SUSTAINABLE RURAL CREDIT FOR AGRICULTURAL DEVELOPMENT IN PNG

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ABSTRACT

The sustainable rural credit refers to maintain the rural financial services in a viable state in perpetuity to ensure that credit is accessible at affordable rate. The sustainability is affected by market failures, agricultural sector failures, structural weakness of farming, inappropriate and high cost delivery system and non-availability of infrastructure and support services. Market approach in smallholders credit can be a long term goal. In the short to medium term smallholders credit shall continue to be a non-market approach. The viability of financial services is adversely affected by the viability of credit delivery as well as receiving systems. The possilbe policy options to address these problems include regualtion and subsidisation of credit operation in the short to medium term, credit delivered as a package along with support services, low cost institutional credit, rural savings mobilization, insurance and credit guarantee scheme to cover risks, land reforms and improved infrastructure and support services.

Key words: *Sustainable rural finance, market failures, market approach, viability of delivery and recieving system, market intervention and policy options.*

INTRODUCTION

"Whenever you are in doubt or when the self becomes too much with you apply the following test: Recall the face of the poorest and the weakest man whom you may have seen and ask yourself if the step you contemplate is going to be of any use to him. Will he gain anything by it ? Will it restore him to a control over his own life and destiny ?

.......Then you will find your doubts and self melting away."

-Gandhi-

The purpose of this seminar can be deemed to have been achieved if we could find the right answers to the above questions. The above theme may be more relevant for most of the discussions during this seminar and for restructuring the agricultural services delivery system in PNG. We are discussing the best ways to ensure delivery of agricultural services to the farmers to improve their income and the economic welfare. We recognise that the delivery of rural services should adopt "Farmers First Approach".

Agriculture continues to be the most important economic sector in the country, primarily because it provides income and employment to about 85 % of the population, contributes to about one third of the GDP and to about 30 % of the export income. Being the renewable resource sector, agriculture shall be the source for broad- based growth. During the process of economic development agriculture sector will be the principal source of capital for investments elsewhere in the economy. Sustainable agricultural development is the prerequisite for economic progress.

As one of the key factors for development, rural credit and rural savings have to play an important role to achieve the sectoral goals and objectives of the National Government plans for agricultural development. Rural credit will support the commercialization process and the subsequent privatization under agricultural sector.

Financial services mobilise the savings for productive investments which raises the income of the savers, lending institutions and the borrowers alike. As PNG rural sector moves away from the land and labour intensive subsistence farming to capital intensive commercialised agriculture, they need more finance to make additional capital investments. The biggest difference between subsistence and commercialised agriculture is the efficiency with which the resources, more so the

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financial resource, are used. The contribution of rural finance lies precisely in its ability to increase efficiency.

The discussions in this paper mainly consider the sustainability of rural credit with special reference to sustainability of smallholders credit. The rural finance is considered as a means to the end - that is development on sustainable basis and in terms of availability, accessibility, affordability of rural financial services and viability for the savers, lenders and borrowers.

SUSTAINABLE RURAL CREDIT

Sustainable rural credit implies that the financial services must be maintained in productive and viable state in perpetuity. The credit and savings are accessible and available for investors at affordable rate. The financial market should reward the savers and lenders in order to mobilise the savings and make available credit at affordable rate to ensure productive investment. Savings is mobilised to make investments and to promote growth in the economy.

The sustainability of rural financial services depends on the viability and sustainability of the credit delivery system and credit receiving system. The necessary policy interventions to sustain the delivery and receiving system should be in place to ensure sustainability of rural finance. The credit delivery system involves the financial intermediaries i.e. the banks, and the receiving system involves the borrowers, mostly the smallholders.

Sustainable rural credit improves the intensive cultivation and commercialisation and thereby increases the productivity and profitability. Non-availability of credit and high interest rate beyond the reach of smallholders and subsistence farmers may lead to extensive or shifting cultivation which may ultimately lead to deforestation. Similarly the credit institutions, who are responsible to deliver the credit, should be viable and profitable. In a way sustainable rural finance shall also contribute to sustainable development.

THE KEYNESIAN APPROACH

The familiar Keynesian approach for growth focuses on keeping interest rates low to stimulate investment which in turn produces greater output. Tobin extended the basic Harrod-Domar growth model to incorporate money and showed that the higher the return to money in a household's portfolio of assets, the smaller is the proportion of capital available for investment thus decelerating growth. These prescriptions were the theoretical foundation for controlled low interest rate policies.

It is true that low interest rates promote investments. It is, however, unfair to argue that these economists prescribed supply of credit in advance of effective demand and thereby for the supply-led strategy of financial development. There are evidences to indicate that many developing countries adopted this strategy and have not only failed to effectively stimulate growth but also introduced counterproductive distortions in the financial markets. It is the case of mere coincidence and without the supply-led approach also the result would have been negative as there were other serious constraints.

