THE IMPACT OF ALTERNATIVE FISCAL INSTRUMENTS ON LOCAL AGRICULTURAL POLICIES

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I. Introduction

As local residents directly vote for chief-executives of local governments, the era of local autonomy opens again. In the past, the local governments played simple roles as agents of the central government in implementing agricultural policies at the local levels. The local governments should implement not only their own administrative affairs, but also the representative public affairs of central government. The rapidly changing environments surrounding Korean agriculture, however, force the agricultural administrative system to change from "top-down approach" initiated mainly by central government to "bottom-up approach" initiated mainly by local governments .

In the light of this movement, the Korean government enacted 『Rural Development Strategies and Agricultural Policy Reform Plans(1994. 6)』and『Integrated Implementing Strategies of Agricultural Projects(1994. 12)』. Although the central government attempts to reform the agricultural administrative system, there exist still some problems to be solved. With respect to the implementation of agricultural projects at the local levels, fiscal conditions of the local governments get worse due to dramatic expansion of their shares in the matching funds. The primary concern of the local governments is, therefore, to find out effective fiscal instruments to meet increasing

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local fiscal needs.

Although Cullis and Jones(1992) and Wilde(1968) examine the effects of intergovernmental grants on local government spending, there are few studies to investigate the effects of fiscal instruments on local spending and the welfare of local residents. This study focuses on examining the economic effects of alternative fiscal instruments and some issues to be considered in applying alternative fiscal instruments to local finances.

The purposes of this article are, therefore, to investigate fiscal policy issues of local governments, to examine current situations of local fiscal activities for implementation of agricultural projects, to analyze how alternative fiscal instruments financing agricultural projects influence local government spending and the welfare of local residents, and to examine some issues and problems to be considered in introducing alternative fiscal instruments to the local governments.

II. Fiscal Policy Issues in Relation to Local Agricultural Policies

1. The Current Local Finance Situations for Local Agricultural Policies.

(1) Revenue Structure of Local Finance in Korea

The local governments in Korea receive revenues from local share taxes, user charges, intergovernmental grants(general grants), national subsidies(specific grants), intergovernmental transfers(tax base sharing transfers), and borrowings. The revenue structures of local governments are divided into dependent sources and independent sources, depending on the extent of how much local finances depend on central government. Local taxes and user charges are included in the independent sources while intergovernmental grants or intergovernmental transfers are included in the dependent sources. The current problems in local finance arise from both insufficient independent sources and huge fiscal burdens of local governments because of their expansive matching funds.

[1] The fiscal independence ratio is defined as the sum of local taxes and user charges divided by the general account budget.

Table 1 shows that county has the weakest revenue structures in the administrative hierarchy of local governments. The fiscal independence ratios[1)] of basic local governments, city and county, were 53.7 percent and 23.8 percent, while the fiscal independence ratio of the province was 46.7 percent in 1995.

Due to high proportion of the agricultural sector to the regional economy, the weak local finance would restrict successful implementation of agricultural projects.

TABLE 1 Revenue Structures by Local Governments

unit: 100 million *Won*, %

	Province	City	County
Local Taxes	20,922 (26.2)	18,081 (25.0)	9,626 (16.3)
User Charges	19,376 (24.3)	40,883 (56.6)	14,418 (24.5)
General Grants	9,083 (11.4)	6,877 (9.5)	26,992 (45.9)
Tax Base Transfer	6,372 (8.0)	2,883 (3.9)	6,582 (11.2)
National Subsidy	17,377 (21.8)	164 (0.2)	-
Borrowing	6,663 (8.3)	3,427 (4.7)	241 (0.4)
Total	79,793 (100.0)	72,263 (100.0)	58,861 (100.0)

Source: MOI, Statistic for Local Finance, 1994

(2) Distribution of Local Government Expenditures to Agricultural Projects

The percent distribution of local government expenditures to agricultural projects is illustrated in Table 2. These data show that national subsidies accounted for 50.5 percent of total agricultural project expenditures in 1994. The more important thing in managing the fiscal activities of the local governments is not the high ratio of national subsidies to total expenditures, but the increasing size in the matching funds which local governments should share. The increasing matching shares of the local governments give rise to serious difficulties in the implementation of fiscal policies and the management of agricultural projects at the local levels.

