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ON THE ECONOMICS OF  
INTEGRATED RURAL DEVELOPMENT  
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**ON THE ECONOMICS OF
INTEGRATED RURAL DEVELOPMENT**

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ABSTRACT

Under what circumstances should rural agencies be organizationally integrated in developing countries? Or better, since the answer in particular cases will depend on a host of specific details, how might we begin thinking about the benefits and costs of integration? Using ideas from economics, the paper develops a framework that arrays the principal reasons for and against integration, along with a set of empirical questions that may be used to quiz proponents and guide research. (See the next three pages.) How well do economic ideas from the world of firms apply to public agencies, especially in rural areas of poor countries? The benefits of integration are likely to be smaller, and the costs larger, than an economic model might suggest.

A FRAMEWORK FOR ANALYZING INTEGRATED RURAL DEVELOPMENT

Reason (Pro and Con)

Key Empirical Questions

A. Inputs in the rural production function are complementary.

1. Which goods and services exhibit complementarity? To what extent and at what levels of output? Focus attention on those inputs that are most interdependent.
2. Why can't consumers themselves integrate the goods and services optimally? Consider (a) externalities among consumers, (b) transaction costs, and (c) consumer ignorance. How would the integration of suppliers overcome these problems? Might other measures be preferable, such as adjusting prices or providing education and information?

B. Integrated agencies achieve economies of combined production (superadditivity).

1. Does integration allow resources to be reallocated among agencies? If so, with what gains in efficiency? Consider the "comparative advantages" of the different agencies in planning, marketing, delivery, etc. Could the desired reallocation or improvement be done with integration? Are there also risks of misallocation if agencies are integrated? Consider the "Shaw-and-the-dancer problem," the weakening of excellence, etc.
2. How large are the economies of scale from merging (parts of) different agencies? Consider planning, research, capital equipment and other overhead, top management, delivery costs.
3. Do agencies produce collective goods (for each other) that will underprovided if not supplied in an integrated fashion? Consider information, political organization, public relations.
4. To what extent do agencies affect each others' production via externalities? Consider especially lumpy investments in capital, space, and time, such as infrastructure. How well can independent agencies adjust to externalities without integrating? Might better information exchange be a preferred solution?

Reason (Pro and Con)

Key Empirical Questions

C. Integration creates a sort of monopoly.

1. Would an administrative monopoly be beneficial? Consider increased bargaining leverage vis-a-vis local citizens and clients, the provincial and national governments, and donors of foreign aid.

2. What negative consequences might ensue? Consider the greater ease of cooptation by elites, corruption, politicization, and excessive expansion, as well as resistance by regions without an integrated project and by line agencies.

D. Integration allows financial diversification (portfolio effect).

Could integrated agencies enjoy such financial benefits? Could the same benefits be achieved more efficiently through financial markets, investments, and so forth?

E. Vertical integration permits agencies to overcome imperfect markets between them, including transactions costs.

1. Do agencies engage in "transactions" with each other, analogous to the purchase of inputs and the sale of outputs? If not, the reason does not apply.

2. How would integration lower these transactions costs and to what extent?

F. Integration entails direct financial costs.

What are the direct financial costs of integration? Consider the start-up and recurring expenditures needed for new organizations, personnel, staffing patterns, infrastructure, training, information and publicity, and so forth.

Reason (Pro and Con)

Key Empirical Questions

G. Integration involves indirect managerial costs.

1. How large are the learning costs? Consider the costs for clients as well as for government employees. Examine the effects of changes in budgeting, personnel, political linkages, standard operating procedures, evaluation and information systems, basic tasks, and legal status.

2. How serious will bureaucratic resistance be? Consider the legitimacy and power of the integrating authority, the similarity of missions among those organizations and individuals who are integrated, and the extent that integration helps those integrated attain their own ends. Does integration fly in the face of politics, custom, tradition? With what eventual consequences?

3. Are the managerial tools available for inducing agencies to integrate? Consider incentives, authority, information, control over workloads, career paths.

H. Integration is complex. It forgoes economies of specialization.

1. How different is the management of the integrated effort from that of the separate agencies? Is it too difficult for available personnel?

2. How large are the returns to specialization? To what extent is specialization sacrificed in the attempt to integrate? Consider technical aspects of the production function, but also the role of routine, measurable outcomes, morale, and other managerial aspects.

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I. INTRODUCTION

How would you assess the pros and cons of these four different examples of "integration" in rural development?

Agency. The National Family Planning Institute in Indonesia was transformed in 1970 from an appendage of the Ministry of Health to an independent agency reporting directly to the President. BKKBN, as it was called, brought together family planning activities from a number of governmental units: the Ministries of Health, Information, Education, Interior, and Religion, and the Army. The new Board's mission, as specified in Presidential Decree No. 8 of 1970, was "to coordinate, integrate and synchronize the activities of the national family planning program throughout the country." (See Paul, 1980a.)

Project. The Chilalo Agricultural Development Unit (CADU)--a large, integrated rural development project begun in Ethiopia in 1968--administratively combined previously separate public services in crop production, animal husbandry, forestry, extension and education, commerce and industry, water development, public health, and construction services. All these activities were provided outside the usual chains of command and line agencies in the Ethiopian government, and CADU itself was an independent unit of the Ministry of Agriculture. Like the many integrated rural development projects summarized in Table 1, CADU was designed with the hope that placing diverse services under a single, independent project would promote rural development more than if the services remained administratively separate. (See, for example, Cohen, 1974.)

Clinic. Haiti's Triangle Project combined family planning, health, and other services in integrated community health centers. A variety of diverse personnel--from medical residents, nurses, and auxiliaries, to agricultural extension workers and midwives--were brought together under the administration of local health centers, each headed by a medical resident. "Since family size, nutrition, health and economic status are completely interrelated and interdependent, an attack on one will bring only limited and often short-lived change. To have a far-reaching impact, a family planning program must be part of a wider effort." (See Denny, 1974, chapter 9.)

Table 1
 MAJOR INTEGRATED RURAL DEVELOPMENT PROJECTS

Services Included in Project	Project (Country, Years)									
	CAMU (Ethiopia 1967-)	Bicol River (Philippines 1975-)	Comilla (Bangladesh 1957-1967)	Helmand Valley (Afghanistan 1946-1974 1975-)	Invierno (Nicaragua 1975-)	Kigoma (Tanzania 1974-)	Lilongue (Malawi 1968-78)	Puebla (Mexico 1967-73)	Vicos (Peru 1952-67)	Vihiga (Kenya 1970-76)
Credit	●	○	●		●	●	●	○	●	●
Extension	●		●		●	●	●	●	●	●
Marketing	●	○	●		●	●	●	○	●	
Infrastructure	●	●	●	●	●	●	●		●	●
Input Supply	●		●		●	●	●	○	●	
Health	○	●		●	○	●	●		●	
Education	●	○	●	●	○	●	●		●	
Family Planning		Proposed ●	●		○					●
Other	Research, Water	Resettlement, Land Tenure	Research	Irrigation, Research	Nutrition ○	Water, Resettle- ment		Research Crop In- surance	Land Tenure	Rural Industry

● = Project provides these services.

○ = Project coordinates these services, which come from outside sources.

Source: Cchen (1979, p. 30) and Clapp (1978).

Multi-purpose worker. In the Philippines' Masagana 99 rice program, project technicians (PT's) became credit agents as well as extension workers. PT's received a semestral bonus of ₱6 for each of their client farmers who took a loan and another ₱3 if the loan were repaid on time. With an average caseload of 100 farmers, PT's could add a significant amount to their regular monthly income of ₱450-₱650. Despite the pressing nature of their technical duties in promoting the correct use of new seeds, fertilizers, and pesticides, PT's were assigned this extra job because they were thought to be uniquely placed to promote loans, screen out unsatisfactory applicants, and encourage repayment. (See de Jesus, 1978.)

How would you think about the costs and benefits of integrating these activities in a single ministry, project, center, or field worker? How would you evaluate adding one more activity--or deleting one from the list? Presumably, for each example most of us would answer that the pros and cons depend on a host of specific features of the particular situation. This is no doubt correct. But on just which features do which pros and which cons depend? This paper provides an framework for considering similarities among such examples of "integration" and for beginning a policy analysis or evaluation of them.

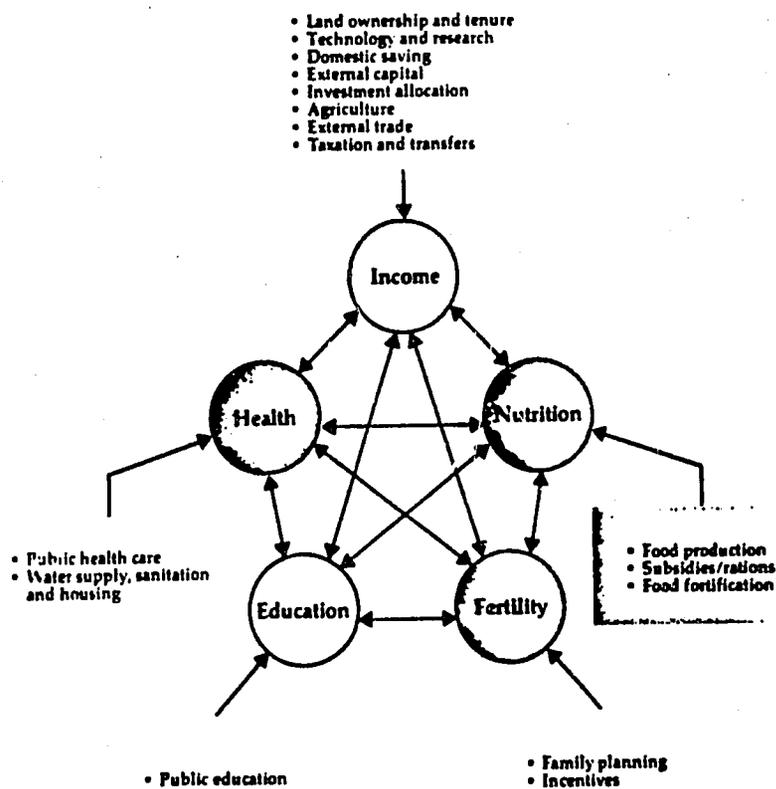
As we begin thinking about these questions, we might have a slight bias in favor of integrated rural development (IRD), which we might associate with these sorts of administrative combinations of formerly separate services, activities, or tasks.¹ The underlying logic of this bias might run as follows:

(1) The problems of rural poverty in the developing countries are so severe that they require significant public intervention.²

(2) Moreover, the various aspects of poverty are interrelated.³ Ignorance, illiteracy, disease, malnutrition, low productivity, high infant mortality, poor infrastructure, and the rest comprise a vicious circle--or seamless web, or integrated whole--of rural poverty. The World Bank's recent World Development Report depicts this view in Figure 1.