It is universally recognised that the first and foremost precondition for successful agriculture lending is of course, successful agriculture. Any downturn or failures in agriculture shall have adverse impact on the agriculture credit irrespective of whether we followed supply-led or market driven approach unless the credit risk is adequately covered. When the economic policies, which includes delivery of all services at an affordable cost, succeed to make agriculture profitable then only the agriculture lending shall be viable and profitable.

Government has to pursue a number of goals besides economic efficiency. Subsidised credit is viewed as one way of transfer and distribution of economic benefits. In developing countries like PNG where there are no social security measures and the viability of farming system is adversely affected due to the economic policies, the government intervention in the short term is to subsidise the delivery of services including credit. In the long term when the market imperfections and distortions are minimised everything should be left to be decided by the market forces.

Sustainable financial services depends on a dynamic approach to the credit and savings programs. The approaches and strategies may have to change and adopt according to the changes in the economic situation. Different approaches are needed for different time period.

FINANCIAL LIBERALIZATION

According to the financial liberalization policy advocated by economist such as Shaw-MacKinnon interest rate deregulation may lead to positive real rate of interest which shall be closer to the market rate. Liberalization, by allowing the nominal interest rates to raise to market-clearing levels, would cause real interest rates to rise to positive levels and remove explicit interest rate subsidy. Higher real interest rate may lead to more domestic savings and investment.

The World Bank cites evidence from a number of countries such as Thailand, Turkey and Kenya where the liberalization of interest rates generated more savings and investment(The World Bank 1989). Countries like Japan, Korea, Taiwan and Singapore adopted this policy and achieved remarkable success, whereas the liberalization programs ended in near-collapse in latin American countries of Argentina, Chile and Uruguay.

The financial liberalization is not the panacea and developing countries have to examine the appropriateness of the policy.

The policy may be appropriate when there are no market failures, rural sector is fully commercialised and when there are not many distortions or imperfections. The rural sector is currently adversely affected due to high transport costs and marketing system, exchange rate, poor technology transfer system, poor capital formation and low private sector investment etc. All these factors ultimately lead to low productivity and profitability. By year 2000 the financial sector, including the rural financial sector, can be possibly liberalised and until then the development process may need some sort of government intervention and financial regulations to ensure sustainability.

SMALLHOLDERS CREDIT

According to Keynes, technology and accumulation of capital were the engines of growth. Development of smallholders farming system heavily depends on transfer of technology and capital and access to other infrastructure and support services. While the transfer of technology and provision of necessary infrastructure facilities are the responsibility of the development departments, transfer of capital to smallholders sector can be effected either from tax payers money through the budgetary allocation or from the public savings deposited with the banking system through the bank credit. All these services should be made available to the smallholders on a sustainable basis.

Development planners have to make appropriate policy interventions, after careful analysis of the socio-economic and financial returns or benefits and the cost recovery factors, to ensure adequate flow of capital to smallholders sector either through the budget or bank credit according to the government priorities.

In the process of development the financial intermediaries, the Development Bank and other banks, make decisions to invest or lend the accumulated capital to producers who have higher returns with low risk in preference over the enterprises with low and risky returns. In a fair and free economy the scarce capital resources normally get allocated to most efficient and productive enterprises.

Generally the largeholders sector which is highly organised and commercialised, is capable of availing the maximum credit facilities from the Banks whereas the smallholders sector is trailing much behind and is not normally able to get adequate access to credit.

"Too much credit for largeholders and very little for smallholders" is the general observation and it can at best be classified as the symptom and not the problem. Inadequate access to credit, if identified as the very problem, then the solution is to ensure adequate supply of credit and this may lead to supply distortion without studying the bankability and viability of banking operation. Very little credit for smallholders is not the problem by itself but rather the symptom of something ailing our smallholders farming system and our rural financial market.

It is, therefore essential to identify and define the problem. Basically the problems could be defined as under :

- Poor viability and credit absorption and debt servicing capacity of smallholders farming system and

- Doubtful financial viability of smallholders credit operation and limited delivery capacity of credit delivery system.

These are the main problems and the exhibited symptom is less credit to smallholders sector in any developing country and more so in PNG. As a matter of fact it is an investment gap rather than credit gap in the sense any credit facilities may complicate the problem further resulting in accumulation of bad and doubtful debts under the smallholders credit portfolio.

It is,therefore, essential to examine whether it is advisable to address the above problem by ensuring forced credit delivery or to ensure availability of a package of services to make the smallholder farming commercially viable and to convert the investment gap under the smallholders sector as a bankable credit gap.

Smallholders credit will be a myth and never be a reality unless we approach the problem in an integrated and systematic manner. We have to clearly study and define the problem, rather than going by the symptom. Credit should be an integral part of the packages to be delivered and not to be delivered in isolation, so as to make the credit more productive and useful. Credit delivery will be a solution in cases where credit is the only limiting factor and not in cases where credit is one among the limiting factors.