Table 2 shows that budgeted local expenditures, total expenditures, national subsidies for agricultural projects has risen steadily over the years. Total expenditures in 1994 stood at approximately 190.8 billion Won - a substantial increase from 33.6 billion Won in 1990. Moreover, the budgeted local expenditures has also increased sharply over the same period - the budgeted local expenditures, approximately 58.3 billion Won is almost 4 times of that in 1990. The increasing rate of budgeted local expenditures placed the highest position among the increasing rates of three different expenditures for agricultural projects.

TABLE 2 Recent Trends of Total Expenditures, National Subsidies, Budgeted Local Expenditures for Agricultural Projects

(Unit: Million Won)

Classification	1988	1990	1994	94/90
Total Expenditures (A=B+C+D)	336,509	557,795	1,908,104	3.4
National Subsidies(B)	252,962	413,083	963,697	2.3
Budgeted Local Expenditures (C)	61,182	139,359	582,971	4.0
Others(D)	-	-	361,472	-

Source: MOI, Statistic for Local Finance, Each Year

Table 3. shows the growth in the magnitude of budgeted local expenditures and actual local expenditures over the years. The budgeted local agricultural expenditures was 583.9 billion Won, which was 30.6 percent of total agricultural expenditures in 1994. The matching funds of the local governments are divided into province's and city · county's shares. Provinces shared 154.1 billion won(26.4

percent of the matching funds) while city and county shared 402.2 billion won(73.2 percent of the matching funds). The local governments can not meet their planned matching funds by 4.6 percent of total matching funds. Above 70 percent of the matching funds is financed by city and county finances. It implicitly shows that basic local governments, city and county, would face fiscal difficulties in implementing agricultural projects planned by the central government.

TABLE 3 The Trend of Budgeted Local Expenditures and Actual Local Expenditures for Agricultural Projects.

(Unit: Million Won)

		1988	1990	1994
Budgeted Local Expenditures (A)		83,547	144,712	582,971
Actual Local Expenditures (B)	Province	28,177	56,265	154,087
	City·County	33,005	81,094	402,183
	Sub-total	61,182	139,359	556,270
Difference(=A-B)		22,365	5,353	26,701

Source: MOI, Statistic for Local Finance, Each Year

Table 4 shows that local finances covered above 50 percent of project expenditures in 16 projects out of 41 projects in 1994. It implies that the local governments are implementing many agricultural projects unnecessary to their regions by using their fiscal funds under serious fiscal conditions.

The expansion of the size in agricultural projects have produced severe rigidity in the management policies of the local government finance due to expansive local spending resulting mainly from the increasing matching funds. As a result, the local governments with weak local finances can not function their fiscal activities properly. Since the purpose of providing the local governments for the national subsidies is to correct fiscal inequities between them as well as to improve resource allocation, the current situation is not consistent with the purpose of implementing agricultural projects financed by the national subsidies.

Some local governments with weak fiscal conditions can not implement some agricultural projects and finally returned a few projects operated by the national subsidies to the central government.

TABLE 4 The Numbers of Agricultural Projects Implemented with the Matching Funds.

The levels of the matching shares of local governments(%)	numbers of projects	
	1994	1995
70	1	1
50	15	9
40	2	2
30	5	7
25	9	8
20	8	10
15	1	-
10	-	1
5	-	1
Total	41	39

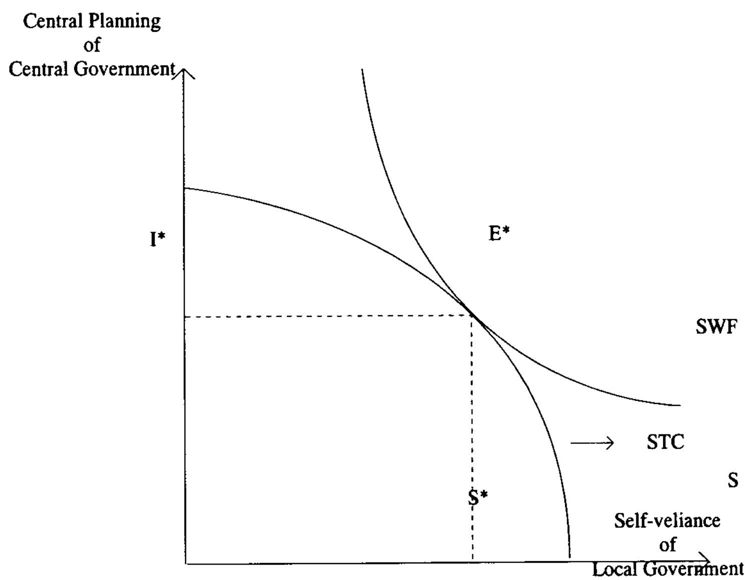
Source: MAFF, Statistic for Budgets, 1994 and 1995