Figure 1

ASPECTS OF RURAL POVERTY ARE INTERRELATED



Source: World Bank, 1980, p. 69.

(3) This integrated problem requires an integrated government response, in the administrative sense. An example is Colombia's FEDERACAFE program, which, though specific to coffee producers, "represents a multi-dimensional, holistic understanding of rural social system interrelationships" (Adelman, 1981, p. 458). The structure of FEDERACAFE's integrated services is depicted in Figure 2. In the same vein, Rondinelli and Ruddle (1975, p. 147) state:

Inputs will not be integrated without an organization responsible for project implementation, thus either the capacity of existing ministries must be expanded or autonomous units with effective coordinating powers and skilled technical and administrative staff must be established. Project organizations must not only have the capacities to plan, program and coordinate project activities, but also should be able to train indigenous staff, monitor and control those activities, and elicit participation of clients and beneficiaries.

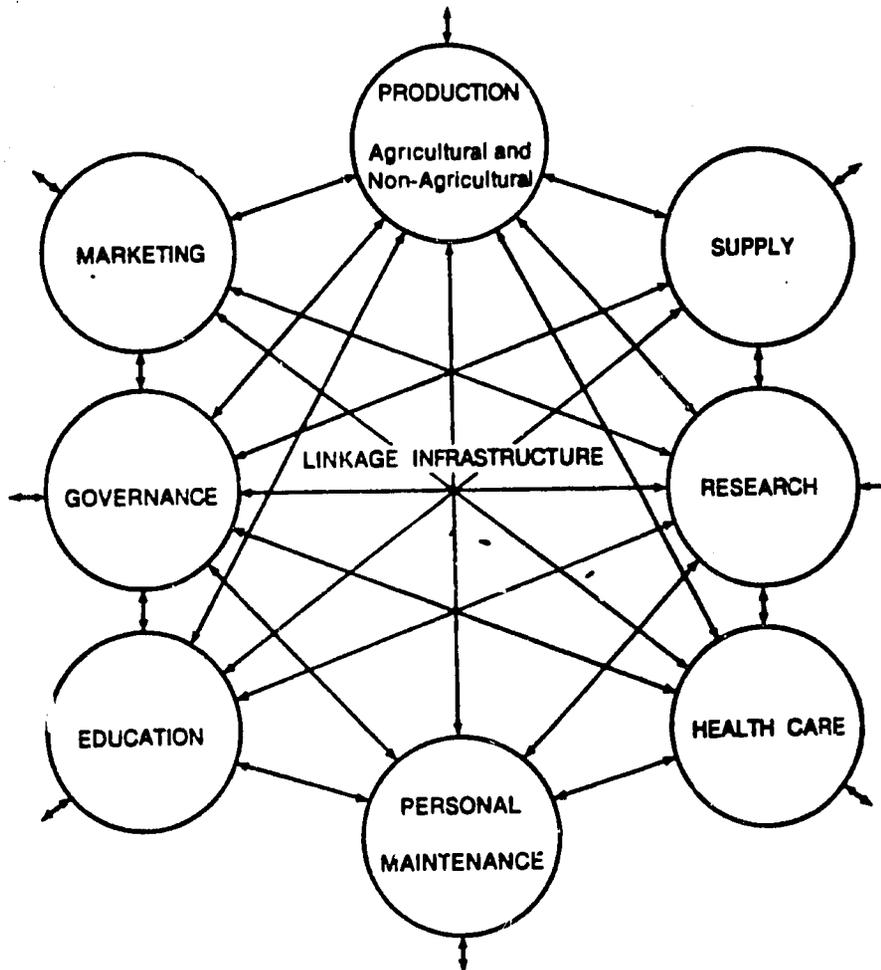
Even if this logic is appealing, most of us would also recognize that our examples of administrative integration entail costs as well as benefits. "The administrative problems of integrated rural development," observes Siffin (1979, p. 1), "include that sometimes fatal common cold of public administration--the sheer difficulty of doing ordinary things." Integration also introduces new complexities into the managerial agenda. Wade (1978, p. 253) argues:

Put more generally, the larger the number of components to be administratively integrated, the higher the cost--in time, in friction (people do not like to be integrated), in the sacrifice of performance for control. It may be suggested that the costs increase more than proportionately with the numbers of components, especially if the components include the economic and the non-economic.

We realize, therefore, that simply calling for "integrated rural development" is unlikely to help us analyze specific cases. Chambers (1974, pp. 25, 24, 153) diagnoses a difficulty encountered in many

Figure 2

A MODEL OF THE INTEGRATION OF FUNCTIONS
IN COLOMBIA'S FEDERACAFE PROGRAM



Note: FEDERACAFE includes "not only research on experimental forms to develop the most productive systems of coffee cultivation (production and research components), but also the design of processing and handling equipment (production and supply); the creation, administration, or stimulation of coffee warehouses, agricultural supply stores, cooperatives, and savings and credit banks (supply, marketing, and governance); formal and informal education programs for adults and youth (education); the establishment of health centers and campaigns to improve nutrition, drinking water, and general hygiene (health care); and the provision of economic and technical assistance for works of common utility such as community roads, water systems, schools, and housing (personal maintenance, education, and supply)." (Source: Adelman, 1981, p. 358; figure from p. 359.)

writings on integrated rural development:

When the activities to which they refer are looked at in detail "integration" and "co-ordination" can be seen to have heavy costs as well as benefits....The word "co-ordination" provides a handy means for avoiding responsibility for clear proposals. It is perhaps for this reason that it is much favoured by visiting missions who are able to conceal their ignorance of how an administrative system works or what might be done about it by identifying "a need for better co-ordination." Indeed, a further research project of interest would be to test the hypothesis that the value of reports varies inversely with the frequency with which the word "co-ordination" is used. Moreover, by using "integrated" and "co-ordinated" more or less synonymously and in alternate sentences, long sections of prose can be given an appearance of saying something while in fact saying very little indeed....Maximizing co-ordination or integration would paralyze administration.

Surprisingly, the rural development literature contains little that would help us analyze the likely benefits and costs of various kinds of integration. Cohen's (1979) exhaustive review found "many maxims about the importance of integrating," but only a few sources addressing why administrative integration might or might not make sense (p. 100).⁴ ("Every man who has seen the world knows that nothing is so useless as a general maxim"--Macaulay, 1967 [1827], p. 263.)⁵ It may be for this reason that Ruttan (1975, p. 14) concludes pessimistically that "integrated rural development can be described, perhaps not too inaccurately, as an ideology in search of a methodology or a technology."

This paper offers an analytical framework based on economics, which tries to array the major benefits and costs of integration and to indicate the factors influencing their magnitudes. The framework draws analogies between IRD and horizontal and vertical integration in the private sector. For instance, the Indonesian decision to form BKKBN in some ways resembles an industrial merger. Ethiopia's CADU project may be compared with a horizontally integrated firm. Creating the integrated

service centers of Haiti's Triangle Project probably involved calculations not unlike those behind the establishment of a department store instead of a series of independent specialty shops. Decisions about multi-purpose field workers, like those in the Philippines' Masagana 99 program, have something in common with deciding whether gas station attendants should also perform minor repairs, administrative assistants should also be legislative assistants, and in general how specialized a job classification should be.

These kinds of "integration" of course differ in many ways, and integrating mechanisms vary by degree, function, and hierarchical position.⁶ Without attempting to minimize these differences, the first task of the framework developed here is to illustrate the common features. In this sense, the paper may contribute a new perspective on the definition of "integrated" rural development.

But the framework's primary aim is more practical. The desirability of integration depends on the circumstances, as is made obvious when we observe successful private-sector organizations ranging from complete and narrow specialization to a dizzying degree of integration and conglomeration. But on what does it depend? This paper tries to sort out categories of benefits and costs from integration and array the main empirical questions on which "it depends." Throughout the discussion, examples are provided from IRD efforts.

Sections II and III of the paper place considerable weight on analogies to the economics of private-sector firms, and the main contention is that these comparisons are illuminating and practically useful. Nonetheless, public-sector activities are different from private enterprises, and

rural development in poor countries encounters conditions not usually assumed in economic theorizing. The fourth section of the paper considers the importance of these differences for the framework. It argues that the costs of integration in rural development will tend to be higher, and the benefits lower, than in purely economic models.

The final section of the paper is a brief application of the framework. The pros and cons of integrating family planning services and health services in a rural clinic are summarized with the framework's help.

II. THE ECONOMIC LOGIC OF INTEGRATION

Consider the interrelationships among different goods and services as they combine to produce an outcome of interest. The outcome may be as grandiose as rural development and the services as broad and varied as health services, education, and so forth. Or we may restrict our attention to a particular area such as agriculture and examine how various inputs combine in the production function. In either case, we have a relationship of the general form

$$(1) \quad Z = f(A, B, C, D \dots N)$$

where Z is the output of interest and A through N are the various inputs. In the grandiose example, A might be health services, B education, and other letters the outputs of other rural institutions. In an agricultural example, Z might be the total production of corn. A might be seeds, B fertilizer, C water, and so forth.

The goods and services A through N can themselves be viewed as the outcome of production processes within particular agencies or firms. A is produced according to various inputs, some of which are the same sorts of inputs used to produce B and C and the other goods and services, and other inputs which are specific to A alone. For example, if A refers to health services, then the production function for A might include such general inputs as capital, information, transportation services, and unskilled labor and such specific inputs as doctors, serums, and testing equipment. If B is educational services, it might include some of the same general inputs but also specific inputs like curriculum,

teachers, and books. Let x_i refer to a factor of production common to A through N and $\alpha_i, \beta_i, \gamma_i \dots$ refer to those factors specific to A, B, C.... Then the production functions for these goods and services are:

$$(2) \quad A = g_A (x_1, x_2, x_3 \dots x_{m_A}; \alpha_1, \alpha_2 \dots \alpha_{k_A})$$

$$B = g_B (x_1, x_2, x_3 \dots x_{m_B}; \beta_1, \beta_2 \dots \beta_{k_B})$$

$$C = g_C (x_1, x_2, x_3 \dots x_{m_C}; \gamma_1, \gamma_2 \dots \gamma_{k_C})$$

.....

$$N = g_N (x_1, x_2, x_3 \dots x_{m_N}; \eta_1, \eta_2 \dots \eta_{k_N})$$

Production function (1) is the one encountered by rural citizens themselves as they "produce" rural development, or corn, by combining the inputs A, B...N in their households and on their farms. Production functions (2) are those found in the particular government agencies (and private firms) that produce goods and services A, B...N. This distinction helps us to separate two broad categories of economic reasons for organizational integration: complementarity in the rural production function Z and superadditivity in the combined production of A, B...N.