The most relevant factors to be analysed are :

- Financially sustainable smallholders farming system
- Delivery of a package of inputs to ensure better productivity
- Risk sharing through appropriate policy interventions
- Creditabsorption and servicing capacity of the smallholders

Once these factors are favourably available at optimal level then smallholders credit will never be a myth but a reality. A detailed review of the credit delivery and receiving systems and the rural savings is to be made to make systematic approach to the problem of sustainability of smallholder credit.

SUSTAINABLE CREDIT RECEIVING SYSTEM

The sustainability of credit receiving system is to a greater extent decided by viability and credit absorption and servicing capacity of the credit receiving system i.e. smallholder farming system.

The smallholder farming systems (Fig. 1) are characterised by:

Un-economic holding: The smallholders farm size and investment activities are below the economic holding size. The income to be generated may be just sufficient to meet the family consumption claims and in general there may not be any surplus to save, invest or to service any credit facilities with interest.

Low productivity: The productivity of factors of production are low due to lack of support services and infrastructure facilities.

Lack of economy of scale: Small scale production is not able to enjoy the benefit of economy of scale and therefore the productivity and profitability continues to suffer.

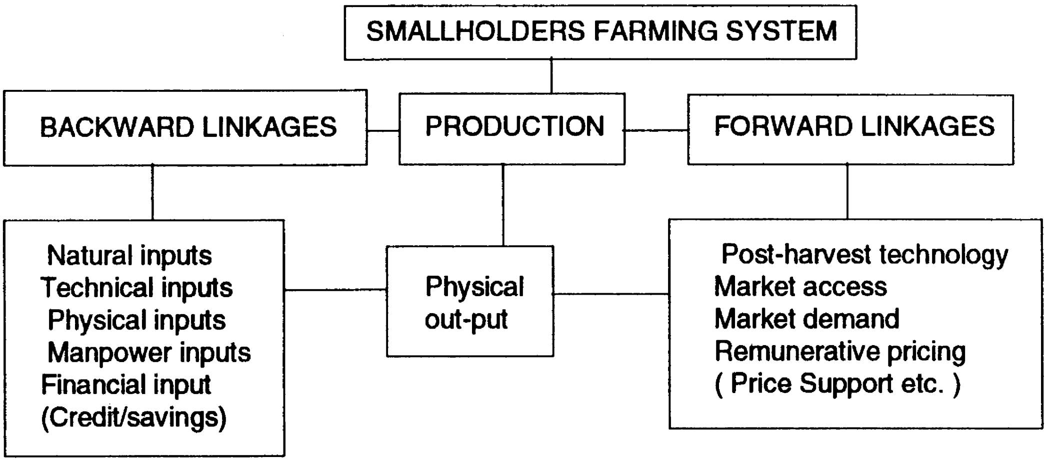
Lack of optimum utilisation of factors of production: Smallholders farming normally may not be able to utilise all the factors of production as efficiently as possible and normally it is less capital and technological intensive.

These factors influence the viability and debt-servicing capacity of the smallholders and therefore they are not able to have easy access to credit. Many a time there is an argument that credit is not the limiting factor whereas the development planners argue that credit is also a limiting factor. Both of them are right in their own perception but then the right argument would be " credit is not the only limiting factor but it is one of the limiting factors" under the smallholders farming.

Development will take place on a small scale evolutionary basis as sporadic events without development planning and credit because of the efforts of the " innovators " as happened in tree crop smallholders sector in PNG. Wide spread and faster development on a revolutionary basis is the ultimate goal of the development planning and for that level of capital and technological intensive development credit along with other infrastructure has to play a key role. Thorough examination of the smallholders farm production system may indicate the weakest links in the system.

An integrated and systematic approach to solve the problems that are ailing our smallholders farming in PNG should possibly be identified. The natural inputs, agro-climatic condition and lands and soils, are more favorable than all other link-

Figure 1. **A SMALLHOLDERS FARM PRODUCTION MODEL.**



ages. The technical input which is normally expected to be delivered through the extension agencies is not up to the expectation. The physical inputs like agro- chemicals, farm machineries etc. and the skilled manpower are not adequate enough to undertake modern farming.

The above four factors in conjunction with the other forward linkages contribute heavily to poor accessibility to financial inputs like credit etc. and the poor credit absorption capacity.

The physical output i.e. production, productivity etc., is very low due to low productivity of smallholders farming. The post harvest technology is not adequate enough to ensure timely processing, storage and conversion into marketable goods. The access to the market is very poor due to poor transport facilities and partly due to lack of post harvest technology.

The domestic market demand for many of the commodities produced by the smallholders is negligible and the overseas market is also highly unpredictable. There is demand for commodities like food grains, fruits, meat etc. but the smallholders are not producing enough of these commodities to meet the demand. The commodity price fluctuations and the unfavourable cost of inputs adversely affect the viability of the smallholder farming.

The producers' share in the consumer price is very low and the market access and the marketing intermediaries take away the major portion of the consumers' price i.e. the difference between the farm gate price and the retail market price. This pattern of price spread indicates that the benefit generated by agricultural production is taken away by marketing costs which includes transport, wages, processing and packaging, duties and taxes etc. Ultimately, the farmers' share in the consumers' price can increase only when all other forward linkages indicated above are favourably available.

It is therefore essential to ensure delivery of all services for proper integration of all backward and forward linkages with the production process and an integrated approach to the problem is more appropriate rather than delivery of one input while the other services continue to be critical constraining or limiting factors.

Unless and otherwise all these services are favourably available at optimum level the smallholders farming system may not be productive and viable. With the result the credit receiving system, i.e. the smallholders farming system, may not be able to absorb the credit and service the debt. Delivery of credit is not the panacea for this ailment as there is only an investment gap and not a credit gap.

By ensuring an integrated approach to deliver all the services, the investment gap can be transformed into credit gap/demand. Delivery of credit alone, without other services, may ultimately increase the liability of the smallholders and make them bad debtors.

Further the smallholders need to be organised into farmers associations or cooperatives or farming companies, to avail the benefit of economy of scale. This will also make the transfer of technology much easier by reducing the number of contact farmers and by minimizing the possible distortion in communication.

The extension agencies are expected to contact these institutions rather than thousands of smallholders. Adoption rate will also increase considerably and this will result in increased production, productivity and viability of smallholders sector and bankability of smallholders credit.

While planning for future projects it should be ensured that the minimum smallholders block should be at least 10 hectares so as to ensure economic holding and keeping in view the possible farm family size increase. Fragmentation and further sub-division of holdings should not be encouraged.

It can therefore be concluded that the smallholders need a package of services to be delivered which includes technical, physical and financial services. Delivery of these services coupled with a favourable natural input and other forward linkages will make the smallholder farming productive and viable. A financially viable smallholder farming system may be in a position to generate adequate surplus to meet the reasonable investment demand and debt-service obligations. Any incremental demand for investment can be supplemented through bank credit. This will enable the creation of a sustainable smallholders farming and rural financial services.

7. SUSTAINABLE CREDIT DELIVERY SYSTEM

The formal credit delivery system consists of the Commercial and Development Banks. The business of banking, either Commercial or Development Banking, mainly depends on the viability of the operations, to recover the cost, to recover the funds invested and then to generate surplus for recycling and further lending. In other words the banking operations should ensure " return of capital " and" return on capital" employed. But then the question is whether to ensure " financial return or economic return ".

Generally the Commercial banking and to some extent the Development banking has to ensure financial return to their operation. However the development banker may have, at times, to lend based on economic returns provided the economic return generated is transferred to the development bank in the form of adequate subsidy and grants by the Government. The Development Banker has to play a more catalytic role and socio-economic development of the nation should be their goals and their operation should be at least cost effective.

Basically the viability of credit operation depends on "return of capital" and " return on capital". The return of capital refers to the recovery of the credit without any bad and doubtful debts where as return on capital refers to recovery of variable cost as well as fixed cost and a reasonable return or profit. The cost of fund is the variable cost where as all other administrative costs, including the transaction cost, are called fixed cost. Profit is a payment for entrepreneurship and business risk taking and therefore a reasonable return as profit is also expected.

The variable cost i.e. the cost of fund , remains the same for the largeholder or the smallholders credit operation; but the fixed cost or the overhead cost fluctuate widely due to the size of the loan amount and normally it will be low per unit amount lend in the case of largeholders whereas it will be comparatively higher per unit amount lent in the case of smallholders.

The institutional credit operation further increases the operating cost due to the high cost administrative structure of the institution. It may not be possible for smallholders to meet these expenditures. Now it is to be examined whether the increased fixed cost is to be transferred to the smallholders or to the bankers or to be subsidised by the government. Necessary policy interventions are essential to cover this additional cost associated with the credit.

Apparently the risk in the form of bad and doubtful debts is also relatively high with the smallholders credit operations because of the comparatively poor capacity to meet the various risks associated with the smallholders farming. The risk is to be shared and cannot be passed on entirely to the bankers or to the smallholders. Policy interventions by the government is needed here also to cover various risks associated with smallholder farming by way of various insurance and guarantee schemes.

One more pertinent point is the capacity of the banking system to meet the entire credit demand of the smallholders farming sector. Smallholders credit is normally highly supervised and the man power required per account is comparatively higher and the demand for the manpower is also seasonal mainly because of the topographical and agro-climatic conditions of PNG. This again limits the capacity of the banks to lend liberally to smallholders and the bankers have to make use of all resources including manpower resources most optimally.

The lendable funds available with the banking system are also considerably limited and therefore it may not be possible to meet the entire credit needs of the smallholders sector without further mobilization of funds.

The viability of smallholders farming as discussed earlier is further compounding the problem of risk associated with smallholders credit because of the poor productivity and viability of smallholders farm due to various reasons discussed. Even if there is a potential demand for credit the capacity of the banking system to meet the entire demand is very limited because of limited capital, manpower and other resources.

Precisely it can be concluded that the smallholders credit operation is not that much profitable or at least cost effective when compared to largeholders credit operations. Furthermore the risk associated with the smallholders credit operation is comparatively high which may result in high rate of loan delinquency. The present institutional system may not be cost effective and cannot operate without subsidy. Liberalization may not rectify the structural weakness of the delivery system and may not ensure sustainability.

The possible options to ensure viable delivery system includes identification of a low cost institutional arrangement, credit tied with input-output marketing agencies, subsidisation of credit operations, coverage of loan default risk and farmers education. Ensuring proper end-use of credit and timely follow-up shall minimise the credit default risk.

There will be arguments against subsidisation of credit operations as it may be against the structural adjustment policies. Jackelen and Rhyne(1990) in their paper, "Toward a more market-oriented approach in credit and savings", justified the commercial approach after detailed evaluation of the credit programs of Bangladesh, Indonesia and Bolivia. However a careful evaluation of almost all the smallholders credit programs across the world may indicate some form of hidden subsidy. Market-oriented approach may be appropriate as long as the market is free, fair and with minimum imperfections.

8. RURAL SAVINGS MOBILIZATION

Policies and institutions that increase the accumulation of capital, such as providing savings deposit facilities in rural areas would increase technology adoption through capital formation. Savings is a means; the end is future consumption. If savings are not invested to ensure production and supply of goods and services in the future, the reserved purchasing power may lead to inflation. Alternatively, productive investments may lead to economies of scale and more competition in the market and ultimately result in reasonable prices and savings.

The advanced countries have all passed the stage to take-off into self sustaining growth. The developing countries that are still in either a traditional society or the pre-conditions stage, have only to follow certain sets of rules of development to take off in their turn into self-sustaining economic growth. One of the principal requirements necessary for any take-off is mobilization of domestic and foreign savings in order to generate sufficient investment to accelerate economic growth.

The Harrod-Domar growth model views limited savings as the major constraint on aggregate economic growth. High savings rates in Japan, particularly in the postwar period, resulted in rapid capital accumulation. Thus, high saving rates are usually considered to be a major factor contributing to Japanese economic growth (Mundlak 1979).

Faster growth, more investment and greater financial assets accumulation all partly comes from savings. Liquidity, easy access and high return on financial instruments promote savings. Higher real interest rates are likely to lead to increase in financial assets. Empirical findings indicate conflicting evidences regarding the effect of real interest rate on real saving, but financial savings seem to respond strongly to higher interest rate (Lee 1991).

Table. 1. Investment, Savings and Financial Requirement in PNG,1965 to 1987 (Percentage of GNP)

	1965-73	1973-80	1980-87
Gross domestic investment	27.8	22.0	27.6
Gross national savings	..	11.1	3.5
Balance of payments; total to be financed	..	-10.9	-24.1

Source: The World Bank, World Development Report 1989.

As may be seen from table 1, PNG has a large gap (24.1 per cent of GNP) between domestic investment and national savings. Most developing countries have an average of about 7 per cent as the difference between domestic investments and savings.

Development finance is normally for long-term or medium- term investment and therefore the rate of interest cannot exceed 12 to 15 per cent based on the opportunity cost of capital in the rural sector. The average lending rate of RDBPNG is about 10 percent and of Commercial Banks about 15 per cent (BPNG 1991). Assuming that 12 to 15 per cent is the average lending rate for development finance, the cost of funds should be less than 8 to 10 per cent to ensure the viability of credit operations, provided the spread is sufficient to cover fixed costs and a reasonable profit (Kannapiran 1991).

In PNG, the cost of deposit funds accounts for 10 per cent (BPNG 1991). The ABPNG average lending rate of interest is about 10 per cent. There will therefore be no interest spread and profit margin. Moreover, deposit mobilization for the purpose of agricultural lending may not be able to address to the problem of resource and profitability constraints. Mobilization of rural savings may be attempted but it can be one of the options for long-term results. A cost-effective system needs to be designated to mobilize savings.

9. INTEREST RATE

Subject to monetary policy regulations, interest rate is normally decided by the following factors:

- Cost of lendable funds available to the bank
- Transaction and credit operation costs
- Risk premium for loan default
- Inflation and real value of money

The average cost of fund for Rural Development Bank of PNG (RDBPNG) and Commercial Banks is about 3 % and 10 % respectively. The cost of fund for RDBPNG is low due to the subsidised funds made available by the Government. The loan administration cost for RDBPNG is around 17.6 % (Kannapiran 1991).

There is no estimate of risk premium associated with rural credit in PNG. Considering the level of bad-debts written-off by the banks, it can be safely assumed that the risk premium should be of about 7 %. After taking into account all these costs the market rate of interest in the free market should be in the range of 27-34 %.

The average return on investment under smalllholders' sector in PNG is in the range of 10-12 %. Any credit program with interest rate higher than 12 % may not be suitable for smallholders. Any financial liberalization may lead to a interest rate of about 25 % for rural sector and this may be a clear case of denying the credit or inaccessible credit. The smallholders may not be willing to borrow at that rate of interest and even if they borrow they may not be able to repay the loan.

Rural sector in PNG is facing the serious problem of uncovered risks and low profitability. The lack of credit worthiness reflects the poor income and meager savings of the smallholders. Growth of real income and improved repayment of loan should reduce the probability of default and the risk premium which will in turn reduce the interest rate on credit.

Low interest rate led to excess demand for loans and non- price rationing which reduced the viability of the lending bank. On the other hand deregulation of interest rates and removal of specialised source of concessional credit could result in the rural sector paying higher average interest rates on funds. A competitive market system with a minimum regulation was the most efficient way to organise economic activity. However the Government has to pursue a number of goals besides economic efficiency and to intervene in those sectors where there are market failures.

Agricultural technical change does influence the supply of loans and the interest rate. This may lead to improved productivity and profitability, increased real income of the smallholders and thereby increase the repayment capacity and credit worthiness. Interest rate can be lowered indirectly through the provision of technical change and investment opportunities which will reduce the risk and improve the credit worthiness.

10. BANGLADESH GRAMEEN BANK

The Bangladesh Grameen Bank is perhaps the most admired effort in institutional credit for smallholders and rural poor. An evaluation of the most successful Bangladesh Grameen Bank operations may indicate that major source of their income (50 %) is from investment of a substantial part of available funds in fixed and short- term deposits with other banks (Hossain 1988). These funds are mostly received from International Fund for Agricultural Development(IFAD) at an interest rate of 3 % and deposited at 14 % interest with commercial banks. This ultimately indicates that they preferred to keep the lendable funds borrowed from IFAD in deposits which is more profitable than lending to their clients.

This highly profitable line of business clearly indicates that there is a hidden subsidy as these incomes relate to non-operating income. Once the IFAD funds are repaid the bank may loose almost 50 % of its income and incur losses to the extent of Taka (Tk) 43 million. Further if the IFAD fund is not available the cost of fund would have gone to 8.5 % from the present level of 3 %. This ultimately might have resulted in increased cost of loan operation to 26 % as against the average lending rate of 16 %. The bank therefore is lending at subsidised interest rates. In the year 1986 the cost of loan operation was Tk 72 million whereas the income from loans and advances was Tk 44 million, implying a subsidy rate of around 40 %.

The sustainability in terms of economic efficiency of the financial services provided by the Grameen Bank is doubtful. The program, however, is the most sustainable in terms of social benefits. There is a strong case to support the Grameen Bank institutional credit arrangement on socio-economic ground as this program supports the livelihood of the poverty families especially women and landless.

The approach to credit to rural poor by the Grameen Bank is highly commendable. Some elements of the Grameen Bank approach to delivery of credit, such as formation of small homogeneous groups for group guarantee of loans and supervision and recovery of loans, recovery of loans in smaller regular installments and development of institutions of collective savings for mutual benefits of members, may also work in other environment and therefore can be replicated.

11. EFFICIENT FINANCIAL SYSTEM

Experiences have indicated that evolutionary process of development is more sustainable than the revolutionary process. The East European revolutionary approach is the best lesson for development economists. When there are imperfections and market failures in the economy which adversely affect various sectors, it may not be realistic to remove distortions under one sector alone in isolation.

There should be a systems approach in the economy than meddling with some sub-systems. As long as the overall system is not having economic efficiency, it may not be possible to ensure economic efficiency under one sub-system, that is financial system.

The rural financial market approach in rural finance focus on the financial viability of financial institution (Fernando 1991) without much discussion on viability and affordability of smallholders farming system. The supply-led approach as well as the rural financial market approach is built upon the assumption of viability of creditors or debtors respectively. The first approach emphasis is on the end whereas the second approach emphasis is on the means. Both the approaches have their own strengths and weaknesses.

The rural financial market approach is built upon the ideal assumptions of perfect market and that smallholders can borrow at market rate; the smallholders farming is having highest rate of return like largeholders; the transaction cost of credit can be kept at the minimum; low cost operational credit delivery system is possible and so on. Experiences have indicated that nowhere in the world the above assumptions are realities under smallholders credit operations.

The financial institutions including the Bangladesh Grameen Bank experiment are working under heavy subsidy. If we really want to ensure that financial market approach should be strictly implemented, without rectifying the market failures and the structural weakness of the smallholders farming system, all the smallholders credit programs shall be a myth and never be a reality and not at all workable. We should adopt a pragmatic approach with due weightage for socio-economic desirability.

Further the financial viability and return on credit is one aspect to be ensured whereas the Government is keen on the economic viability and economic rate of return for the credit investment. A proper economic analysis may indicate that the smallholders credit shall have a higher economic rate of return but may have lower financial rate of return. Even when there is low financial viability to the lending institutions, as being experienced elsewhere, the government may wish to subsidise and continue the credit operations on socio-economic justifications.

It is ideal to establish an efficient rural financial system in the long-term if this is possible. The elements of efficient rural financial system include:

1. Achievement and maintenance of stable macro-economic conditions without any sectoral imbalances and market failures.
2. Policies and strategies to make agriculture profitable and competitive which will improve the credit absorption capacity.
3. Market-determined interest rates and lending. This will ensure sustainability of the system in the long-run.
4. Savings mobilization to improve capital formation and more private sector investment under primary sector.
5. Improving the capacity to audit and monitor the banks.
6. Restructuring and strengthening of credit delivery system.
7. Alternative source of credit delivery agencies including NGOs, Church Groups, cooperatives etc.

The first three aspects are core elements for establishing an efficient credit system and other aspects shall have supplementary role to be played. Sustainable financial system can be achieved only when all the three core elements discussed above are favourable. Without ensuring the favourable core elements, the efficient financial system and financial liberalization shall remain as a distant dream.

12. AGRICULTURAL SERVICE COOPERATIVES

Slow rates of technology adoption may be attributed to a high level of risk, poor infrastructure for distribution of modern inputs and insufficient capital. Isolated low-cost credit programs, without proper linkages with other services in developing countries have generally failed to achieve agricultural technology adoption goals. The failure is due to the non-availability of other rural services and the inability of the poor farmers to bear the combined business and financial risks posed by adopting new technologies.

There are suggestions to establish alternative financial institutions to deliver rural credit, especially to smallholders. Considering the cost and benefit of the rural credit operations in PNG no further formal institutional arrangements may be worth trying and therefore either in the short term or in the long term there is no need for another financial institution to deliver rural credit. However people should be organised into self-help groups which may eventually be transformed into cooperatives or other informal institutions.

Currently, in PNG, there is no village level institutional arrangement or farmers association to ensure delivery of services to the villages. The Government policy is to improve the delivery of services to rural sector. There are plans to make the District as the focal point for delivery of services. There is an urgent need to develop village level people oriented institutional arrangement to ensure effective participation of villagers under our development programs.

Earlier experiences indicate the failure of cooperative institutions in PNG. In the recent past there are discussions about the possibility of reintroduction of village cooperatives or some form of farmers organization outside the public service in order to ensure joint efforts by farmers and development departments, including development banks. This approach may ensure greater people's participation and the cost effective way of improving the efficiency in the delivery of agricultural services.

The delivery of services including extension, credit, input supply, marketing etc. may be through the proposed Agricultural Service Cooperative. The cooperatives should be managed by the people and government role shall be restricted to facilitating the operations of the cooperatives by providing technical assistance.

Until the rural financial system is well established it is advisable to ensure delivery of credit on project basis. All development projects should have an in-built credit component which will be transferred as refinance to lending institutions or to the proposed Cooperatives to on-lend to smallholders.

The proposed Agricultural Services Cooperatives should be provided with refinancing facility to on-lend to the smallholders. Refinancing on project basis according to the Agricultural Sector Public Investment Projects (PIP) may be most appropriate in the short term to ensure credit delivery in line with sectoral development.

An ideal village level agricultural services institution appropriate for rural PNG may have the following attributes:

1. The institution must accept its role in assisting the smallholders and readily accessible at village level.

2. It must view delivery of services like extension, inputs, marketing, credit etc. as part of package, to be delivered to smallholders to improve farm productivity and profitability.

3. The institutions should provide credit in kind for purchased inputs to ensure end-use and to reduce procurement costs.

4. The institution must ensure timely delivery of credit and seasonality in lending and recovery of credit.

5. The credit should be tied with marketing to ensure better price and to ensure prompt recovery out of the sale proceeds.

6. Loan amount, down payments, interest rate, repayment program etc. should be flexible to the needs of the smallholders.

7. Credit worthiness and viability of the investment activity should be the basis for lending without much insistence on collateral security.

8. Clans or peer group responsibility may be ensured to recover the bank loan.

9. The cooperative should be managed by elected members of the cooperatives and government shall provide the necessary technical assistance and regulatory support.

Considering all these aspects the proposed restructuring of delivery of services may consider establishing an alternative low cost institution called " Agricultural Services Cooperative" at village level for development of rural sector in PNG.

13. POLICY PERSPECTIVES

13.1 **Market approach (Rural Financial Market)** in smallholders credit is a good ideology but the reality is that it could not be implemented in the developing world. Throughout the developing world, including the most successful Bangladesh Grameen Bank approach, the smallholders credit is heavily subsidised and continues to be a non-market approach.

13.2 **The long-term objective**, for year 2000, should be to establish an efficient rural financial system. The prerequisite for efficient rural financial system includes a stable macro-economy, a profitable and competitive agriculture sector and minimum distortion in the market. Then the market-forces shall determine the allocation of credit and interest rates.

13.3 **The government intervention** is necessary where there are market failures and imperfections. The intervention is in the form of regulation of interest rate and subsidisation of credit operation based on economic and social justifications.

13.4 **Smallholders credit** should be delivered as a package along with extension, input supply, processing and marketing. This will ensure productivity and profitability of credit investment which will ultimately improve the credit delivery and loan recovery. The proposed restructuring of services delivery system may facilitate the implementation of this approach.

13.5 **Credit and Technology adoption**: Technical change in rural sector can be enhanced if a package of services along with credit is delivered to farmers to maximise productivity and profitability and to minimise the risks.

13.6 The **possible options** to ensure viable delivery system includes identification of a low cost institutional arrangement, credit tied with input-output marketing agencies, subsidisation of credit operations in the short-term, coverage of loan default risk and farmers education. Ensuring proper end-use of credit and timely follow-up shall minimise the credit default risk.

13.7 All agricultural projects should include **credit as one of the components** which should be transferred to banks or other lending institutions as refinance for lending to smallholders. This refinancing project shall be managed by the proposed Marketing and Credit Division of DAL and implemented through the proposed Village Cooperatives.

13.8 The present system of high cost institutional arrangements to deliver credit to smallholders directly through the bank may not be sustainable and appropriate. A low cost alternative village level farmers association or Agricultural Service Cooperatives may be organised. The **proposed Agricultural Service Cooperatives** shall be managed by the smallholders themselves with technical assistance from the Government.

13.9 **All agricultural services** including extension, input supply, marketing, credit etc. may be delivered through the proposed village level cooperative. Banks and Government can provide refinance to these cooperatives for on lending to their members. They will be responsible for delivery and recovery of credit.

13.10 **Rural Savings Mobilisation**: Savings mobilization needs to be encouraged in the long term and this can be achieved by designing an alternate cost effective and easy accessible system so as to mobilize rural savings in PNG. Promoting savings habits, by offering attractive savings scheme, may improve the financial assets of the rural farmers which may ultimately improve the private sector investments under primary sector.

13.11 **Interest Rate Policy**: The interest rate for smallholders credit may be less than 12 % and for other agricultural credit interest may be charged at market rate. In the short term interest subsidy may have to continue as long as the market imperfections could not be minimized. Probably by year 2000 the rural financial system can be liberalised

13.12 **Farming System Structural Adjustment:** In the long term there needs to be structural adjustments in the farming systems of the smallholder sector in PNG. The optimum size of the economically viable smallholding or appropriate productivity level which can sustain the farm family minimum needs is to be decided. Wherever possible the smallholdings should be consolidated to ensure economies of scale and better technical change. Further sub- division and fragmentation of holdings should not be encouraged.

13.13 **Risk sharing**: At present there is no crop and livestock insurance scheme in PNG. Any unforeseen loss is to be met by the farmers. This also increases the lending risks and the banks cannot take this risk. A comprehensive risk sharing policy needs to be introduced.

The **credit guarantee schemes**, as experienced in other developed countries, normally leads to poor credit discipline and management as the bankers are sure of recovery by invoking the guarantee rather than by follow-up of the loans for recovery. Without proper monitoring, the guarantee scheme shall also result in payment for inefficiency.

13.14 **Collateral security & Land reforms**: The land tenure system in PNG, where there is no transferable legal title for lands, makes the lending further difficult as banks often feel insecure as there is no asset to fall upon in case of default of bank loan. It is therefore essential to introduce proper legal reforms to enable the land owners to mortgage their properties as collateral security for bank loans.

13.15 **Infrastructure and support services**: In the short term project approach is the best option for development of infrastructure and support services. However institutional arrangements to provide support services, including financial services like credit and savings, should carefully be evaluated to ensure delivery at minimum cost without much institutional administrative overhead costs. Government budgetary support, in the form of subsidy or grants, should be based on productivity and there should not be any payment for systems inefficiency of support services institutions.

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