2. Fiscal Policy Issues and the Optimal Fiscal Policy

One of the basic instruments of the local governments in implementing agricultural policies is fiscal resources(budgets). In order to achieve local autonomy, the local governments should obtain enough self-reliance both in the public affairs and in budgets. It is known that the decentralization increase the welfare of local people(' the decentralization theorem'). The positive effects of the decentralization help the local governments manage their fiscal activities with self-reliance. The central government, however, wants to implement local fiscal policies under the national economic development planning. The principal policy issue relating to local fiscal policies is, therefore, regarding how to balance different desires of the central government and the local governments. Policymakers who want to select the optimal fiscal policies face the trade-offs between strong intervention of the central government and self-reliance of the local governments.

The optimal selection of policymakers can be illustrated as Figure 1. The social welfare function(SWF) is traditionally used to specify preferences among multiple social objectives. Figure 1 examines the trade-off between strong intervention of the central government(planned fiscal policy) and self-reliance (autonomy) of a local government. Let curve STC represent the best possible combination of intervention and self-reliance that can be achieved by varying the policy mixtures of both the central government and the local governments.

FIGURE 1 Optimal Combination of Two Different Policy Objectives



The local government should select the optimal combination of the planned fiscal policy of the central government and the self-reliant fiscal policies of the local governments. The optimal point is determined at E* in which the local governments provide with S* of self-reliant fiscal policies and the central government provides with I* of the planned fiscal policy. For example, the planned fiscal policies force the local governments to provide more rural public goods in relation to agricultural development while the self-reliant fiscal policies of the local governments try to improve the well-being of local people. In the next chapter, the optimal selection processes of different fiscal instruments will be discussed under different policy objectives.

Yeon-Cheon Oh (1991) suggested some effective methods to resolve these kinds of conflicts between the central government and the local governments. The principal methods include establishment of the flexible fiscal system to incorporate the national tax into the local tax, introduction of new tax bases, and introduction of the efficient management system for large agricultural investment projects. Since local residents including farmers would want to vitalize regional economy after the direct-election of chief executives of the local governments, it is expected that local fiscal spending especially on agricultural projects will dramatically increase.

Most of the local governments have insufficient local funds to finance local public spending. Another local fiscal policy issue, therefore, is to find out appropriate fiscal instruments to finance fast growing local spending on agricultural projects.

The expanding agricultural projects is financed by 'Rural Special Tax' and '42 Trillion Won Projects for Structural Reform Plan in Agriculture'. Although the central government accounts for the high proportion of agricultural project expenditures, the fiscal conditions of the local governments get worse due to their enlargement in matching shares.

III. The Economic Effects of Alternative Fiscal Instruments on Local Spending and the Welfare of Local People

Three effective ways can be proposed to finance recurrent budgetary shortfalls of local governments and to reduce the fiscal burdens of local governments. First, establishment of new financial sources for developing regional agriculture should be considered. Second, the effective management system of local expenditure programs should be designed. Third, relating laws and legislations should be revised without changing the whole fiscal system.

The establishment of new financial sources includes (1) introduction of tax base sharing, (2) issue of local debt(or bond), (3) expansion of the magnitude of the rural development funds, and (4) introduction of the third sector to rural development programs. The effective management of local expenditure programs includes (1) transfers of national subsidy projects to repayment projects in the agricultural projects closely relating to private interests, (2) consolidation or rearrangement of complicate agricultural projects which are divided into too many small projects, (3) adjustment of subsidy rates applied in a number of agricultural projects, and (4) reinforcement of economic feasibility studies and effective agricultural project planning. The corrections of relating laws and legislations include (1) application of different subsidy rates to the local governments with different fiscal conditions, and (2) introduction of the block grant system.

Some ways mentioned above would change the whole fiscal system or would rectify relating laws and legislations, which could not easily be achieved in the short-term. Since weak fiscal capacities of the local governments get worse and the magnitude of the agricultural projects expands, the easily applicable ways should be considered. This study will, thus, illustrate the following three ways to be easily applicable: (1) effective management of local expenditure programs, (2) application of different subsidy rates to the local governments with different fiscal conditions, and (3) expansion of the rural development funds. This chapter will focus on the economic effects in applying alternative fiscal instruments.