A. Complementarity in the Rural Production Function

The most popular reason for "integrated rural development" is, as hinted earlier, the idea that the many ingredients of rural development are complementary. The production function for Z is said to display

complementarity when its cross-partial derivatives are positive, as in

$$(3) \frac{\partial^2 z}{\partial A \partial B} > 0.$$

For example, in agricultural production functions the marginal product of fertilizer usually depends on the levels of the other factors of production. It may be large if the amount of water available is large, almost zero if water is scarce. The benefits of using new seed varieties depends on the amount and timing of water; the amount, timing, and kinds of fertilizers and pesticides; and the levels of other inputs. Complementarity implies that the optimal procurement of one input must take account of the amounts available of other inputs. (Of course, input prices must also be taken into account.) A piecemeal approach that did not consider complementarity might lead to a non-optimal output; the procurement of inputs should be "integrated."

Complementarity will not be equally strong across all levels and combinations of inputs. Certain levels of some inputs may be necessary for other inputs to have any effect at all, while other inputs may show as complementarity. Presumably, the magnitude of the cross-partials is empirically known or knowable, especially in agricultural production functions. Ascertaining which levels and combinations of inputs are most complementary provides an idea of where "integration" is likely to have the largest pay-offs.

Two questions arise. First, is complementarity significant in various rural production functions? Second, if it is, does this imply the desirability of integration among the providers of those goods and

services--as opposed to integration in procurement by the family or the farmer?

Regarding the first question, complementarity is readily visible in the production functions for livestock and agriculture, even though it is often difficult to measure precisely. Two examples from IRD--one a failure, the other a success--clearly exhibit complementarity.

- The grade cattle sub-project of Kenya's Vihiga special rural development project. Grade cattle produce three to eight times as much milk as the customary Zebu cattle but also are more expensive. It was believed that credit was the major constraint preventing farmers from buying grade cattle, so the sub-project integrated the provision of cattle with the provision of credit. But grade cattle require more sophisticated husbandry than Zebu cattle. Originally, the sub-project was also to be integrated with other sub-projects: an extension effort to train farmers in the proper husbandry techniques, cattle dips to control the tick-borne diseases to which grade cattle (but not Zebu cattle) are susceptible, and artificial insemination. But as it turned out, the plan included only loans. The other sub-projects were conducted by separate agencies and personnel, and integration never occurred. The results were calamitous. By 1975 only two of the eleven cattle dips were operating effectively--even these two were underutilized--because of their distance from the farmers who needed them and a lack of water. Farm management field staff rarely visited the farmers who had used loans to purchase grade cattle. Five years into the sub-project, the extension program did not have an agricultural assistant for grade cattle in West Vihiga, and most farmers used the same animal care practices as with the Zebu. AID evaluators concluded that Vihiga did "not yet have the extension, veterinary and dipping infrastructure to make a grade cattle program effectively operational in spite of four years of SRDP" (Harmon and Zalla, 1974, p. 20). Grade cow mortality during the sub-project's duration averaged about 20 percent a year--twice the rate deemed feasible for a well-functioning milk production program.

- Korea's introduction of the new IR 667 rice variety. The annual production of rice in Korea doubled from the late 1960's to 1977. Well-trained village extension workers as well as the creative use of the mass media and various educational efforts, taught farmers how to plant, grow, and harvest the new, more sensitive variety. The government also provided higher base prices for the new rice and cash prizes for about 60,000 farmers and group farms with especially high yields. The supply of fertilizers, agricultural chemicals, vinyl and other materials for protected seedbeds,

credit, and production equipment was facilitated by central, provincial, and county Offices of Rural Development. Rural guidance workers had an explicit mission of linking farmers with the various line agencies. Arguably, the key function of the government initiatives was to disseminate knowledge so that farmers could do the "integrating." But as in other integrated rice production programs such as Masagana 99 in the Philippines (Paul, 1980; de Jesus, 1978), the successful introduction of potent rice varieties involved the provision of other inputs and exemplified complementarity.

For the broader and more diffuse objectives of rural development, the relevant production functions are poorly understood. Hard data are meager about the complementarities among such diverse inputs as education, health, infrastructure, and so forth.⁷ As Rondinelli and Ruddle (1976, p. 62, also citing similar views in documents of the World Bank, the Agency for International Development, and the United Nations) observe:

A major constraint on implementing integrated rural development strategies is the difficulty of determining the most effective combination of inputs for promoting growth with equity...Although much has been written about techniques for increasing agricultural production, little is known about the best combinations of technical, social, economic, and administrative functions for promoting rural development.

Let us turn to the second question posed above. Suppose complementarity is significant: does this imply the integrated production, provision, or delivery of A, B...N?

Some economic reasoning leads to a negative answer. Inputs may be complementary, but this merely implies that the procurement and consumption of inputs by farmers and households should be integrated.

Ordinarily, economic models suppose that consumers--in this case, rural farmers and households--know best about complementarities. This is assumed for two reasons. First, the complementarity may depend on individual preferences and tastes, which vary across households. Second, it depends on local production conditions, which also may vary even over relatively short distances.

That inputs are complementary does not, therefore, entail the integration of the suppliers of those inputs.⁸ To economists, the market itself is an integrating mechanism. Farmers and households select the proper amounts of inputs for their particular varying circumstances: suppliers provide inputs according to their specialized, comparative advantages; and the market, under certain conditions, optimally integrates the demand and supply.

But rural markets may malfunction in ways that suggest the integration of suppliers as a remedy. Several categories are worth distinguishing: externalities among consumers, transaction costs, and consumer ignorance.

1. Externalities among consumers. One farmer's practices may affect another's profits, as through the prevention of erosion, the use of water, and the control of pests and diseases. In the absence of pricing and taxing schemes that induce optimal levels of these practices, farmers maximizing their own profits will not integrate inputs efficiently from the social viewpoint. Programs that integrate the purchase of cows with mandatory vaccination or dipping services, or which require the purchase of pesticide along with seeds and fertilizer, may be desirable. (An alternative, of course, is to institute optimal prices and taxes.)

2. Transactions costs. Consumers may save time and travel expenses by obtaining goods and services from a single supplier. This is a major argument for the collocation of rural development activities in a single office, clinic, store, or extension agent.⁹

3. Consumer "ignorance." It is not as fashionable as it was twenty or more years ago to decry tradition-bound, ignorant, rural people as an obstacle to development. Indeed, it is popular to argue now that rural

people know best what they need and "what works" on their farms and in their families. Both positions have validity. Farmers may indeed respond "rationally" to the prevailing incentive structure, but this structure itself may have encrusted constraints, empirically derived habits of distrust, and traditionally unreliable or biased sources of information and knowledge, which together lead individually shrewd decisions to result in individually and socially non-optimal equilibria.¹⁰ Hopcraft (1977, p. 12) observes:

In general, local people may not have the necessary technical and economic information to know productivity and welfare trade-offs that confront them. Also local institutions may be such that individuals do not have the incentive to behave in a fashion that is consistent with, let alone maximizes, the social interest.

The integration of inputs by suppliers may help.

An example may be the green revolution in wheat in Pakistan, which was sometimes accompanied by a non-optimal use of phosphatic and nitrogenous fertilizers. The ideal mixture was roughly four parts nitrogenous to one part phosphatic. Phosphatic fertilizer was available separately on the market, but it was slightly more expensive and was not customarily used with the old wheat varieties. In certain soils, the use of nitrogenous fertilizer alone would have about the same short effect on yields as the recommended 4:1 dosage. But over a period of years, the exclusive use of nitrogenous fertilizer would lead to reduced outputs by altering soil characteristics. After five years of the green revolution, farmers in certain areas of Pakistan suffered exactly this outcome. They blamed the reduced yields on deficient seeds, instead of their own excessive reliance on nitrogenous fertilizers. In response, fertilizer suppliers pre-mixed the fertilizers in the 4:1 proportion, in effect taking the

integration of these factors of production out of the farmers' hands.

Another example of supply integration to subvert "ignorant" consumer preferences may be found in subsidy and credit schemes. Instead of theoretically optimal cash transfers to credit-worthy farmers--cash that they could use to integrate inputs according to individual perceptions of needs and complementarities--projects such as Masagana 99 in the Philippines and SRDP in Kenya tied credit to packages of inputs. Fertilizer and pesticide chits were given instead of pesos; loans were provided only for special varieties of livestock or particular sorts of machinery. (Such mechanisms no doubt had other justifications as well.) In Korea, farmers receiving loans for IR 667 were required to attend classes on the best cultivation methods for the new rice variety--a less heavy-handed form of supply-side integration, but an example of the same principle nonetheless. Through the linked provision of inputs (or inputs and credit), "ignorant" choices by individual households might be avoided.

Integrated supply is not the only way to overcome consumer ignorance. Educational activities--such as the Rural Academy of the Comilla project in Bangladesh, the ingenious use of locally elected model farmers by CADU in Ethiopia, the local experimentation and demonstrations of Colombia's Caqueza project, and the almost incredible educational blitz mounted on rice farmers in Korea during the 1970's--may be effective (Cohen, 1974; Zandstra et al., 1979; Cummings, 1976). Sometimes, too, changing relative prices can induce the proper integration even by "ignorant" consumers.

B. Superadditivity in Integrated Supply of Rural Services

Consider again the equations in (2), the production functions for the goods and services A, B...N. Under what circumstances would the

integration of, say, agencies A and B enable them to produce more efficiently? When is there superadditivity in integrated production? (Other expressions are used to describe superadditivity, such as synergy, interaction, interdependence, and in some of the business literature "2 + 2 = 5.") Although the lines between them are fuzzy, four reasons for superadditivity can be usefully distinguished: resource reallocation, economies of scale, collective goods, and production externalities.

1. Resource reallocation. In many cases, private firms are said to integrate because each can profit from the strength of the other. If firm A is particularly good at research (say, x_1) and firm B is outstanding at marketing and delivery (say, x_2), the merged firm may hope that the combined research force will help B more than it will hurt A and the combined marketing forces will help A more than it will hurt B. In the American merger between two pharmaceutical companies, Merck with Sharp and Dohme, each company complemented the other. Merck had a strong research organization, whereas Sharp and Dohme had an effective sales force. Through this sort of integration, resources that are underutilized in one firm are in effect shifted to the other firm after the merger. Such integration follows the logic of comparative advantage: both partners gain from the resulting reallocation of resources.

