income transfers to poor families, and adopt specific policies to help various ethnic groups and indigenous peoples. The research was drawn from 20 countries based on household surveys covering 3.6 million people, and reviewed extensive economic, sociological and political science

¹² As referred to in Whitehead (2001a), this point is made very forcefully by Warner and Campbell (2000). "One of the most oppressive economic institutions in Africa is male centred inheritance/control of land (Bernia (sic *Beneria*) 1982 p x11)

studies on inequality in Latin America. The team found that the unequal distribution of resources follows a pattern set with specific traits of European colonization in the region.

The authors study the causes of inequality in Latin America by focussing on the historical roots of inequality and the processes by which inequality gets reproduced – what they refer to as the ‘burden of history’. That is, observed distributional outcomes (wages, labour supply, access to services) are the reflection of a history....a ‘lifelong process of accumulation of experiences, human capital, preferences, and constraints’ (chapter 3: pp.9). Much of the study therefore focuses on the social, political and cultural determinants of inequality and how these interact with economic mechanisms. While the economic literature presented in section II and III above certainly acknowledges the importance of history and path dependency in the reproduction of inequality and also the institutional failures reflected in market failures and transaction costs, little attention is paid to the actual processes that perpetuate and exacerbate these institutional rigidities and market failures. Furthermore, the economic literature is unable to account convincingly for the establishment and persistence of inequalities when markets are working relatively well – for instance ascribed inequalities due to gender or ethnicity. The study by Ferranti et al. focuses on a range of inequalities, from income inequality to asset inequality and inequalities in access to opportunities and social, political and economic institutions. The report is not only concerned with economic welfare but also social and political welfare. For instance, political power in any society is unequally distributed and this ‘inequality of empowerment’ (or agency) is closely intertwined with economic distributional outcomes.

The authors talk specifically about the huge concentration of land in the hands of the rich and how gross inequalities were introduced by colonisers and the institutions that they put in place. These disparities persisted after independence because the evolution of political and economic institutions tended to reinforce and reproduce highly unequal distributions of wealth, human capital, and political influence. Unfortunately, for the purpose of this paper, the emphasis of their study is on the presumed benefits of equality and equity, with no attention given to, and very little evidence provided on, the linkages between equality and agricultural growth. Thus, little evidence is provided that directly answers the questions underpinning this paper. The study does, however, shed light on the nature of access and opportunities (in other words, the causes of inequality), and in the case of land the authors give examples of how the evolution of land policy institutions have contributed to the persistence of extreme inequality. This has implications for poverty (especially relative poverty) and equitable growth.

VI: Policy levers and inequality

The purpose of this paper has been to review a range of literatures that help to throw light on the relationships between inequality and agricultural growth and to provide a background paper for a case study on Ethiopia. The literature on farm size and agricultural growth indicates that transactions costs, factor scarcities and factor prices are crucial in explaining various distributions of land holdings, and thus have implications for inequalities in farm size distributions in different contexts. Whether the result of unequal farm size distributions are growth-enhancing, growth-neutral or growth-reducing depends significantly on context-specific factors, history of policy choices and institutions. The literature on asset and endowment dependency highlights the ways in which economic inequality reproduces itself over time and can lead to poverty traps and asset thresholds that need to be reached if poor people are able to move out of poverty. Asset redistribution and market failure correction are the main policy implications emerging from this work.

The feminist literature and gendered analysis of inequality lends itself well to thinking about inequalities between all types of groups, based on ethnicity, age, labour relations, landowners versus landless classes and others. Importantly, it complements Kanbur's recent critique of the growth and inequality literature that highlights the need to focus on policy variables that enable output factors (such as income equality, more equal access to resources) to be causally related.

In this review we have focused on a limited range of assets (mainly land) to draw out lessons for policy makers from a range of evidence and diverse literatures. While there is rich evidence linking farm size to productivity little empirical studies explore other units of 'equal distributions' and the link to agricultural productivity, such as land or efficiency units of land per capita or per family. The paucity of analysis is especially true of sub-Saharan Africa.

The crucial point concerning the relationship between asset inequality and agricultural growth is that it is mediated by the causes of inequality and poverty as they relate to *access* to assets and to a range of institutions that govern agriculture (land markets, labor markets, credit, extension, water, etc.) and opportunities that complement productive use of assets and institutions. This access and opportunity is obviously moderated by the history of policy choices and interventions specific to each context.

The lesson emerging from all the above studies is that agricultural productivity is related to resource access, (land, labour, capital, and (increasingly) water access). The majority of studies acknowledge that asset distributions in most countries do not reflect comparative advantages or true relative productivity between individuals/groups, and therefore agricultural productivity is compromised. The difference in the literatures reviewed is the attention they give to how these distributions are created and reproduced, and, thus, the policy implications of the studies turn out to be divergent. Some studies are interested primarily in establishing whether there is a link between productivity and inequality; others are more interested in the processes that determine this link.

Four main conclusions emerge from this literature review:

1. **Inequality does not necessarily reduce productivity or growth:** Relationships between asset inequality and productivity must be understood in the context of constrained markets, factor prices and factor scarcities. This implies that simple, general linkages between asset inequality and productivity are not useful. Efficient distribution of assets in any context will depend largely on an understanding of these issues and complementary factor markets for any one asset being investigated. It will also depend upon how we measure equality. In the case of land, are we talking about equality of land per capita; per family worker; per household; land in efficiency units on in some other unit of measurement? The same question applies to labour, machinery and other assets.
2. **Inequality reproduces inequality due to economic reasons.** Asset and endowment dependency are phenomena related to transaction costs and market failures. They lead to path-dependent, inefficient distributions of assets, and poverty traps. These cycles of asset and endowment dependency can be remedied in part by asset redistribution and/or eliminating constraints in markets.
3. **The causes of inequality are also political and social:** Inequality is not just a result of market imperfections and economic factors. Its causes are political and social by nature, reflecting a combination of historical choices, unequal opportunities and access, inequalities in empowerment, unequal power relations, exclusion, oppression and domination. These types of structural inequalities highlight the endogenous nature of inequality. Thus inequality breeds

inequality not just because of economic reasons but also due to exclusionary practices, differential access to institutions, and the reproduction of power relations in society.

4. **The combination of asset inequality, market failure and unequal access to resources and institutions not only reproduces patterns of inequality, but can cause persistent poverty:** this is because the combination of these factors leads to differential productivity between asset rich and asset poor. While the implication for increasing asset inequality over time does not have unambiguous implications for absolute poverty, it is likely that relative poverty/subjective poverty will increase over time.

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