As mentioned already in introduction, there exist some studies which investigate the economic effects of intergovernmental grants on local government spending. In order to investigate the economic effects of intergovernmental grants, grants were distinguished in the form of conditional or unconditional, of matching or non-matching, and of open or closed, depending on the extent of how different intergovernmental grants have different effects on local authority spending. Like analyses of investigating the effects of intergovernmental grants, the alternative fiscal instruments will be grouped into conditional or unconditional and matching or non-matching to examine the economic effects of alternative fiscal instruments.

The economic effects of alternative fiscal instruments on local spending and the welfare of local people will be analyzed by using diagrams and simple algebraical expressions. It is assumed that a local government maximizes a utility function in the same way as would an individual in neoclassical microeconomic theory. The relevant indifference curve may be considered to be that of a 'representative voter'. An initial budget line represents a constraint prior to any applications of alternative instruments. It limits the consumption possibilities between one good X which is the rural public good provided by the local government and all other goods Y. The impact of alternative fiscal instruments would be described by changes in the position and/or slope of the budget line.

1. Application of the Effective Management of Local Expenditure Programs

If the local finance is efficiently managed through the effective local expenditure programs, it has the same effects as the enlargement of fiscal funds by establishing new fiscal sources. The local government can reduce project expenditures through the reform of the budget preparation system in local finance, improvement of the capital investment analysis system, introduction of the effective monitoring and evaluation system, reform of the government accounting system, and so forth.

As a result, the application of the effective management of local expenditure programs for agricultural projects has indirectly same effect as the case of an unconditional non-matching fund. The economic effects of unconditional non-matching fund is shown in

Figure 2. The line 'ab' illustrates the trade-off faced by a 'representative' prior to alternative fiscal instruments. Without the expansion of the rural development funds, the local government prefers to pay taxes of 'aY_0' and provides OX_0 of a public good relating to agricultural projects at point E_0. If the local government receives an unconditional fund 'ca' through the effective management of local expenditure programs, then it is able to purchase more of the good, X. The budget line moves out to the right. The budget line changes from 'ab' to 'cg'. The intial equilibrium shifts from E_0 to E_1. It is a movement along the income consumption curve(ICC) to a point E_1 where OX_1 of the good is demanded, if X is normal good. The economic effects are also easily described algebraically as follows. Suppose a local government has a budget of W. Then, the budget constraint of a local government without any fiscal instruments will be the equation (1).

$$pX + Y \leq W \qquad \text{Eq.(1)}$$

Where X and Y are the public good relating to agricultural development and the other goods. If the effective management system is introduced in the local expenditure programs, the budget constraint of the local government becomes the equation (2).

$$pX_1 + Y_1 \leq W + s \qquad \text{Eq. (2)}$$

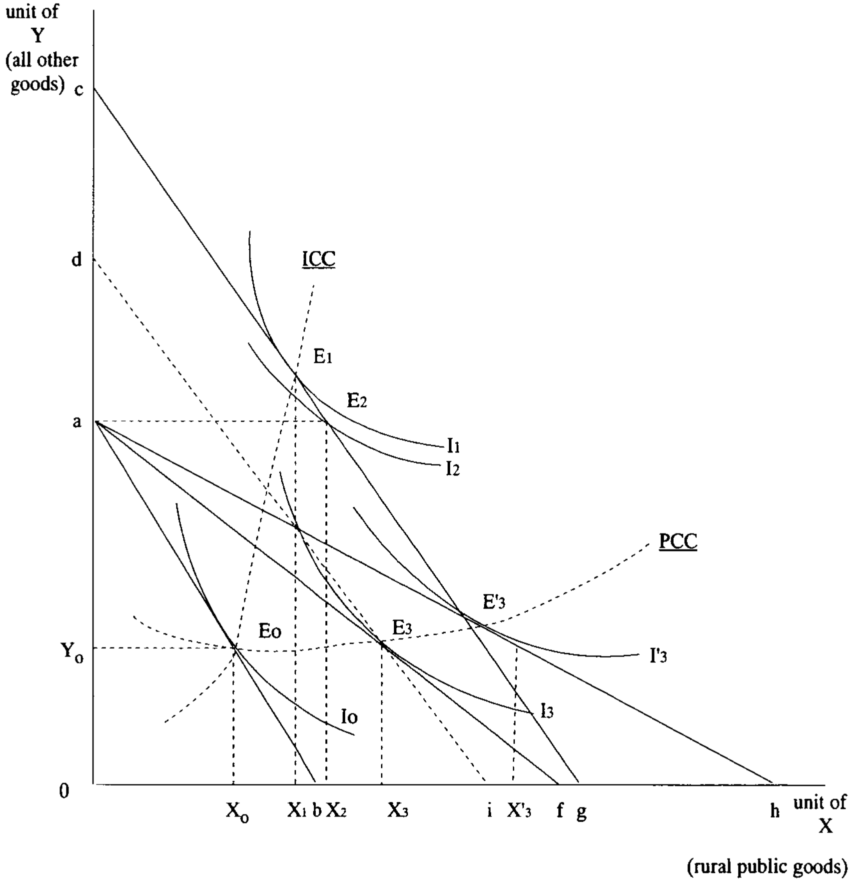
where s is the expansion of local finances from the introduction of the effective management system.

2. Expansion of the Rural Development Funds[2]

In the case of introducing the expansion of the rural development funds, the local governments do not have to agree to

[2] Instead of the name of the Rural Development Funds, many other names such as Rural Income Development Funds, New Community Development Funds, and others are being used. For convenience, however, the Rural Development Funds as the representative name will be used in this study.

FIGURE 2 Comparisons with the Economic Effects of Alternative Fiscal Instruments



match a certain proportion of the total agricultural project expenditures. Since the increasing rural development funds must be spent on the provision of good X, it is the same as the case of a conditional and non-matching fiscal instrument. The economic effects of this case are shown in Figure 2. In the case of conditional and non-matching fiscal instrument, however, the budget line looks like 'aE_2g' and the conditional constraint forces the local government to select a corner solution E_2. If the local government has had any condition binding, the local government would have moved from E_0 to E_2. It is evident that, by contrast to the unconditional fiscal instrument, the case of conditional non-matching fund is on a lower level of welfare as a result of spending more of X, X_2, than it would otherwise choose to spend on the good X. It is same as comparing indifference curve I2 to indifference curve I1. This case can be algebraically expressed as follows. If the expansion of the rural development funds should be used only for the purpose of agricultural development, the budget constraint will be the equation (3).

$$pX + Y \leq W + s \qquad \text{Eq.(3)}$$
$$X \geq X_2 \qquad \text{Eq.(3)'}$$

3. Application of Different Subsidy Rates

Most of agricultural projects in Korea are financed by the matching funds. In order to understand the economic effects of different subsidy rates, it is necessary to understand the economic effects of the matching funds. The matching funds implies that local governments agree to match a certain proportion of the expenditures of the central government in implementing agricultural development projects at the local levels. This means that the degree of matching share involved in agricultural projects operates like a price subsidy for the good X and thus the budget line changes its slope from 'ab' to 'af' in Figure 2. The local government shifts from the intial equilibrium E_0 to E_3. There is a movement along the price consumption curve(PCC) to a point where OX_3 of the good is demanded. The budget constraint can be algebraically shown as the equation (4).

$$(p-t_1)X + Y \leq W \qquad \text{Eq. (4)}$$

Let's rearrange the equation (4). Then, the equation (4) becomes equation (4)'

$$pX + Y \leq W + t_1X \qquad \text{Eq. (4)'}$$

Under the condition in which the budget changes at different fiscal instruments are same, the matching fund(price subsidy) will always lead the local government to provide more of the good than both conditional and unconditional non-matching funds(lump-sum subsidies). The effect of the unconditional non-matching fund is simply that of an income effect, which is shown by a shift of movement along the income consumption curve, ICC. The effect of the matching fund is that of a price reduction, which incorporates both a substitution effect and an income effect, which is described as a shift of movement along the price consumption curve PCC. It is possible that, among alternative fiscal instruments, the matching fund attains the highest level in consumption of the good X, but results in the lowest level in welfare of local people. The above economic analyses show why the local governments attempt to search other fiscal instruments rather than to preserve the current matching fund system so as to improve the welfare of local residents.

In the case of different matching rates, the budget line can be shifted to the right or to the left. Let's assume that the local governments with weak fiscal conditions will be levied at lower matching shares. In this case, the relevant budget line becomes 'ah'. If a different subsidy rate is levied at the rate t_2 on the budget of the local government, the budget constraint becomes the equation (4)"

$$pX + Y \leq W + t_1X + t_2X \qquad \text{Eq. (4)"}$$

The new equilibrium will move to the right from E_3 to E_3' along the price consumption curve PCC. The case of being levied at lower matching share results in higher levels both in consumption of the good X and in the welfare of local residents than that of the matching funds. It is, however, hard to compare with other fiscal instruments, conditional and unconditional non-matching funds under unknown situations of how much the matching shares of local governments decrease.

Compared with the economic effects of three alternative fiscal instruments on the welfare of local people and local spending, different economic effects stem from the nature of the amendment of budget line for the local governments resulting from alternative fiscal instruments. Above analyses indicate the following conclusions: (1) The efficient management of local expenditure programs(unconditionalnon -matching case) lead to higher welfare and lower consumption of X than the rural development funds(conditional non-matching case). (2) It is possible that the matching fund gets the highest level in consumption of the good X, but results in the lowest level in welfare of local people. (3) It is hard to compare non-matching cases to the case of being levied at different subsidy rates, if we do not know the exact levels of budget line's shift to the right or to the left. (4) Lower matching shares will result in higher consumption of X and higher welfare of local people. (5) Depending on policy objectives of the central government, the different fiscal instrument will be selected as the best policy instrument. If the central government wants to encourage a local government to spend on the rural public good, X, application of different subsidy rates(the case of lower matching share) will be preferred to introduction of the efficient management system or expansion of the rural development funds. If the central government wants to increase the welfare of local residents, the efficient management system of agricultural projects might be preferred to an expansion of the rural development funds or application of different(lower) subsidy rates. If the central government wants to develop regional agriculture as well as to improve the welfare of local people, the expansion of the rural development funds will be the best policy. The interrelationship between the instruments of financing local government spending and the objectivity of the central government should be examined to select an appropriate fiscal instrument for local finance.

IV. Current Situations and Issues to be Considered In Introducing the Alternative Fiscal Instruments

1. Effective Management of Local Expenditure Programs

In the past, the performances of the local governments in implementing agricultural projects were not sufficiently evaluated because they had focused on efficient allocations of financial resources rather than on efficient spending. It is, thus, important to improve the efficiency in fiscal activities of local government through both efficient expenditure programs and effective project managements.

In applying effective management programs to agricultural projects in Korea, the following issues should be put together. First, since agricultural projects are divided into very small project bases, separated agricultural projects with similar functions and roles should be consolidated. Second, since there exist some agricultural projects with similar functions which have different degree of government subsidies, the conditions of applying government subsidies to agricultural projects should be justified with objective criteria. Third, since agricultural project planning of the local governments were currently designed by one or two unskilled local officials without exact feasibility analyses on diversified agricultural projects which are different from region to region, there are not well-designed agricultural project planning and monitoring and evaluation processes in implementing agricultural projects for the local governments. It is expected that『Integrated Implementation Strategies of Agricultural Projects(1994.12)』and『Evaluation on Implementation Strategies of Agricultural Projects(1995.7)』would improve efficiency in agricultural project managements.

The effective ways to improve efficiency in agricultural project managements are (1) consolidation of separated projects into simplified projects, (2) rearrangement of complicated assistance conditions to simply assistance conditions with objective criteria, and (3) enforcement of monitoring and evaluation processes of agricultural projects.

The rapid structural reform relating to the implementation of agricultural projects could result in organizational repulsion in all levels of governments, which finally could influence negative impacts on effective project managements. The ways to improve the organizational and budget system should be, therefore, carefully introduced.

2. Expansion of the Rural Development Funds

Although each province establishes and manages the rural development funds to implement their unique agricultural projects necessary to their regions, the size of the rural development funds are relatively very small and local officials' experiences are limited in managing the funds.

Table 5 shows the current situation of the rural development funds operating in the province level. The total amount of the rural development funds was 31.9 billion won and the numbers of the rural development funds being operated in the whole provinces were ten in 1995.

As shown in Table 6, the Cheon-nam province has the largest rural development funds, 11.1 billion won and Chung-buk province, Cheon-buk province, and Chung-nam in the descending order. Although the size of the rural development funds is small, most of rural residents want to use this fund. Because most of agricultural projects focus on large capital investments, farmers feel short of operating funds for their small farm activities. Every provinces try, thus, to expand the size of the rural development funds.

The rural development funds are mainly financed from many sources - local government contributions, local farmer cooperative contributions, farm assistance agency contributions, interest revenues of funds, borrowing of local government, and other user charges of the local governments. In order to meet the high demands of many farmers for these funds, the methods of using the central government's grants as financial sources should be reviewed.

The rural development funds are mainly being used for the structural reform projects, especially to the modernizing farm equipments and rural income diversifications. The applicants who want to use this fund should make project proposals to local administration offices(Ueob or Meoyn). The directors of local administration offices review the project proposals, confirm the

TABLE 5 Management of The Rural Development Funds at the Provincial Level

(Unit: Million Won)

Investment and Repayment	Kinds of Rural Development Funds	Value
Investment	Agricultural Marketing Funds	1,000
	Rural Farm Leader's Development Fund	1,942
	Sub-total	2,942
Repayment	Rural Development Funds	10,393
	Rural Income Development Funds	2,562
	New Community Development Income Funds	14,299
	Income Assistance Project Funds	250
	Livestock Development Funds for An-Dong City	22
	New Community Assistance Funds	259
	Development Projects Special Account for Che-ju Island	848
	Living Stabilization Funds	320
	Sub-total	28,953
Total		31,895

Source: MAFF, Planning for Farm Assistance Programs, 1995.

TABLE 6 Comparison of the Rural Development Funds by Provinces

(Unit: Million Won)

Province	Value
Kyung-gi	1,552
Kwang-won	390
Chung-buk	6,429
Chung-nam	4,021
Cheon-buk	5,604
Cheon-nam	11,082
Kyung-buk	522
kyung-nam	1,478
Che-ju	848
Total	31,926

Source: MAFF, Planning for Farm Assistance Programs, 1995.

project feasibilities, and submit reviewed documents to county offices. The presidents of counties will decide proper applicants for the projects. The rural financial intermediaries such as farmer cooperatives and livestock cooperatives would take charges of managing those policy-oriented loans.

Since government credit programs focus mainly on financing large new capital investments or large farm equipments, most of the rural development funds would be used as operating funds for a short period to meet peak seasonal needs of farm, for a year or more to provide working capital, or for longer periods to help farmers its capital investment.

If local governments want to expand the rural development funds, following expected problems should be resolved : (1) small size in the rural development funds and large differences in the magnitude of funds among provinces, (2) short experiences of local officials, (3) unskilled local officials, and (4) lower managing efficiency in local government finance rather than in private financial intermediaries.

Besides these negative factors mentioned above, there exist some positive impacts on local finances. These impacts include (1) an easy instrument to be easily introduced at all local levels, (2) appropriate operating funds for a short period, and (3) a more flexible fiscal instrument than the national subsidies.

If the local governments want to expand the rural development funds, therefore, they should consider the following factors:

First, intergovernmental grants or transfers could be used for alternative funding sources in financing the rural development funds. Second, the funds should be efficiently managed in relation to considering the impact of other fiscal instruments on local government spending. Third, local officials should have valuable opportunities to learn some successful experiences of other financial institutions.

3. Different Subsidy Rates

Chong-Hyuk Suh(1995) insisted the application of different subsidy rates to agricultural projects so as to reduce fiscal burdens of local governments and fiscal imbalance between local governments.

In managing agricultural projects implemented by the national subsidies, local governments can hardly select objective criteria about how much local government must share in the matching funds. Different subsidy rates are currently applied even in similar agricultural projects. For instance, although the Land Reclamation Projects are similar to the Landfield Base Improvement Projects, different subsidy rates are applied. The matching shares of local governments to the land reclamation project expenditures and the landfield base improvement project expenditures is 0.2 and 0.3, respectively.

The subsidy rates being applied in each year are sometimes different. The subsidy rates applied to agricultural projects were also ranged from 15 percent to 70 percent in 1994. Since new subsidy rates, 5 percent and 10 percent are introduced to agricultural projects, number of subsidy rate levels expand from 7 levels to 9. It is known that the fiscal conditions and policy necessities to specific agricultural projects of central government have resulted in a complicated system for the subsidy rates in Korea.

『The legislation of budget and management for the national subsidy』 allows a local government to be able to apply different subsidy rates to different local finances. The legislation illustrates basic subsidy rates being applied to a number of rural development projects. The constant rate would add to or subtract from the basic subsidy rates depending on fiscal conditions of local governments. Index for complementing labor costs, index for fiscal capacities, and index for basic expenditure are frequently used as indexes of showing different fiscal conditions of local governments. Furthermore, regional difference, farm population, and cultivated land area would be important factors to be considered. It is, thus, a principal policy issue how an appropriate subsidy rate for a specific agricultural project implemented by a local government is decided.

Sang-Yong Lee(1989) suggested that the projects to be able to select different subsidy rates include (1) the project that provinces should share certain proportion of the total expenditures, (2) the project that the local government should spend more than constant proportion of total expenditures, (3) the project that can apply to cities as well as counties, (4) the project that can make the investment priorities higher, (5) the project that uses fixed amount of national subsidies, and so forth. Beyond these criteria, both the project necessary to concentrate assistance from central government and the project with different effects can be involved.

The past experiences of applying different subsidy rates in implementing community development projects of Ministry of Interior tell us which factors should be considered in applying different subsidy rates to agricultural projects. The past experiences show that different subsidy rates applied to community development projects resulted in increasing total national subsidies.

The Ministry of Agriculture, Forestry, and Fisheries also has an experience of applying the different subsidy rates for the rural-industrial complex project. In the land provision to the rural-industrial complex projects, the subsidy rate applied to general assistant rural area is 20 percent, while the subsidy rates applied to extra assistant rural area and mining village are 30 percent and 50 percent, respectively.

Above experiences of Ministry of Interior and Ministry of Agriculture, Forestry, and Fisheries explain some reasons why the proper adjustment in the subsidy rates not to induce total amount of national subsidies is important. In applying different subsidy rates, the most important thing is to provide with objective criteria to select the different levels of subsidy rates on different agricultural projects.

V. Concluding Remarks

As local residents vote for chief-executives of local governments, the era of local autonomy opens. The expansion of the size in agricultural projects have produced severe rigidity in managing local government finance due to expansive local spending resulting mainly from the increasing matching funds. As a result, the local governments with weak local fiscal capacities can not do their fiscal activities properly. In order to accomplish real local autonomy, the local governments should obtain enough self-reliance both in the public affairs and in budgets. The current policy issue appeared in managing local government finance is, therefore, regarding how to finance the dramatic growth in local public spending.

In order to finance recurrent budgetary shortfalls of local governments and to reduce the fiscal burden of local governments, the following three fiscal instruments are discussed in detail. They include (1) expansion of the rural development funds, (2) application of different subsidy rates to local governments with different fiscal conditions, and (3) effective management of local expenditure programs.

The main conclusions derived from the analysis which examines economic effects of three fiscal instruments are as follows: (1) The efficient management of local expenditure programs(unconditional non-matching case) leads to higher welfare of rural residents and lower consumption of the rural public good X than the rural development funds(conditional non-matching case), (2) The matching fund gets the highest level in consumption of the good X, but results in the lowest level in welfare of local people, (3) It is hard to compare non-matching cases to the case of being levied at different subsidy rates, if we do not know the exact levels of budget line's shift to the right or to the left, (4) The case being levied at lower matching shares will result in higher levels both in the consumption of X and in the welfare of local people, and (5) Depending on what are the policy objectives of the central government, the different fiscal instrument will be selected as the best policy instrument. If the central government wants to encourage the local government to spend on the rural public good, X, application of different subsidy rates(the case of lower matching share) will be preferred to introduction of the efficient management system or expansion of the rural development funds. If the central government wants to improve the welfare of local residents, the efficient management system of agricultural projects will be preferred to expansion of the rural development funds or application of different(lower) subsidy rates. If the central government wants to develop regional agriculture as well as to improve the welfare of local people, the expansion of the rural development funds will be the best policy. The interrelationship between the instruments of financing local government spending and the objectivity of the central government should be examined to select an appropriate fiscal instrument for local finance.

The following factors should be considered in expanding the rural development funds: They include that (1) Intergovernmental grants or transfers could be used for alternative funding sources in financing the rural development funds, (2) the funds should be efficiently managed in relation to considering the impact of other fiscal instruments on local government spending, and (3) local officials should have valuable opportunities to learn some successful experiences of other financial institutions.

Imposing different subsidy rates on local governments with different fiscal capacities can increase total amount of national subsidies. Thus, the proper adjustment in the subsidy rates and the determination of objective criteria to different subsidy rates should be considered.

Applying effective management programs to agricultural projects in Korea can improve efficiency in managing agricultural projects through effective management programs, and they include (1) consolidation of separated projects into simplified projects, (2) rearrangement of complicated assistance conditions by objective criteria, and (3) enforcement of monitoring and evaluation processes of agricultural projects.

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