An example is the current attempt by other social services to use the effective delivery system of the Community Based Family Planning Services in Thailand. About 12,000 CBFPS distributors, one per village, were estimated in 1978 to reach about a third of all Thai villages. Parasite control services, including stool examinations, were added on experimentally, with interesting results. First, in one study it was

discovered that 78 percent of children had intestinal parasites, showing the need for health services. And second, the new service reinforced the role of the CBFPS distributors, and the use of family planning went up 12 percent in the experimental areas (Viravaidya, 1979, pp. 79-80).

An economist might pose several alternatives to such mergers. Firm A might hire additional marketing staff, fire the inefficient marketers, or change its procedures according to procedures that more efficient firms like B may employ. In other words, one might ask why integration is the preferred means for remedying a weakness.

Moreover, merging firms with complementing strengths may not have the anticipated beneficial results. One firm's weak marketing department might contaminate the second's, and the joint R & D effort may take the line of least resistance. A bad apple may spoil the proverbial barrel, as apparently often happens in business integration. If one of the integrated units

is sick (strategically or otherwise), its problems may spill over to its healthy partner. One unit can be pressured or even voluntarily attempt to rescue the troubled unit by accepting high-cost products, products of inferior quality, or lower prices in internal sales. This situation can damage the healthy unit strategically...Even if top management recognizes this point, however, human nature will make it difficult for the healthy unit to take a ruthless attitude toward the sick.. . Thus the presence of the sick unit can insidiously poison the healthy one. (Porter, 1980, pp. 313-4.)

We might label this the Shaw-and-the-dancer problem. George Bernard Shaw once sat next to a famous dancer at a dinner. "My dear," she said coquettishly, "Wouldn't it be wonderful if you and I should have a child? Just imagine...a child with your brain and my body."

To which Shaw responded, "But what if it should be the other way around?"¹¹

2. Economies of scale. In the combined production of A, B, C...N, individual firms may achieve economies of scale. Indivisible resources-- which characteristically lead to economies of scale--are common within firms and agencies: consider equipment, overhead, research and development, even top managerial talent. As such costs are spread out over a larger and larger output, unit costs decline. This is sometimes an argument for integrating firms and agencies.

For example, the merger between Hilton Hotels and Statler Hotels led to economies in the purchase of supplies. One Hilton executive estimated that the gains from combined management in New York City alone was about \$700,000 a year--mostly in laundry, food, advertising, and administrative costs (Weston and Brigham, 1978, pp. 863-4).

A common motive for integrated rural development is the paucity of trained managers. By combining functional agencies under a single chief, economies of scale in management may be achieved. Such economies may also be realized through the integration of other common organizational factors of production $x_1, x_2 \dots x_n$, such as research and development, finance, legal services, political functions, planning and control systems, marketing, and the equivalent of corporate staffs.¹²

Examples in rural development abound. Extension agents or rural health workers have high travel costs--a form of fixed or overhead cost-- which are essentially the same whether the agent or worker provides one service or many. It will be tempting to argue for multi-purpose workers, on the basis of these sorts of economies of scale. Separate clinics for family planning services and basic medical care may miss out on similar economies. Agencies may wish to share surveys, buildings, computers,

extension workers, communications equipment, and so forth for such reasons.

3. Collective goods. After the Department of Agriculture has carried out and processed a Household Income and Expenditure Survey, it costs virtually nothing for the Department of Small Scale Industry to use the information. If the Department of Water and Power has established a village council to obtain the views of local residents, it may be nearly costless for the Bureau of Extension Services to utilize the same mechanism. When the consumption of a good by an additional individual costs nothing, the name "collective good" is often applied. Collective goods will be produced in sub-optimal amounts by independent, non-integrated organizations (Olson and Zeckhauser, 1966).

Collective goods, however, are seldom found in pristine form. The data obtained by one agency is rarely just the information by another. Committees or representative bodies set up for one particular purpose may not serve well for another. Adding seemingly "costless" items to a council's agenda may lead to a breakdown via complication (Chambers, 1974). Considerable care must be used in making such "collective goods" a basis for organizational integration.

4. Externalities in the production of A, B...N. A Department of Public Works project to drain a swamp may have a significant impact on the production functions of the Ministry of Health and the Ministry of Agriculture. Lumpy decisions in space and time about a good B may affect the production function for A. In such cases, joint planning and monitoring--perhaps organizational integration--may be desirable.

The assessment of spillover effects from the production of A to the production of B is a classic topic in development planning and

applied benefit-cost analysis. The distinction between "technological" and "pecuniary" externalities--the former affecting the quantity of A produced and the latter the price of an input x_i --is debated (Scitovsky, 1954). Direct and indirect spillovers, first-order and second-order effects, and forward and backward linkages are part of the parlance of project analysts, but whether and how to include them in designing an integrated project is controversial theoretically and difficult empirically (Chenery, 1959; Wellicz, 1971). Few analysts deny that externalities in production may occur. But, like Little and Mirrlees (1974, pp. 348-9), they may question their practical importance:

Bearing in mind that we are essentially comparing projects with each other, we feel that differences in these external effects, which are not in any case allowed for in our type of cost-benefit analysis, will seldom make a significant difference.

When such effects occur, many economists would prefer altering the incentives of agencies so that their independent decisions achieve optimal integration. Joint planning may be called for--indeed, this is a fundamental argument for a development program--but the integration of various firms or government agencies is not necessarily implied.

A key question is whether mutual adjustments by different producers are rapid and relatively costless. If so, there may be no need for integration.

Interdependence by itself does not cause difficulty if the pattern of interdependence is stable and fixed. For in this case, each subprogram can be designed to take account of all the subprograms with which it interacts. Difficulties arise only if program execution rests on contingencies that cannot be predicted perfectly in advance. In this case, coordinating activity is required to secure agreement about the estimates that will be used as the bases for action, or to provide information to each subprogram unit about the activities of the others. (March and Simon, 1958, p. 159.)

C. The Creation of a Monopoly Via Integration

Firms may integrate horizontally in order to capture a larger share of the market. Monopolists, as well as those with lesser degrees of market power, will reap larger profits than perfectly competitive firms.

Notice that this sort of integration applies across firms supplying substitute, rather than complementary, goods. One cement firm merges with another, or various suppliers of alternative sources of motor transport may try to form a cartel. In integrated rural development, where the marketing is usually across agencies providing different sorts of goods and services, this economic rationale is seldom applicable.

But the metaphor is suggestive. In political rather than the economic coin, it may be advantageous for line agencies to present a united front. "Monopoly leverage" may accurately describe the effects of integration on relations with local citizens, the regional government, the federal government, and donors of foreign aid. As opposed to a set of independent actors that can be pitted against each other or fragmented in negotiations, the monopolist can in theory bargain for a better outcome.

An example comes from the Mahatma Gandhi Cooperative Left Irrigation Society in Andhra Pradesh, India. The Society had problems with "free riders," such as people of one hamlet, whose land happened to be the first to be irrigated, refusing to allow their land to be mortgaged. Many farmers were reluctant to repay loans. But precisely because of its monopolistic position, the Society could overcome resistance:

The Society's power lies in its control of all the inputs a member needs--seed, fertilizer, credit, and most important, water. Without the cooperation of the Society he can do little. This is what the people of the hamlet found out when they decided not to allow their already developed lands to be mortgaged. (Wade, 1978, p. 248.)

A monopoly (or monopsony) vis-a-vis donor agencies can be useful. The government of Peru attempted to merge all powers of project approval in the Institute of National Planning, in the hope that a better deal could be struck than when donors could negotiate independently with separate ministries and indeed individuals (Klitgaard, 1975). Sometimes this principle has an ironic twist. The Philippine government formed the Libmanan-Cabusao Integrated Area Development Project because only by doing so could it reap A.I.D. funds. The government and the local population actually wanted an irrigation project, but AID would only support "integrated" rural development. After receiving the funds, however, the project gradually worked into the hands of the National Irrigation Administration. By 1976 the coordination model of the 1976 AID project paper was replaced with a lead agency concept--NIA being that agency. Gradually the Manila central office of the NIA assumed more and more control over the project. By the spring of 1980, the Libmanan-Cabusao project had headed away from a multi-purpose association toward one with the single, though complex, purpose of irrigation.

Unfortunately, creating such monopolies also entails costs and risks. By consolidating the delivery of rural services under a single head, the possibilities for monopolistic exploitation may increase. A single organization may be easier for local elites to coopt, as Blair (1978) argues about the Comilla project in Bangladesh. Local officials may more easily be corrupted as integrated monopolists (Chambers, 1974; Rose-Ackerman, 1978, ch. 6). An integrated monopoly may be too attractive a target for political/ethnic contests for control, negating any benefits of integration. According to Huntington (1979, pp. 12-13), this occurred

in the Abyei Project in the Sudan:

...The proposed organization became an object of contention among the Ngok. Political activity in a segmentary society is fluid and shifting. A fixed bureaucratic structure like an APDO [Abyei People's Development Organization] becomes a sitting duck for one faction to take control and thereby reduce the perceived legitimacy of the project in the eyes of the larger community. As a partial solution to this impasse, I recommend that rather than one overall Abyei Development Organization, several single purpose development groups be formed....The closeness of these groups to the practical matters and their multiplicity would minimize the negative effects of all-or-nothing fights for control.

The creation of a large integrated rural development project may not sit well with other regions of the country, which lack such powerful local monopolies working on their behalf. As large, lumpy investments, they may mitigate against maximization of rural development nationwide (e g., Hopcraft, 1977, pp. 7-8). Line agencies, which eventually will be responsible for turning integrated pilot efforts into nationwide, replicable programs, may resist an integrated project and eventually let it die on the experimental vine. (Its nascent monopoly threatens their market share.)

Finally, integrated projects may, in their zeal to solve problems, misdirect their monopolistic powers. Indonesia's Pertamina supplemented its many activities in petroleum with "integrated" development. It began to build schools, roads, and even luxury hotels--and ended up overextended and broke. In Mindinao, a Masagana 99 project in Davao del Sur had trouble with the repayment of loans (de Jesus, 1978). Officials decided they could ensure repayment if they controlled the sale of rice, so they integrated the purchase of outputs into the project. Not all farmers participated in the loan program, but of course the entire rice crop had to be controlled if any of it was, or else there would simply be inter-farmer transfers. Undaunted, some farmers decided to truck their rice

elsewhere to sell, so that officials would not be able to claim loan repayments as they sold. The integrators responded by calling in the armed forces to control the roadways. A sort of "integration" was finally achieved, but it does not require a fertile imagination to contemplate the undesirable side effects.

D. Portfolios and Integration

Economists (and others) speak of a "portfolio" of investments. Investors care about the expected rate of return, but they also care about its uncertainty: a trade-off exists between risk and rate of return. By buying a number of risky assets with rates of return that are not perfectly correlated, investors can reduce the variance of the outcome. Horizontal integration is sometimes pursued as an alternative to an investment portfolio.

Whether many mergers take place for this reason--and if they do, whether it makes economic sense--is a debated question in the business literature. Economists are skeptical that integration is a more effective portfolio-building mechanism than stock purchases and other uses of the financial market (Lintner, 1971; Weston, 1973; Copeland and Weston, 1979). Williamson (1975, p. 155) notes that "a satisfying affirmative rationale for the conglomerate based on received microtheory, has yet to appear." (He attempts to explain this sort of horizontal integration as a response to imperfections in the capital market.)

Presumably this argument for horizontal integration has less relevance to rural development. Risk-sharing is a common rationale for cooperatives, credit unions, and other sorts of integration among farmers.

But integration across government agencies would seem to have no portfolio effects.

E. Efficiency and Vertical Integration

When a steel mill decides to integrate backward into mining or forward into fabrication, it is called vertical rather than horizontal integration. The justifications for such actions are imperfections in intermediate markets. The costs of purchasing the good or service through the market mechanism sometimes outweigh the costs of producing it internally. (For a classic presentation of this insight, see Coase, 1937.)

Vertical integration has recently been a fruitful research area. The work of Chandler and his colleagues indicates the key role of vertical integration in the rise of modern enterprise (e.g., Chandler, 1977; Chandler and Daems, 1980). He might be interpreted as showing that horizontal integration seldom pays but vertical integration often does. Williamson (1975), Porter (1980), Alchian and Demsetz (1972), and others apply insights from the economics of imperfect information to the theory of vertical integration.

Unfortunately, this literature has only remote relevance for the integration of public services in rural areas. True, many rural development projects do integrate the supply of agricultural inputs with the supply of agricultural techniques with the procurement of agricultural outputs. But most government agencies do not procure inputs from other government agencies nor supply outputs to still others. Thus, imperfections in (intergovernmental) markets for these inputs and outputs will not generally provide a rationale for integration among government agencies or activities.¹³

F. Direct Financial Costs of Integration

After considering the many theoretically possible benefits of integration, we may wonder why everything is not (or should not be) integrated with everything else. Conceptualizers often seem fond of the idea. "It is apparent from this list" of external effects, writes Scitovsky (1954, p. 149) in a classic article, "that vertical integration alone would not be enough and that complete integration of all industries would be necessary to eliminate all divergence between private profit and public benefit." And in a given case, a policy analyst may more easily perceive the costs of existing separation--the misunderstandings, failures to coordinate, and duplications--than the costs of potential integration or the benefits of staying separate.

In the preceding subsections, we have often noted possible costs and disadvantages of integration, in effect as countervailing considerations to the purported benefits. But there are other costs as yet undiscussed: direct financial costs, managerial costs, and foregone specialization. Space permits only a brief treatment, but almost every IRD effort in the literature displays all three categories.

Sometimes advocates forget that the direct financial costs of integrating can be significant. Creating a new organization, committee, staff, or council costs time and money. So does training a multi-purpose worker or cross-agency integrator, sharing data and reports and impressions, designing and implementing joint incentive or evaluation systems, and even drawing up the signs and stationery that proclaim a newly "integrated" program.

G. Indirect Managerial Costs of Integration

In addition to monetary expenses, there are costs in managerial currency. Without entering into the large literature on bureaucratic behavior, we can readily recount some of the difficulties to be overcome: different budgets, organizational styles and traditions, connections to local and national clients and powers, personnel systems (pay scales, prescribed duties, career lines), and standard operating procedures. Integration may involve legal hassles. Clients, administrators, field workers, and the public have start-up costs in learning what the new administrative order is to do for them and they for it.

Furthermore, bureaucrats may tend to resist integration as a threatening invasion of secure turf. In addition to deadweight or start-up costs, there may be serious managerial costs resulting from organizational conflict, which resembles the self-interested squabbles among countries in an alliance or divisions in a firm. Such bureaucratic politics have been blamed for the failure of the Community Development movement of the 1950's and for many problems with integrated rural development. These costs will be greater the weaker the legitimacy and power of the new integrating authority, the less integration helps each participating organization by its own standards, and the less similar these separate standards turn out to be.

The complications of bureaucratic politics exceed the bounds of this paper (but see Montgomery, 1981; Montgomery and Rahman, 1981; Cohen, 1979; Wade, 1978). Nonetheless, it is worth noting briefly that the resistance and conflict is not just between organizations but also individual personalities. Careers are built on the fight over who gets to control budgets and workloads. Integration jumps squarely into that ring.

Finally, severe managerial costs may result from the inability to induce agencies and personnel to integrate in meaningful ways. Appropriate and effective financial incentives in the short-term and career incentives down the line may not be available to would-be integrators. And the authority to implement organizational integration is often not available, except on paper. (More on this in Section IV.)

H. Foregone Specialization--or, Drowning in Complexity

Would-be integrators should take heed of one of two concluding generalizations on integration in a textbook used in the first year of the Harvard Business School:

The effective solution to any integration problem is the one that costs the least and that does not seriously undermine the effectiveness of the specialized subunits....A good solution to any problem is one that does not create even more serious problems of a different kind. In solving integration problems managers sometimes seriously undermine the types of organization needed at the subunit level. More than one well-intentioned company president has managed to "get his people to start pulling together," but in the process, made them each less effective at their respective specialized tasks. (Kotter, Schlesinger, and Sathe, 1979, p. 133, emphasis in original.)¹⁴

The genius of organization is dividing complex tasks into simple ones. But rather than relieving complexity, coordination and integration induce it. Officials must handle, understand, evaluate, or perform more kinds of tasks, not fewer. They must estimate difficult and perhaps unmeasurable interactions across activities rather than the outcome of a single activity. New kinds of information, people, jargon, and management systems are encountered. These costs of integration will be higher as foregone economies of specialization are larger and the new, integrated tasks complex, uncertain, and difficult to measure.

Integration is not just more, it is different. Managing an integrated firm often requires qualitatively distinct skills and systems. Rarely will two firms merge and find that one's old management system suits the combined firm. Porter (1980, pp. 314-15) observes: "Understanding how to manage such a different business can be a major cost of integration and can introduce a major element of risk in the decision [to integrate]." As we shall argue in Section IV, the contrast may be even sharper in the public sector, where outcomes are less clear, common metrics scarcer, and bureaucratic traditions more divergent. And in rural development--where many complicated ends are sought--"integration" may imply quite overwhelming requirements for a "holistic" approach, for learning and flexibility (both of which are complex), for a committed and highly capable staff. (See, for example, Ickis, 1981, and Korten, 1980).

Specialization has its own returns: familiarity, expertise, and savvy. Specialization is highly productive in certain technical jobs; integration may ruin such efficiencies. Often specialization implies a simpler and therefore less costly management system. Routines are more readily established, outcomes more easily measured, morale sometimes higher, and uncertainty reduced. Specialized is beautiful.

III. A SUMMARY FRAMEWORK

The various benefits and costs just examined could be displayed in a number of ways. We might attempt a mathematical formalization of the problem, or we might try to draw certain policy guidelines from the tangle of pros and cons. Both would be useful. Instead, Table 2 lists the major categories of reasons for and against integration and places alongside them a stylized set of questions on which the strength of the reason in a particular case depends.

This framework, it is hoped, would be useful in structuring an assessment of the particular examples of integration, such as the four at the beginning of the paper. The framework will be most helpful in cases where the decision hinges on the administrative efficiency of integrating as opposed to separating public services. It can be used to pose questions to proponents, advisers, or researchers. It looks primarily at the question, "Why integrate?" and is a prologue for the necessary sequel, "Exactly how?" It is not meant to be a formula but a heuristic device to ensure that the important benefits and costs of integration have been considered, to sensitize the decisionmaker to possible pitfalls, and to stimulate creative responses. It would, of course, need to be combined with a careful assessment of the particular case, including an understanding of the decisionmaker's strategic situation.¹⁵

Table 2

A FRAMEWORK FOR ANALYZING INTEGRATED RURAL DEVELOPMENT

Reason (Pro and Con)	Key Empirical Questions
A. Inputs in the rural production function are complementary.	<p>1. <u>Which</u> goods and services exhibit <u>complementarity</u>? To what extent and at what levels of output? Focus attention on those inputs that are most inter-dependent.</p> <p>2. Why can't <u>consumers</u> themselves integrate the goods and services optimally? Consider (a) externalities among consumers, (b) transaction costs, and (c) consumer ignorance. How would the integration of <u>suppliers</u> overcome these problems? Might other measures be preferable, such as adjusting prices or providing education and information?</p>
B. Integrated agencies achieve economies of combined production (superadditivity).	<p>1. Does integration allow resources to be <u>reallocated</u> among agencies? If so, with what gains in efficiency? Consider the "comparative advantages" of the different agencies in planning, marketing, delivery, etc. Could the desired reallocation or improvement be done with integration? Are there also risks of misallocation if agencies are integrated? Consider the "Shaw-and-the-dancer problem," the weakening of excellence, etc.</p> <p>2. How large are the <u>economies of scale</u> from merging (parts of) different agencies? Consider planning, research, capital equipment and other overhead, top management, delivery costs.</p> <p>3. Do agencies produce <u>collective goods</u> (for each other) that will underprovided if not supplied in an integrated fashion? Consider information, political organization, public relations.</p> <p>4. To what extent do agencies affect each others' production via <u>externalities</u>? Consider especially lumpy investments in capital, space, and time, such as infrastructure. How well can independent agencies adjust to externalities without integrating? Might better information exchange be a preferred solution?</p>

Table 2 (continued)

Reason (Pro and Con)	Key Empirical Questions
C. Integration creates a sort of monopoly.	<p>1. Would an administrative monopoly be <u>beneficial</u>? Consider increased bargaining leverage vis-a-vis local citizens and clients, the provincial and national governments, and donors of foreign aid.</p> <p>2. What <u>negative consequences</u> might ensue? Consider the greater ease of cooptation by elites, corruption, politicization, and excessive expansion. as well as resistance by regions without an integrated project and by line agencies.</p>
D. Integration allows financial diversification (portfolio effect).	<p>Could integrated agencies enjoy such <u>financial benefits</u>? Could the same benefits be achieved more efficiently through <u>financial markets</u>, investments, and so forth?</p>
E. Vertical integration permits agencies to overcome imperfect markets between them, including transactions costs.	<p>1. Do agencies engage in "<u>transactions</u>" with each other, analogous to the purchase of inputs and the <u>sale of outputs</u>? If not, the reason does not apply.</p> <p>2. How would integration <u>lower</u> these transactions costs and to what extent?</p>
F. Integration entails direct financial costs.	<p>What are the <u>direct financial costs</u> of integration? Consider the start-up and recurring <u>expenditures</u> needed for new organizations, personnel, staffing patterns, infrastructure, training, information and publicity, and so forth.</p>

Table 2 (continued)

Reason (Pro and Con)	Key Empirical Questions
G. Integration involves indirect managerial costs.	<p>1. How large are the <u>learning costs</u>? Consider the costs for clients as well as for government employees. Examine the <u>effects of changes</u> in budgeting, personnel, political linkages, standard operating procedures, evaluation and information systems, basic tasks, and legal status.</p> <p>2. How serious will <u>bureaucratic resistance</u> be? Consider the legitimacy and power of the integrating authority, the <u>similarity</u> of missions among those organizations and individuals who are integrated, and the extent that integration helps those integrated attain their own ends. Does integration fly in the face of politics, custom, tradition? With what eventual consequences?</p> <p>3. Are the <u>managerial tools</u> available for inducing agencies to integrate? Consider incentives, authority, information, control over workloads, career paths.</p>
H. Integration is complex. It forgoes economies of specialization.	<p>1. How <u>different</u> is the management of the integrated effort from that of the separate agencies? Is it too difficult for available personnel?</p> <p>2. How large are the <u>returns to specialization</u>? To what extent is specialization sacrificed in the attempt to integrate? Consider technical aspects of the production function, but also the role of routine, measurable outcomes, morale, and other managerial aspects.</p>

IV. PUBLIC VERSUS PRIVATE INTEGRATION

According to our analysis, integration among private firms is a response to market imperfections. Horizontal integration attempts to overcome market failures in consumption, reallocate resources, internalize externalities, capture economies of scale, and benefit from increased market power. Vertical integration tries to overcome imperfections in the markets for a firm's inputs or outputs. Transactions that formerly were impossible or too expensive may be economical within an integrated firm.

On the other hand, integration entails direct financial costs and indirect managerial ones. It often sacrifices economies of specialization. A vertically integrated firm may experience dulled incentives, less flexibility, and less innovation as a result of its greater insulation from competitive market forces.

Private firms will integrate--merge, form a conglomerate, collocate, combine tasks in a single worker, and so forth--when joint profits are thereby increased. They trade off increased revenues against increased costs.

How does this logic apply to the public sector, particularly in rural areas of developing countries? I have been arguing, with concepts and examples, that categories of benefits and costs derived from models of private economic behavior help illuminate integrated rural development. (As we have seen, some of the categories are more readily applicable than others.) But we also may ask how the differences between public agencies

in rural areas of poor countries and the private firms of economic theory affect the likely magnitudes of the various benefits and costs. I contend that in integrated rural development the benefits of integration will tend to be smaller, and the costs larger, than in the economic model.

Idealized Assumptions in Economic Models

Economic models include simplifying assumptions about firms and their behavior. For example, two firms thinking about integrating are presumed to have the same, single objective--to maximize profits. Upon integrating, the two firms can be confident that joint profits will be maximized, and this single objective can readily be communicated to their employees. The firms observe the market prices of their outputs and have accurate, objectively verifiable information about their respective production functions. Complementarity, superadditivity, economies of scale, externalities, and so forth are apparent and measurable. So are the benefits of specialization.

Managerially, the integration of the two firms is facilitated by several implicit assumptions. The integrated firm's authority structure is clear and readily obeyed. Management is assumed to have the desire and capability to reallocate resources, including staff members. If necessary, procedures for staff selection, financial incentives, career paths, monitoring and evaluation, and so forth are readily changed.

Finally, firms can integrate in a variety of ways. Economic models may simplify integration by positing a complete merger of interests. But firms can achieve some of the same results through the marketplace; in particular, firms buy goods and services from one another. They need not

integrate to take advantage of another firm's efficiencies, and they can hire most of their needed specialized goods and services on the market.

The economist's assumptions about business firms obviously represent an abstraction. The business literature emphasizes the many departures from such a perfectly informed, disciplined model (e.g., Galbraith, 1977). But the typical public agency--and the typical case of integrating public services in rural areas--diverge even more from the conditions just described.

Differences in Public Agencies in Rural Development

These differences can be classified in several categories: objectives, measurability, control, talent, and transactions among institutions. They do not render our economic framework less useful in analyzing IRD, but they do imply that integrating rural public agencies will tend to have lower benefits and higher costs.

(1) The least realistic feature of the ideal economic case as applied to integrated rural development in particular and to government agencies in general is the assumption of a single--and a common--objective. Fragmented objectives are a conspicuous feature of most governmental organizations. Even in a single organization, goals are numerous, unordered, ambiguous, and often inconsistent. Across public agencies of course, there is even more fragmentation. Thus, an integrated public effort will involve almost the opposite of a single, clear, common objective.

Integrated rural development is prone to such multiplicity. Most IRD projects combine goals across agencies and add new ones, such as community mobilization, participation, equity, learning and experimentation, and so forth. The history of integrated rural development is replete with

conflicts and failures brought on by the tension among diverse objectives-- for example, income distribution versus efficiency in Comilla and CADU and many others, experimentation versus efficiency in Kenya's SRDP, political change versus efficiency in Nicaragua's Invierno project. At the operational level, Wade, 1978, p. 253) points out:

With a large number of objectives to be sought more or less simultaneously it is indeed difficult to decide which to aim at. Consider the situation of the Village Level Worker in India's Community Development and Agricultural Extension Programmes, with some 60 objectives to hold in mind. Naturally he tends to go for those which are easiest or those which are most ambiguous as measures of performance. Both control and performance objectives suffer in consequence; and not incidentally, agriculture is first to be neglected.

Integration is more difficult if objectives are fragmented and hard to harmonize by fiat.¹⁶

(2) Outcomes and production relationships are less easily measurable in the public sector. Often public agencies lack a market mechanism to help them estimate the value of their outputs. Even when some market prices are available, agencies may subsidize activities or operate in decreasing cost situations where revenues do not cover, and for optimal efficiency should not cover, the costs. Consequently, it may be difficult to estimate efficiencies from integration. And once integration occurs, it may be hard to discern inefficient or corrupt performance. As the discipline of a "bottom line" grows weaker, the more important become political patronage, bureaucratic rewards rather than monetary ones, and self-serving tendencies--all of which probably handicap efforts to integrate.

(3) Managers in government have less control over their organizations. Compared to their private-sector counterparts, public managers more often

must accept goals set by others, organizations designed by others, people who are difficult to transfer or fire, tighter time constraints, and judgments of effectiveness that depend more on how something is done than what is substantively accomplished. If the advantage of private sector integration is partly, as Williamson (1971; 1975) argues, that the integrated firm has refined incentive and control mechanisms, the argument is weaker in the public sector.

Consider one of many possible examples of this point: inflexible pay scales and personnel systems. Public managers usually cannot offer significant financial inducements for improved or "integrated" performance. Integrated projects that combine the employees of various line agencies will seldom have control over their long-term career incentives. (The official from the Bureau of Agricultural Extension knows that his career is not with this project but with that Bureau.) The result: integration is difficult to implement, and efficiencies that exist on paper may be unobtainable in practice.

(4) Talent is scarce in rural development. It is hard to underestimate the capabilities of public officials in rural areas of most poor countries. Trying to attract more talented managers--for example, through extraordinary pay increases--usually proves fruitless, because of sheer scarcity, the undesirability of rural working conditions, or civil service rules. Foreign "experts" may be used as a temporary substitute, especially when a foreign aid donor foots the bill; but clearly this is not suitable programmatically. Without able managers, integration is even more tenuous.

(5) Public agencies often cannot enter into market-based transactions with each other. Private firms can buy the services they need from other firms, and a market usually exists to value those services. Neither condition usually holds for public agencies in rural areas.¹⁷

Lacking market transactions, it may seem that public agencies may have more reason to integrate administratively. But seldom do agencies need to purchase goods and services from one another. Many arguments for vertical integration, in the sense of buyers of inputs merging with the suppliers, also have less applicability, since government agencies are seldom interdependent in this way. Also, portfolio diversification through horizontal integration has little relevance to the public sector. Again, the public-sector case for integration may be weaker.

A Lack of Solid Empirical Evidence

These five differences make us expect that integrated rural development will be harder and less valuable than integration across private firms. Even in the private sector, economists do not usually find horizontal integration theoretically attractive. Nor was it historically a profitable idea: "In the United States horizontal combination rarely proved to be a viable long-term business strategy" (Chandler, 1977, p. 315). The empirical business literature on mergers as a form of integration is no more sanguine (see Copeland and Weston, 1979, for a review).

For example, Kelly (1967) "matched" twenty-one firms that had merged with twenty-one others that had not and examined five measures of profitability for five years after the merger. He concluded that mergers yielded little or no net benefits. For forty-three firms that had merged, Hogarty (1970) compared ratings on an investment performance index with each

firm's industry's ratings. He found a loss in performance of about five percent in the merging firms. Lev and Mandelker (1972) examined profitability as measured by market-value performance and compared differences in profitability in sixty-nine merging firms with "matching" firms in the same industries. They estimated about a five percent gain in profitability due to integration. Halpern (1973) and Mandelker (1974) found some evidence of slight increases in share prices, using rather complicated time series analyses comparing pre- and post-merger performance with performance in other firms. Acquired firms did better than acquiring firms, and the impact on the value of the former actually occurs seven to twelve months before the merger takes place, suggesting "leaks" in the stock market about forthcoming mergers. In short, the results are mixed and reflect a rather widely held view in the empirical business literature that the benefits of horizontal integration across firms are not large.

We have virtually no careful statistical evaluations of integrated versus non-integrated rural development.¹⁸ But more and more observers question the desirability of many forms of IRD. Chambers (1974) opposes complicated administrative schemes in favor of (1) simple reporting systems that provide basic information to a number of agencies, and (2) joint programming among agencies but not joint management or delivery. Wade gives similar advice:

If one is thinking of government-sponsored schemes on a large scale, wisdom lies in starting from the opposite of the FAO view: with the proposition that the chances of success increase the fewer the factors to be administratively integrated, and with production factors given first priority (since poverty in most poor countries is more a problem of low output per head than of distribution). There should be integration of planning; but not administrative integration of operations, unless it can be demonstrated clearly both that the simultaneous provision of factors

is necessary (that the absence of one set significantly harms the effectiveness of another) and that there is no alternative way to secure simultaneous provision except through authoritative administrative integration. (1978, p. 253, emphasis in original.)

It will always be an empirical question depending on particular circumstances, but in rural areas of developing countries, the benefits of integrating public services are likely to be lower, and the costs higher, than models derived from the private sector might indicate.

V. A BRIEF APPLICATION

Family planning services are increasingly perceived to be only part of the answer to population problems in developing countries. A review of the literature on population and development criticizes the idea that "fertility can be drastically reduced by family planning alone" and argues that

it is socio-economic progress in general that brings about the demographic transition--there may be some aspects of that progress which are more important than others but they are aspects, not separable parts. (Cassen, 1976, pp. 820-1.)

Not coincidentally, family planning services are often being integrated with other rural services. There is a trend toward "increasing subordination of family planning service delivery to district or provincial units responsible for a broad range of governmental activities" (Korten and Korten, 1977, p. 327). One popular form of integration is to place family planning services within rural health centers. How might our framework be used to sort out the pros and cons of this sort of integration?

Fortunately, we can draw on the excellent review by Korten (1975) for many of the facts. Space does not permit a treatment of the many kinds of integration he analyzes, and of course no attempt is made to pass judgment on this broad issue. The framework's purpose is to make us take notice of the main categories of benefits and costs we are likely to encounter in a particular instance.

A. Complementarity in the rural production function. Traditionally, family planning services have been provided through separate administrative

structures and specially designated personnel. One fundamental idea behind integration is that complementarities exist between family planning services and various sorts of maternal and child health care. The literature has apparently not specified these complementarities with quantitative precision. Our framework asks why the consumers cannot themselves optimally integrate these various services, and it points to externalities, transaction costs, and consumer ignorance as possible answers.

The latter two have relevance. If family planning and health services are colocated, consumers can save transaction costs via "one-step shopping." But Korten's review points to negative aspects, too. Often a single queue system is used in rural clinics, meaning that women wanting only family planning services must wait much longer. Also, a stigma may be attached to obtaining one's family planning services in a health center. The transaction is much more public than when the service is obtained from a non-clinic-based family planning worker, and the other consumers in the clinic are not necessarily supporters of family planning.

Regarding consumer ignorance, it is widely held that post-partum counseling has particular effectiveness in motivating women to use family planning--to overcome what to family planning officials may appear to be "ignorance" or irrational consumption patterns. Korten (1975, pp. 4-6) cites studies that show that post-partum counseling, most easily done in the same clinic where women bear their children, can evoke a much higher response rate to family planning.

B. Economies of combined production (superadditivity). The framework calls our attention to four ways that superadditivity may occur:

reallocation of resources across agencies, economies of scale, sharing collective goods, and externalities.

1. Reallocation. Korten cites evidence from Chile, Central America, and New York City that misallocation and a version of the "Shaw-and-the-dancer problem" are frequent in the integration of health and family planning services. The resources of family planning tend to be reallocated to curative medicine; in Korten's words, "integration led to a general neglect of family planning" (pp. 20-1). It is a broader question whether such reallocation is optimal, but it is usually not anticipated or admired by family planning advocates.

2. Economies of scale. Especially in the poorest areas, it is essential for some family planning services (such as the insertion of IUD's and other "medical methods") to take advantage of fixed capital like sterilizers, good light, and an appropriate table. More generally, health clinics have fixed resources which can be shared with family planning programs, leading to economies of scale.¹⁹

It may thus be the case that the success of [post-partum programs] was based on a design which maximized the advantage of integration of what Reynolds refers to as physical setting, while retaining a specialized as contrasted to a multi-project staffing arrangement (Korten, 1975, p. 22).

3. Collective goods. A combined clinic can take advantage of shared records on patients, including tests. The aura of a physician, who usually heads a health center, may also be a sort of collective good, usually a positive one.

4. Externalities in production. It may be the case that a health professional who knows a patient in medical contexts, is more effective

in dealing with her family planning needs. Korten cites no evidence on this matter.

C. The creation of a monopoly. Integrated family planning programs may be better able to obtain financing from foreign donors, some of which emphasize an integrated approach. In Indonesia, the fact that an agency effectively monopolized all family planning activities enabled it to "corner the market" on funds from AID and thus to bypass normal and cumbersome budgetary procedures (Paul, 1980).

D. Portfolio effects are not involved here.

E. Vertical integration of interagency transactions. Sometimes health clinics must contract with family planning agencies for contraceptives or educational materials. Integration may help to ensure the steady supplies that are necessary for success. In Nepal, the failure of the Integrated Community Health Division of the Ministry of Health to obtain administrative control over the supply of contraceptives--control that remained in the hands of the Family Planning/Maternal Child Health project--has apparently sometimes led to shortages at the field level.

F. Direct costs of integration. Combined operations, training for new integrative roles, new monitoring systems, and expanded clinics all involve start-up costs. The evidence suggests that without higher levels of funding, the integration of health and family planning services often fails (Korten, pp. 21-25).

G. Indirect managerial costs. Almost every category listed in the framework (p. 36) is encountered in Korten's review and elsewhere in the literature. The managerial tasks of integrated clinics are often an

anathema to physician-administrators. "Due to a variety of factors, however, physicians do not actively perform their supervisory and coordination role. As a result, there is little or no direction or coordination at the clinic team level" (Korten and Korten, 1977, pp. 239-40). More generally, Korten concludes:

Basically each more advanced level of integration places greater demands on the supporting management systems and depends for its success on the meeting of a greater number of preconditions. All too little attention has so far been given to the managerial and organizational implications and requirements of different integration models, with the result that program design decisions are often made without full recognition of their implications (Korten, 1975, pp. 31-2).

H. Foregone specialization. The lesson of much experience with integrated clinics is apparently that they are most successful when family planning services are left in the hands of specialists (e.g., Korten, p. 25). Integration that forgoes specialization in family planning risks failure. Giving multiple tasks to clinic staff often "tends to overload the workers, requires stronger supervision than their program has been able to provide, and lumps together tasks which in reality tend to be incompatible in their requirements" (Korten, 1975, p. 9; see also Whang, 1976).

* * *

As noted above, applications of this paper's framework are intended to help policymakers think hard about the costs and benefits of integration, to sensitize them to possible pitfalls, and to take the first step toward a detailed consideration of particular cases. There is no intention to argue for or against "integration," the merits of which clearly depend on a host of situationally specific considerations. In the case of integrated

health and planning clinics, no doubt many successful examples exist. But without careful attention by policymakers to the integration's costs as well as its benefits, it is easy to understand Korten's grim appraisal of past efforts:

The emerging experience suggests that, at least in the clinic-based programs, integration has a mixed history. Integration in itself is not likely to improve the acceptance of family planning and indeed may result in serious deterioration in program performance....It should be clear that integration is not a panacea for poor program performance....Indeed I would suggest as a tentative hypothesis that on the whole, integrated programs require stronger management to maintain the same level of performance as a comparable vertical program (1975, p. 24).

Footnotes

¹The confusing variety of definitions of "integrated rural development" is reviewed in Cohen, 1979, pp. 1-42 (highly abridged in Cohen, 1980). In this paper, we refer to the administrative integration of services but not to integration among rural citizens or the integration of the government with the people.

²Although significant problems attend the use of caloric levels to define "absolute poverty" (Eberstadt, 1981), studies of this kind by the World Bank estimate that 780 million people live in "absolute poverty," and three-quarters of them are rural (World Bank, 1980, p. 33). For example, an ILO survey in Tanzania found 65 percent of rural dwellers "below the poverty line" compared to 20 percent of urban dwellers. Urban and rural areas differ strikingly in incomes. Around the globe, it is estimated that the ratio of non-agricultural to agricultural incomes is about 2.5:1, and in Africa, the ratio ranges from 4:1 to 9:1 (Bussink et al., 1980, p. 65). The urban/rural contrast is also striking with respect to the availability of social services, as rural people generally lack access to sanitation, electricity, transportation, and health services. The world's poverty problems are largely located in rural areas of developing countries.

Developing countries now recognize rural poverty as a major area for public policy. Foreign aid donors have shown increasing concern for rural development over the past decade. For example, the World Bank's 1979 Annual Report states that in FY 1979 more loans were approved for agriculture and rural development projects than for any other single sector (\$3270 million, up from \$2522 million in FY 1978). The share of total development assistance funding proposals by the Agency for International Development under the category "Food and Nutrition" rose from 17 percent in FY 1973 to 38 percent in FY 1979. Despite "urban bias" in development strategies (Lipton, 1977), it is widely recognized that rural development is a public even more than a private sector concern.

³Some people, indeed, would use the term "rural development" so that these interrelationships were part of the definition. Among a plethora of possible citations about the interconnected aspects of rural poverty, consider Birdsall (1980, p. 1), who emphasizes that poverty does not refer solely to low incomes "but the nexus of conditions often but imperfectly associated with low income--lack of education, poor nutrition and high morbidity and mortality."

⁴Cohen (1979) also concludes: "Little thought has been given to the formulation of decision rules on how to go about selecting a project's components, and even less consideration has been given to the effects of different combinations on the administrative enterprise" (p. 91). "What critics correctly sense is that little systematic or practical thought has been given to translating this theory and the scattered case studies into

Footnotes (continued)

a framework that can guide designers, implementers, and evaluators in the applied task of doing integrated rural development" (p. 41).

⁵His memorable remark continues: "If it be very moral and very true, it may serve for a copy to a charity-boy. If, like those of Rochefoucault, it be sparkling and whimsical, it may make an excellent motto for an essay. But few indeed of the many wise apophthegms which have been uttered, from the time of the Seven Sages of Greece to that of Poor Richard, have prevented a single foolish action."

⁶For example, degrees of or devices for integration might include meetings, joint training, coordinating committees, exchanges of personnel, task forces, joint staffs, integrating roles or jobs, colocation, common hierarchical structures, network or matrix organizations, and so forth. Functions that might be integrated include planning and programming, finance, organizational rules and procedures, personnel systems, research and development, evaluation, logistics, field workers, and so on. By hierarchical location, integration might take place at the village, district, provincial, regional, or national levels.

⁷Even in a relatively narrow area like secondary education and even when examination results are defined as the desired output, it turns out to be extremely difficult to estimate the importance of and complementarity among various school and background factors. An example from Pakistan is studied in Klitgaard, Dadabhoy, and Litkouhi (1981).

⁸This point has often been lost in policy discussions, but it has been noted in the literature (e.g., Ruttan, 1975, p. 16; Wade, 1978, p. 252). Mosher (1976, pp. 52-3, emphasis in original) states: "Another important distinction is between the need for a certain group of activities to be administratively integrated, and the need for them to be simultaneously available but not necessarily integrated. For example, rapid adoption of a new higher-yielding crop variety requires that the necessary inputs be locally available. It is expedited by the availability of production credit and it may be accelerated by the activities of a competent extension service. The major requirement is that such services be simultaneously available and it is frequently possible for that to be achieved without administrative integration."

Footnotes (continued)

⁹Gant (1979, p. 183) provides an interesting example from the Comilla project in Bangladesh: "In many ways the most remarkable results of the academy's work and experience in rural development in Comilla were reflected in institutional changes in government administration at the thana and district levels. Previously, the thana representatives of government departments, including agriculture, education, and health as well as police and other organizations, lived and worked in comparative isolation in a variety of places in the thana and often lacked adequate transport even in the form of bicycles....Learning...that villagers in a thana can easily come to a central place, and are willing to do so, government personnel and the agencies they represented were readily persuaded to come to live and work in that central place....This focus of thana activity immediately improved the impact of individual programs; it also improved their coordinated effectiveness in relationship with each other."

¹⁰For example, Indonesia's Subsidi Desa program funds projects that individual villages are responsible for proposing and formulating, "and yet they frequently lack the technical expertise to effectively undertake this task. This deficiency has become evident in the sometimes unwise selection of projects and in the poor construction of others. Thus, in one survey of 122 villages in Java and Bali, a large number of the peasants interviewed indicated their reservations about the economic value [of] the projects and durability of their construction" (Hansen, 1979, p. 159n).

¹¹Traditionally, the dancer is alleged to have been Isadora Duncan, but her sister Irma denies it: "As for that anecdote which connects her name with George Bernard Shaw, he himself admitted that the 'dancer' in question was not Isadora. The latter had no occasion to meet G.B.S. nor did she correspond with him. Her letters and writings give ample proof of her own native intelligence and wit." (Duncan, 1965, p. 159.)

¹²Another example is overcoming redundancy. If agencies separately replicate part or all of a common internal task, efficiencies can be reaped from integration: what was done many times need only be done once. This again is an economy from combining common factors of production across organizations.

¹³This point should not be taken as an argument against the governmental provision of agricultural inputs and extension services and the procurement of outputs, especially in primitive circumstances. Arguably, IRD projects teach us that the most important role of government in rural development is the establishment of the preconditions for markets. Their "integrated" success has been the combined provision of fair and stable prices for inputs

Footnotes (continued)

13 (cont.)

and outputs, avoiding private monopolies and monopsonies, providing accurate and credible information, certifying quality levels, and reducing corruption. But organizational integration in such projects has been, I think, almost unrelated to such successes.

¹⁴The other generalization: "The larger the number of factors that make achievement of integration difficult, the more costly the needed integration devices will be."

¹⁵By "strategic situation," I mean to separate the ostensible reason for integrating from possible strategic reasons. The former have to do with administrative and economic efficiency. The latter pertain to situations where integration is a strategic device for achieving some other end, such as firing a particular official, creating a more politically visible effort, obtaining foreign aid funds, and so forth.

¹⁶Williamson (1975, p. 95) notes: "The advantages of integration thus are not that technological (flow process) economies are unavailable to non-integrated firms but that integration harmonizes interests (or reconciles differences, often by fiat)...." But this "advantage" diminishes when interests are difficult to harmonize or reconcile. See also point (3) below.

¹⁷Sometimes public agencies can contract needed services from the private sector as substitutes for the services usually provided by a public agency. The Libmanan-Cabusao project in the Philippines encountered great difficulties in organizing the farmers into an irrigators association and designing modules for training interagency extension personnel. So, it contracted a private consulting firm. (By the way, the firm was favorably rated by the farmers, who applauded the dedication and competence of the consultants: "They were not like government employees who are only good from 8 to 5." But the firm was resented by the Institutional and Agricultural Development Division as undermining its authority.)

¹⁸It is understandable why such studies are not available and may never be. (There are useful reviews of specific aspects of such projects, such as popular participation in them.) Integrated rural development projects are so varied as to make comparison misleading. Analogies to the "control firms" in the business literature--controls that are often methodologically shaky--are unlikely to be found or created in poor countries. It is hard to compare integrated projects with non-integrated efforts in the same country, because the former often enjoy extraordinary additional resources that contaminate comparison.

Footnotes (continued)

¹⁹Some of the most promising examples of integration tack on the delivery of family planning services to the other activities of rural health workers, and vice versa (Thailand, Indonesia, Nepal, China): another example of economies of scale, often in delivery costs. Multi-purpose workers, however, have associated inefficiencies, as Kortzen notes with evidence; the subject is worthy of analysis with our framework but exceeds the scope of the present paper.

Bibliography

- Adelman, Alan H., "Columbian Friendship Groups: Constraints on a Rural Development Acquisition System," The Journal of Developing Areas, Vol. 15, No. 3, April 1981.
- Alchian, Armen and Demsetz, Harold, "Production, Information Costs, and Economic Organization," American Economic Review, Vol. 62, No. 4, December 1972.
- Birdsall, Nancy, Population and Poverty in the Developing World, Staff Working Paper No. 404, Washington, D.C., The World Bank, 1980.
- Blair, Harry, "Rural Development, Class Structure, and Bureaucracy in Bangladesh," World Development, Vol. 6, No. 1, 1978.
- Bussink, Willem, et al., Poverty and the Development of Human Resources: Regional Perspectives, Staff Working Paper No. 406, Washington, D.C., The World Bank, 1980.
- Cassen, Robert H., "Population and Development: A Survey," World Development, Vol. 4, Nos. 10/11, November/December 1976.
- Chandler, Alfred D. and Daems, Herman, eds., Managerial Hierarchies: Comparative Perspectives on the Rise of the Modern Industrial Enterprise, Cambridge: Harvard University Press, 1980.
- Chenery, Hollis R., "The Interdependence of Investment Decisions," in various authors, The Allocation of Economic Resources, Stanford: Stanford University Press, 1959.
- Clapp, Cynthia, "Significant Cases in Integrated Rural Development Experience," paper prepared as teaching materials, Development Studies Program, Agency for International Development, Washington, D.C., December 8, 1978.
- Coase, R. H., "The Nature of the Firm," Economica, Vol. IV, No. 4, November 1937.
- Cohen, John, "Rural Development in Ethiopia: The Chilalo Agricultural Development Unit," Economic Development and Cultural Change, Vol. XXII, No. 4, 1974.
- Cohen, John, Integrating Services for Rural Development, Lincoln Institute of Land Policy and Kennedy School of Government, September 1979.
- Copeland, Thomas E. and Weston, J. Fred, Financial Theory and Corporate Policy, Reading, Mass.: Addison-Wesley, 1979.

Bibliography (cont.)

- de Jesus, Edilberto C., Jr., "Masagana 99: Davao del Sur" (Parts A & B), teaching case prepared at the Asian Institute of Management, Manila, 1978.
- Denny, Kevin M., A Review of Alternative Approaches to Health Care Delivery in Developing Countries, Cambridge, Mass.: Management Sciences for Health, 1974.
- Duncan, Irma, Duncan Dancer: An Autobiography, Middletown, Conn.: Wesleyan University Press, 1965.
- Eberstadt, Nick, "America and World Hunger," The Wilson Quarterly, Vol. V, No. 3, Summer 1981.
- Galbraith, Jay R., Organization Design, Reading, Mass.: Addison-Wesley, 1977.
- Gant, George F., Development Administration: Concepts, Goals, Methods, Madison: University of Wisconsin Press, 1979.
- Hansen, Gary E., "Rural Development in Indonesia," in Inayatullah, ed., Approaches to Rural Development: Some Asian Experiences, Kuala Lumpur: Asian and Pacific Development Administration Centre, 1979.
- Harmon, Edward D., Jr. and Zalla, Tom, "A USAID Sponsored Evaluation of the Vihiga Special Rural Development Project, Kenya," Fall 1974.
- Huntington, Richard, "Popular Participation in the Abyei Project: A Preliminary Report," Development Studies and Research Centre, University of Khartoum, Sudan, 1979.
- Ickis, John C., "Structural Responses to New Rural Development Strategies," in David C. Korten and Felipe B. Alfonso, eds., Bureaucracy and the Poor: Closing the Gap, Singapore: McGraw-Hill International, 1981.
- Kelly E., "The Profitability of Growth Through Mergers," University Park, Pa.: Pennsylvania State University, 1967, cited in Copeland and Weston.
- Klitgaard, Robert E., "On Assessing a Gift Horse," International Development Review, No. 4, 1975.
- Klitgaard, Robert E.; Dadabhoy, Sadequa; and Litkouhi, Simin, "Regression without a Model," Policy Sciences, Vol. 13, 1981.
- Korten, David C., "Integrated Approaches to Family Planning Services Delivery," Development Discussion Paper No. 10, Harvard Institute for International Development, December 1975.
- Korten, David C., "Community Organization and Rural Development: A Learning Process Approach," Public Administration Review, Vol. 58, Autumn 1980.

Bibliography (cont.)

- Korten, Francis F. and Korten, David C., Casebook for Family Planning Management: Motivating Effective Clinic Performance, Boston: The Pathfinder Fund, 1977.
- Kotter, John P.; Schlesinger, Leonard; and Sathe, Vijay, Organization: Text, Cases, and Readings on the Management of Organizational Design and Change, Homewood, Ill.: Irwin, 1979.
- Lintner, John, "Expectations, Mergers and Equilibrium in Purely Competitive Securities Markets," American Economic Review, Vol. 61, No. 2, May 1971.
- Lipton, Michael, Why Poor People Stay Poor: Urban Bias in World Development, Cambridge: Harvard University Press, 1977.
- Little, I. M. D., and Mirrlees, J. A., Project Appraisal and Planning for Developing Countries, New York: Basic Books, 1974.
- Macaulay, Thomas Babington, "Machiavelli," in G. M. Young, ed., Macaulay: Poetry and Prose, