RESOURCE USE ENTITLEMENT, FINANCE AND ENTREPRENEURSHIP IN SUB-SAHARAN SMALLHOLDER AGRICULTURE

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Abstract

The "poor but efficient" hypothesis of T.W. Schultz is by now generally accepted. Agricultural progress and entrepreneurship are however hampered by various bottlenecks. The absence of appropriate technology and related know-how is at least partly the result of misguided perceptions concerning appropriateness and a bias favouring large farmers among agriculturalists. Land tenure arrangements form another obstacle, as does lack of productive assets and factor markets. These considerations prevent entrepreneurial development. Tenure and size relationships are inseperable, with the latter largely a function of entrepreneurial ability.

Action to rectify these stumblingblocks will depend on sound financing, which in its turn influences and is influenced by entrepreneurial ability. The crucial factor is not property, but ownership and entitlement. Lease is often preferable to purchase. In land relationships, the land market, which implies at the least rental of use rights, is the crucial factor. Decisions involving financial structure are closely associated with both entrepreneurship and financial results. Credit should be evaluated within this framework. Loan tying can produce perverse behaviour and results, and subsidized interest is seldom beneficial. State lending institutions have a poor track record internationally, while the experience with credit cooperatives appears to be mixed. Small lender groups have proven themselves as appropriate intermediaries, since they foster selfhelp and entrepreneurship. The solution obviously does not lie in only one factor. Synergy exists between technology, tenure, infrastructure and finance in the fostering of entrepreneurship and agricultural progress.

Uittreksel

Die "arm maar doeltreffend" hipotese van T.W. Schultz word teen hierdie tyd algemeen aanvaar. Vooruitgang en entrepreneurskap in die landbou word egter deur verskeie knelpunte bemoeilik. Die afwesigheid van toepaslike tegnologie en verwante kundigheid is minstens gedeeltelik die resultaat van onbedagte persepsies ten opsigte van toepaslikheid en 'n sydigheid ten gunste van groot boere onder landboukundiges. Grondbesettingsreëlings is 'n verdere hindernis en so ook 'n tekort aan produktiewe bates en faktormarke. Hierdie oorwegings verhinder entrepreneuriale ontwikkeling. Besettings- en grootteverhoudings is onafskeidbaar van mekaar; laasgenoemde is grotendeels 'n funksie van entrepreneuriale vaardigheid.

Optrede om hierdie struikelblokke reg te stel sal afhang van gesonde finansiering wat op sy beurt entrepeneuriale vaardigheid beïnvloed en daardeur beïnvloed word. Die deurslaggewende faktor is nie eiendomsreg nie, maar wel gebruiksreg en aanspraak. Huur is dikwels verkieslik bo aankoop. In grondverhoudings is die grondmark wat minstens verhuring van gebruiksreg impliseer, die deurslaggewende faktor. Besluite aangaande finansiële struktuur het 'n noue verband met beide entrepreneurskap en finansiële resultate. Krediet behoort binne hierdie raamwerk geëvalueer te word. Gebonde lenings kan tot perverse optrede en resultate lei, en gesubsidieerde rente is selde voordelig. Staatsgebonde finansieringsinstellings het internasionaal 'n swak baanrekord terwyl ondervinding met kredietkoöperasies gemengd is. Klein verleningsgroepe het hulself as gepaste tussengangers bewys aangesien hulle selfhelp en entrepreneurskap bevorder. Die oplossing lê klaarblyklik nie in slegs een faktor nie. Daar bestaan sinergie tussen tegnologie, besetting, infrastruktuur en finansiering in die bevordering van entrepreneurskap en vooruitgang in die landbou.

1. Introduction: Impediments to agricultural modernization

Much has been written in the past on impediments to agricultural modernization in third world agriculture in general, and Sub-Saharan agriculture in particular. The reasons most often cited are as follows: Lack of entrepreneurship and rationality among small farmers, lack of know-how, land tenure, access to product and factor markets, small farm sizes, technology, lack of funds. These impediments are clearly interrelated, but will be briefly discussed individually.

2. Entrepreneurship and rationality

The prevailing thought and the rationale behind such thought, was adequately summarized as follows (Schultz, 1968): "In the minds of many who shape economic policy-some "economists", public leaders, and urban-oriented intellectuals- farmers are ever so perverse. When a national economic plan calls for more agricultural production, farmers fail to respond; when instructions are issued to shift from wheat to corn they fail to produce enough of either crop; when given the command to make a big leap forward, they step backward; and when they are heavily subsidized to reduce the acreage of particular crops, they proceed to increase the yield to more than offset the reduction in acreage. It has been convenient to believe that farmers, especially in poor countries, are loafers who prefer leisure to doing the extra work to increase production, are squanderers when it comes to savings for investment to increase agricultural production, and are inefficient in using the resources at their disposal. Thus these poor lowly farmers are to blame. But farmers are not perverse in their economic behavior (Schultz, 1965). If there has been perversity it will be found in the minds of those already mentioned in what they behold in agriculture and

in what they fail to do in providing economic incentives for farmers.

"It is now fashionable to jump on the fecundity of man as the culprit, as if it were to blame for the poor performance of agriculture. I hasten to say that the excessive growth in population is a serious matter; for surely it has major adverse social and welfare effects in what can be done to improve health facilities, to enlarge cultural opportunities, and to provide schooling; and it can be a heavy drag on economic development. It of course also increases the demand for food; nevertheless, the rapid growth of the population is not responsible *per se* for the poor performance of agriculture. As a matter of fact, no small part of the increases in agricultural production in many a poor country has come in response to the increase in the farm labor force. I shall return to the population problem. As of now, I simply want to make it clear that population growth by itself is not to blame for the poor performance of agriculture.

In my judgment the real culprit causing the poor performance of agriculture in the less developed countries is the lack of economic opportunities in agriculture, opportunities that are rewarding to farmers. It is the lack of viable opportunities that is the crux of the matter".

Schultz (1964) contended that farmers in "traditional" agriculture, using "age-old techniques", are generally efficient in their resource use, although they are poor. Although they note methodological reservations in this regard, Eicher and Baker (1982) quote a large number of studies in which Marginal Value Product and Marginal Factor Cost of inputs in African agriculture were found not to differ significantly from each other. This lends support to Schultz's "poor but efficient" hypothesis.

Thus, although entrepreneurship may be lacking in much of African agriculture, it cannot be blamed on irrational behaviour. The problem lies elsewhere - mainly in the lack of economic opportunity.

3. Know-how, information and appropriate technology

Technological advance has repeatedly been illustrated to be a major vehicle to economic development, including agricultural development. Its advance has a few prerequisites: Development of methods and techniques, an entrepreneurial group willing or eager to employ these, and the material aids needed for this purpose. Entrepreneurs adopt new technology if and only if they perceive it to be to their advantage. This advantage almost invariably involves higher expected net income (in monetary and/or other subjective terms) or reductions in its variability (hence in risk) or both.

Knowledge of new techniques and methods is another prerequisite for new technology adoption and entrepreneurial development. This implies a reasonably efficient research and extension system aimed at technology that is appropriate under producers' production and marketing conditions. It also implies convergence between researchers', extensionists' and farmers' perceptions. And here lies a serious problem. It has, for example, been shown that the same rice and wheat technology that proved to be very successful in the wetter, humid delta areas did, because of its very nature, not succeed to improve production, living standards and entrepreneurship in the more arid parts of India and Bangladesh. The most important reason was probably that this technology contained high water and chemical requirements and was thus technically, economically and sociologically inappropriate for those regions. Yet agricultural "experts" continued to advocate this inappropriate technology for quite some time. Their perceptions differed from those of the peasants who where more rational than the "experts" in terms of net returns and risk (Farmer *et al*, 1977). In South Africa, Van Zyl *et al* (1985) pointed out that due to higher variability and risk, technology that would be preferable (or close to optimal) under conditions of ideal and stable natural conditions, high technical proficiency and adequate financial reserves, become too risky should any of these ideal conditions be lacking.

Eicher and Baker (1982) conclude that many technologies generated by agricultural scientists are not appropriate for small farmers; they are often generated in conditions differing radically from those under whom small farmers operate; they often call for practices which are not consistent with the goals of farmers, and in particular, often ignore the crop rotational practices needed under conditions of climatological uncertainty. Most African extension services have been geared toward technical problems and have ignored farm management and marketing (Eicher and Baker, 1982). In addition, much available technology is neither resource mix neutral nor scale neutral. And much of the technology advocated by "experts" favours larger units (Eicher and Baker, 1983; Onyemelukwe, 1974; De Vries, 1978), or are appropriate only under conditions with relatively more abundance and lower prices for capital, compared to labour than is commonly found in third world countries, including Sub-Saharan Africa (Stevens, 1989; Everson and Binswanger, 1978).

If both entrepreneurship and agricultural are to develop, research and extension should move toward problem-solving endeavours under field conditions, rather than continue among lines of narrow disciplinary interest. Farm Systems Research can obviously, if performed sensibly, play a major role in this respect.

4. Land tenure

In an exhaustive survey on African agricultural development research, Eicher and Baker (1982) mention that up to some stage, many studies concluded that communal land tenure institutions were flexible enough not to be an immediate constraint on increased agricultural production. More recent research, however, leads them to conclude that "the view that land tenure problems are not a constraint on production is outdated". It has for example been shown that in South African homelands, the institutionalization of "traditional" tenure systems has reduced flexibility, and in particular, the ability of tenure systems to adapt to changed socio-economic conditions (Leseme *et al*, 1980). There appears to be a constant interaction between communal tenure and subsistence agriculture coupled with a lack of flexibility; this has increasingly stood in the path of modernization, which occurs only if the mobility of the land resource is improved.

Land tenure reform may be regarded as a necessary, but not sufficient, condition for agricultural progress. Voluntary acceptance of changes in land tenure by the rural population is a prerequisite for its success. Little research seems to have been done on African small farmers' attitude to land tenure reform. One study, involving a sample of approximately 400 smallholders in Lebowa, indicated that 68 per cent favoured changes in land tenure; by far the greater majority preferred more individualised tenure (Fényes and Groenewald, 1985). In KwaZulu, the change toward an effective market for land use rights would change incentives sufficiently to lead to more efficient and more profitable production (Lyne, 1990).

5. Access to production and factor markets

Farmers in many parts of most Sub-Saharan countries have insufficient access to markets for their products and inputs. Infrastructural problems and distance are important. While a distance of 300 km from a market is not very far if modern conveniences are available, it may certainly become prohibitive if bulky, fragile or perishable goods have to be transported over poor, bumpy dirt roads. This also reduces the ability of a marketing system to develop and survive. This has, in South Africa, materially contributed to dualism of agriculture (Kassier and Groenewald 1992).

Entrepreneurial action, growth of agricultural production and marketing can only occur if these are made profitable. Improved infrastructure is needed for this end.

6. Size relationships and technology

During earlier attempts to develop Sub-Saharan agriculture - particularly in the 1960's - Western advisors generally endorsed large farms and plantations, either privately or state-owned. Assuming large benefits from economies of size, such developments were expected to bring rapid rural development and large scale employment. These claims were backed by success stories of large scale agriculture during colonial times, while the proponents failed also to enumerate the costly failures of many large-scale schemes (Eicher and Baker 1982). Most of these ventures failed to fulfil expectations, and their contribution to development was small compared to their cost. Problems concerning management, overemployment of staff, underutilization of expensive machinery and problems of maintaining equipment and infrastructure abounded (World Bank, 1981).

The World Bank (1981), as well as Eicher and Baker (1982), conclude that in most countries, these large-scale, capital-intensive food production complexes cannot compete with African smallholders for improving production. These sentiments are shared by other experts (Chambers, 1980; Lele, 1977; Fényes and Van Rooyen, 1985). An often overlooked factor is that the realization of returns to scale in large enterprizes depends on superior management (Groenewald, 1991).

In Africa as in many parts of the world, one should often rather look for what was termed "economies of descale" (Onyemelukwe, 1974). It is under such an emphasis that entrepreneurship is able to develop.

Appropriate technology for African agriculture is often overlooked. Many smallholders have not, because of shortages of funds - or sometimes lack of knowhow - been able to obtain the modern inputs needed for expansion and commercialization of agriculture. This, with the small scale of activities, has forced many to remain in a low technology trap. There have also been some rather ill-advised attempts to introduce spectacular, labour-saving, highly capital- or management intensive technology. This was indeed inappropriate. Such technology which had been developed for situations of relatively abundant and cheap capital, abundant technical know-how and scarce, expensive and relatively well trained labour, is inappropriate for Sub-Saharan Africa with its different factor proportions.

Inappropriate technology also includes selection of production methods or product types (eg. grain cultivars) which yield superior results under ideal conditions, but increase risk when natural conditions, other technological inputs, managerial ability and liquidity are less than ideal; many high-yielding varieties and crops perform poorly under adverse conditions and are subject to larger yield variability (Van Zyl *et al*, 1985). Sound entrepreneurship is dependent on appropriate choice of opportunity and risk (Drucker, 1986).

7. Finance: Its role and nature

Future agricultural development will depend on many interrelated factors, including acceptance of the small farmer as an entrepreneur who is a vital cog in the wheel, the dovetailing of land tenure to development needs, improved access to product and factor markets, improved infrastructure and the choice of appropriate technology. Agricultural finance will play a crucial role in this regard.

Its main role is the creation of production goods, i.e. capital for use by the farmer. These goods can be used only if he has the legal right to do so; therefore he must possess it. Possession and ownership are not synonymous concepts. An owner can retain ownership, but hand over possession, thereby allowing somebody else to use an asset. To use the asset efficiently, the possessor must have a defined security of tenure (Wiles, 1977). An individual may possess land use rights without owning the land. Use rights concerning productive assetts are conceptually similar to the entitlement approach to food consumption as outlined by Sen (1981). Sen argues that people can use food only if they are entitled to do so. The same applies to a farmer, who seeks entitlement for the use of capital goods. He normally also wishes to improve his stock of capital goods. He would like to be better off tomorrow than today. The same applies to groups or institutions providing inputs and services to agriculture.

Use entitlement can enamate from ownership, lease or free concession. The latter is too rare to be of practical significance. When a cultivator pays dues, it assumes the character of a lease. Ownership results from producing the capital good solely from own labour, or by using owned or leased resources (eg. a calf bred from a cow). It may alternatively emanate from grants (such as inheritance) or from purchase. Purchase occurs by the use of own funds, or loaned funds (credit) or both.

Entitlement is associated with cost : rentals, interest on credit and opportunity value of own effort or owned assets. Rational farmers will utilize the entitlement if expected proceeds exceed costs.

Risk now enters the scene. There is never an opportunity for gain without risk. Somebody who intends to expand his operation uses more resources. If things go wrong, he can lose more. He increases risk if he borrows more money. Failure can cause him to lose part or all of his possessions. The more he saves relative to what he borrows, the lower is his risk, and also that of the lender.

Both - the borrower and lender - weigh up opportunities and risks. These eventually determine the price at which the money is loaned, i.e. the rate of interest. The lower the rate of interest, the larger will be the loans the borrower want to take up, the lower will be his willingness to save and thus his desire to reduce credit needs. Lower interest rates increase expenditure on consumption goods.

As pointed out by Sandoval (1969), low living and income levels in small-scale developing farming communities often preclude savings that can be channelled to capital formation. This may cause a greater need for credit, which will however be risky, and would therefore

require higher rates of interest. The farmer can however possibly afford credit only at low interest rate levels.

Entitlement issues are also influenced by the nature of the capital good involved. Capital goods may for this purpose be classified according to transformation periods:

- **Short transformation,** eg. feed, seed or fertilizer. Use entitlement can result only from ownership.
- **Medium to short transformation,** eg. livestock and machinery. Both ownership and leasing are possible.
- **Medium to long transformation,** eg. buildings and other immoveable or semi-immoveable assets. The entitlement to use of these often depends on use entitlement on long transformation capital goods.
- **Long transformation,** mostly land. This can be wholly owned, partially owned and partially leased, or wholly leased.

8. Finance and the small farmer

The small farmer, particularly one in a subsistence environment, is faced with a quandary involving consumption, production and entitlement. Agriculture should very often not be regarded as the sole consideration concerning family revenue and of finance. The concept is that of household economics (Low, 1986). Many farm families have additional sources of income, earned locally or remittances of absent males who temporarily or permanently offer their labour in urban occupations.

The small farmer operates in a restricted environment of limited mobility and often limited access to produce markets. The result is low net product prices. Limited access to factor markets causes prices of production factors to be high, leaving him little incentive for commercial production and limited scope for capital formation. Risk, and the interest rates at which he can obtain credit, are thus increased. The result is a reluctance to adopt the new - and often more risky - technology needed to improve his business. It impedes his entrepreneurship.

His limited ownership of assets, including his limited ability to obtain lasting control over land, and the small scale of operation to which circumstances have forced him often renders the leasing rather than the purchase option preferential for entitlement concerning both medium -and long term transformation assets, particularly if ownership depends on loaned funds. Security of lease is however important.

9. Purchase or lease of land

It may now be appropriate to return to land tenure including the issues of individualization, purchase or lease. Individual tenure does not imply that every farmer should own all, or even some of the land he occupies. Owner-occupation has nowhere, either in the developed, emerging or third world proven to be a necessary condition for development of entrepreneurship and agriculture; ownership is divorced from possession or use entitlement. The problems involve both equity and incentive. The answer seems to lie in truly secure land tenure for small farmers, combined with tolerable limitations on rents (Walinsky, 1977). There should at the same time be mobility, allowing people to improve their lot by either reducing or increasing their control over land.

This opens possibilities for a sensible conversion from traditional communal to individual tenure. Small farmers could lease land from traditional owners on either a short term or longer term basis; the latter may even assume the nature of quitrent. In traditional areas, farmers can be allowed to lease traditional land use rights from each other. It has been shown in KwaZulu that such a possibility would potentially increase efficiency and returns to all. It would also lead to more productive use of land (Lyne, 1990). Flexibility, mobility and efficiency will be enhanced by rendering lease contracts transferable, thus developing a land market and a financial value to land without necessarily dissolving communal ownership in favour of private freehold.

Now, assuming a smaller farmer would have a choice between short-term leasing, purchasing or long-term leasing, what should his choice be? It depends on the quality of the land and the farmer's financial resources. Higher quality land (depending on economic location and natural resources) should command higher prices and rents.

A farmer with limited funds must allocate these funds between resources with short, medium to short, medium to long and long transformation periods. Farmers who tie up all or most of their funds in long term commitments, invariably end up with insufficient funds for short term resources. Those who hire funds (ie borrow money) to operate a farm business are more likely to be successful by renting land than by borrowing money to buy land. Renting results in a higher quality resource package. In addition, ownership of land increases risk if the land carries a high debt burden (eg. mortgage). High financial leverage has been shown to lead to insolvency under adverse economic conditions (Louw, 1981; Van Zyl *et al*, 1987).

10. Finance and credit institutions

10.1 Overview

In normal business practice, the guiding principle governing credit is increased profitability and eventually, an improved capital structure for both borrower and lender. Low and/or unstable returns on capital give rise to debt service disabilities, loan defaults and hence uncertainly which lenders discount by capital rationing and high interest rates. Private and informal lenders dominate the scene in many parts of Africa. They have often been accused of charging exorbitant interest rates (Eicher and Baker 1982). The same two authors however quote research by Linsenmeyer (1976) which shows that after deducting defaults and late payments, the effective interest received by the lenders may amount to much less than the nominal rate. Risk is an important element in the high costs of credit (Byerlee et al, 1982).

Problems with agricultural credit have induced many governments to establish specialized credit institutions to channel cheap credit to farmers. Parts of the world have seen the emergence of farmer groups as receivers of credit from the financial sector and of credit cooperatives.

10.2 Procedural rules

Various procedural rules have been proposed in order to facilitate agricultural lending, improve loan repayments, foster entrepreneurship and ensure the productive use of loan funds.

Loan tying is one procedural rule: The loan is tied to a condition that a certain type of capital will be purchased. This may at times be to secure collateral; it is often done as part of a government or donor program to modernize agriculture (Adams and Gonzalez-Vega, 1987). Loan tying may induce farmers to invest in inappropriate technology; experience has, however, shown most peasants to be rational decision-makers with enough entrepreneurship to avoid such pitfalls (See section 2 and 3). The purpose of loan tying may however also be thwarted should the farmer use the loan for other purposes - if the loan results in low additionality (a term presumably coined by Adams and Gonzalez-Vega), which leads to capital substitution; other items are bought rather than the intended one. The fungibility can, of course, be improved by lending in kind - but peasants have also been known to sell borrowed goods in the informal market.

Credit can also be tied to technical packages. One prerequisite for success is that the technical package itself is sound in terms of appropriateness of technology in biological, technical, economic and social terms. In their research survey, Eicher and Baker (1982) conclude that most studies found this to be beneficial (eg Belloncle, 1974; King, 1975, 1981; Anderson, 1975), although some failures (eg Tapsoba, 1981) are also on record.

10.3 Rural savings and interest rates

Interest rate subsidization has been used by various African countries, including South Africa. This policy has come under sharp attack: It has firstly been argued that this policy reduces the incentive to mobilize rural savings and increases a country's dependence on foreign aid (Adams, 1978; Adams and Graham, 1981; Eicher and Baker, 1983). Subsidized credit may secondly induce farmers to get involved in a higher degree of capital intensity than local conditions warrant. Then, because of a bias favouring larger and more influential farmers in lending from government-owned or - sponsored institutions, (Adams *et al*, 1984; Von Pischke and Rouse, 1983) the benefits accrue mainly to the more wealthy.

There does not appear to be much merit in subsidizing interest rates. It is bound to be an impediment rather than a stimulus. The mobilization of rural savings has, on the other hand, been a successful managerial and entrepreneurial development tool in many countries (Huppi and Feder, 1990).

10.4 Government credit institutions

Many countries have opted for the establishment of government credit institutions. In Africa, many of these have lost too heavily through loan defaults to continue without substantial financial subsidies (Eicher and Baker, 1983). Some problems encountered included high adminstration cost, poor coordination, inadequate supplies of loanable funds, corruption and poorly trained personnel. They have often, as has already been stated, favoured larger and more influential farmers. The government institutions have thus not succeeded in reaching low income/producers with affordable credit. This has led to a search for alternatives, two of which are lending groups and credit cooperatives. An instinctive advantage is that one large loan may involve smaller administrative costs (Huppi and Feder, 1990). These groups may borrow from government institutions or private banks on behalf of their membership, and should ideally also promote and mobilize private savings.

10.5 Credit cooperatives

Credit cooperatives originated in 19th Century Germany. Members were obligated to make capital contributions and could also borrow from the cooperatives. Self financing is a source of strength; since it enhances the perception that members have a stake in the institution, it contributes to good repayment performances (Huppi and Feder, 1990). Lending groups are less rigorously organized. Lenders lend out to a group as a whole, which disseminates funds among members; and the group assumes joint liability for the total amount of the loan.

In some European countries, special agricultural credit institutions have over time evolved from cooperative banks. These institutions mutually cooperate on a national level but maintain their decentralized nature. The decentralized structure has proven to be an effective management tool (Neveau, 1981). They have also diversified to involve other facets of rural life - eg. providers of services to farmers (Neveau, 1981). Such diversified local institutions can aid in helping farming families - or small coops - to get involved in cottage or other small scale industries or services. Such banks should also facilitate rural saving.

Four advantages are claimed for both (Huppi and Feder, 1990).

- Economies of size, mainly through reduced transaction costs;
- enhanced information about borrowers; this implies fairly small groups and cooperatives;
- risk pooling through joint liability; and
- improved bargaining.

The main potential weaknesses are moral hazard (the private cost of default becomes smaller than the social cost) and the increased risk attached to concentration of the loan portfolio.

In contrast to the European example, farmers' cooperatives in many LDC's have been organized on the government's initiative. The general pattern was one of multi-purpose cooperatives that handled inputs, provided marketing services and handled credit (Huppi and Feder, 1990). The same pattern was evident in South Africa. In many countries, such cooperatives became organized in two or three tier systems - as in South Africa.

In order to handle multiple functions, many cooperatives found it necessary to expand activities, sometimes by way of mergers. Results are two-fold: The larger size causes the hypothesized advantage of enhanced borrower information to dissipate, and increases moral hazard. There is a growing gap between member and management. It also turns the cooperative into something which can hardly be combined with other functions: a financial institution. Multi-purpose cooperatives can be used to carry out various policies, and are more often subject to government interference (Huppi and Feder, 1990; Ming, 1989).

The evidence points at a mixture of success and failure. Success of cooperatives in financing appears to be restricted mainly to small sized cooperatives, specialized only in finance, and with much emphasis on members' education and members' savings.

10.6 Lending groups

Government organizations such as extension agencies have borne the cost of group formation and technical assistance in many countries. In other cases, village

organizations or other traditional groups have formed the basis. Results have been mixed; Huppi and Feder (1990) list the following as major factors influencing success:

- Size of the groups: Small groups foster closer ties among members and reduce costs of information. Group size is directly proportional to delinquency rates. (In this sense, Huppi and Feder quote Owusu and Tetteh, 1982; Desai, 1983; Bratton, 1986; Tohton, 1988; Hossain, 1988). It appears that groups with more than 20 members default significantly more than smaller groups.
- Homogeneity is important for effective group guarantees and loan supervision.
- Effective management, preferably from within, is essential.
- Training is important.

The organization, legal and other arrangements, and liability arrangements can take different forms (Huppi and Feder, 1990) which will not be discussed in this paper. In general, the literature gives the impression that these lending groups can play an important role in rural finance. One probable advantage, not shown in literature, is that through joint action, these groups will also foster entrepreneurial responsibility, knowledge and experience in financial matters. Its potential - possibly in forms reminiscent of some stokvels - warrants serious consideration.

11. Conclusion

The search for a better life, for higher living standards in Africa must keep the small entrepreneur as kingpin. This entrepreneurship needs to be fostered, cherished, developed and maintained. It exists, but it encounters serious obstacles in really contributing its due share. Its ability to render its optimal contribution will come to fruition if appropriate technology and knowledge is made available, if land tenure arrangements render entrepreneurial action possible, if we allow farm size to become a natural result of entrepreneurial ability and if finance arrangements are suitable. The inherent dynanimism of rural life can be a guiding star.

The factors mentioned above are certainly synergetic. Each will, if improved, push up the production and utility frontiers of all others. Each has a mimimum critical value. And there are certainly powerful positive interactive relationships among all. The future of African agriculture eventually hinges on entrepreneurship.

References

ADAMS, DW. (1978). Mobilizing household savings through rural financial markets. Economic Development and Cultural Change, Vol 26:547-560.

ADAMS, DW and CONZALEZ-VEGA, C. (1987). Interest rates and factor-use proportions in agriculture In: Bellamy M and Greenshields, B (Eds.), Agriculture and economic instability. Adershot: Gower.

ADAMS, DW and GRAHAM, DH. (1981). A critique of traditional agricultural credit projects and policies. Journal of Development Economics, Vol 8:347-366.

ADAMS, DW, GRAHAM, D and VON PISCHKE, JD. (1984). Undermining rural development with cheap credit. Boulder, Colorado: Westview.

ANDERSON, D. (1975). Fluctuations of maize and groundnut yields in the Lilongwe Land Development Program. World Bank Studies on Employment and Rural Development, No 25.

BELLONCLé, G. (1974). Etude sur le credit agricole dans trois villages de la region de Maradi (Niger). Rome: FAO Agricultural Credit Studies Working Paper 5.

BRATTON, M. (1986). Financing smallholder production: A comparison of individual and group credit schemes in Zimbabwe. Public Administration and Development, Vol 6:115-132.

BYERLEE, D, EICHER, CH, LIEDHOLM, C and SPENCER, D. (1982). Employment-output conflicts, factor price distortions and choice of technique: Empirical results from Sierra Leone. Economic Development and Cultural Change, Vol 30.

CHAMBERS, R. (1980). Rural poverty unperceived: Problems and remedies. University of Essex, Institute of Development Studies.

DESAI, BM. (1983). Group lending experiences in reaching small farmers. Ohio State University, Occasional Paper 761.

DE VRIES, J. (1978). Agricultural extension and development - Ujamaa villages and the problems of institutional change. Community development Journal, Vol 13:11-19.

DODGE, DJ. (1977). Agricultural policy and performance in Zambia. Institute of International Studies, University of California, Berkeley.

DRUCKER, PF. (1986). Managing for results New York: Harper and Row.

EICHER, CK and BAKER, DC. (1982). Research on agricultural development in Sub-Saharan Africa: a critical survey. Department of Agricultural Economics, Michigan state University, East Lansing, Michigan.

EVENSON, RE and BINSWANGER, HP. (1978). Technology transfer and research allocation. In: Binswanger, HP and Ruttan, VW (Eds) Induced innovation: Technology, institutions and development. Baltimore: Johns Hopkins, University Press.

FARMER, BH. (1977). Green revolution? London: McMillan.

FéNYES, TI and GROENEWALD JA. (1985). Land tenure: attitudes in Lebowa. Agrekon, Vol 24, No 1:18-23.

FéNYES, TI and VAN ROOYEN, CJ. (1985). The contribution of agricultural economics to development. Development Southern Africa, Vol 2:271-286.

GROENEWALD, JA. (1991). Returns to size and structure of agriculture : A suggested interpretation. Development Southern Africa, Vol 8:329-342.

GROENEWALD, JA and DU TOIT, JPF. (1985). Marketing behaviour and marketing preferences of Bophutatswana cattle owners. Agrekon, Vol 24, No 1:24-29.

HOSSAIN, M. (1988). Credit for alleviation of rural poverty: The Grameen bank in Bangladesh.

Washington: International Food Policy Institute, Research Report 65.

HUPPI, M and FEDER, G. (1990). The role of groups and credit cooperatives in rural lending. World Bank Research Observer, Vol 5:187-204.

KASSIER, WE and GROENEWALD, JA. (1992). The agricultural economy of South Africa. In: Csáki, C, Dams, T, Metzger, D and Van Zyl J, (Eds). Agricultural restructuring in Southern Africa. Windhoek: Agrecona.

KING, R. (1975). Experiences in the administration of cooperative credit and marketing in northern Nigeria. Agricultural Administration, Vol 2:195-208.

KING, R. (1981). Cooperative policy and village development in Northern Nigeria. In: Heyer, J, Roberts P and Williams, G (Eds) Rural development in tropical Africa. New York : St Martin's Press.

LELE, U. (1977). Integrated rural development. In: Ensminger, D, (Ed), Food enough or starvation for millions. New York: McGraw-Hill.

LESEME, RM, FéNYES, TI and GROENEWALD, JA. (1980). Traditional and legal aspects influencing agricultural development in Lebowa. Development Studies Southern Africa, Vol 2:171-195.

LINSENMEYER, DA. (1976). Economic analysis of alternative strategies for the development of Sierra Leone marine fisheries. Michigan State University, African Rural Economy Working Paper 18.

LOUW, A. (1981). Business growth in agriculture V: Riskiness of alternative land acquisition strategies. Agrekon, Vol 20, No 3:10-16.

LOW, ARC. (1986). Agricultural development in Southern Africa: A household economics perspective. London: James Curry Ltd.

LYNE, MC. (1990). Distortions of incentives for farm households in KwaZulu. PhD thesis, University of Natal.

MING, H. (1989). Reform of China's rural financial system. In: Longworth, J (Ed), China's rural development miracle. St Lucia : University of Queensland Press.

NEVEAU, A. (1981). Agricultural banks or multipurpose banks? From: The rural challenge. London : Gower.

ONYEMELUKWE, CC. (1974). Economic underdevelopment: An inside view. London: Longman.

OWUSU, KO and TETTEN, W. (1982). An experiment with agricultural credit: The Small Farmer Group Lending Programme in Ghana (1969 - 1980). Savings and Development, Vol 1:67-83.

SANDOVAL, PR. (1969). Capital formation and credit in agriculture. In: The economist and farm people in a rapidly changing world. Oxford University Press.

SCHULTZ, TW. (1953). The economic organization of agriculture. New York: McGraw-Hill.

SCHULTZ, TW. (1965). Economic crises in agriculture. Ann Arbor: University of Michigan Press.

SCHULTZ, TW. (1964). Transforming traditional agriculture. New Haven: Yale University Press.

SCHULTZ, TW. (1968). U.S. malinvestments in food for the world. In: Heady, EO(Ed), Alternatives for balancing world food production and needs. Ames: Iowa state University Press.

SEN, A. (1981). Poverty and famines. Oxford: Clarendon Press.

STEVENS, RD. (1989). Technology transfer for Chinese agriculture: Theory and implications for strategy. In: Longworth, JW (Ed), China's rural development miracle. St Lucia : University of Queensland Press.

TAPSOBA, E (1981). An economic and institutional analysis of formal and informal credit in Eastern Upper Volta : Empirical evidence and policy implications. PhD thesis, Michigan State University.

TOHTONG, C (1988). Joint liability groups for small farmer credit: The BAAC experience in Thailand. Rural Development in Practice Vol 1: 4-7.

VAN ZYL, J, GROENEWALD, JA and GEERTHSEN, JMP (1985). Optimal technology for different levels of managerial ability: a case study of maize cultivar selection. Development Southern Africa, Vol 2: 501-511.

VAN ZYL, J VAN DER VYVER, A and MOSTERT, CW (1987). The effect of debt burden, interest rates and inflation on the survical of farm enterprises: A case study in the Western Transvaal and the North Western Transvaal Bushveld. Agrekon, Vol 26, No 1 : 1-7.

VON PISCHKE, JD and ROUSE, J (1983). Selected successful experiences in agricultural credit and rural finance in Africa. Savings and Development, Vol 1: 21-44.

WALINSKY, LJ, (Ed) (1977). The selected papers of Wolf Ladejinsky. Agrarian reform as unfinished business. Oxford University Press.

WILES, PJD (1977). Economic institutions compared. Oxford: Basil Blackwell.

WORLD BANK, 1981. Accelerated development in Sub-Saharan Africa. An agenda for action. Washington, DC: The World Bank.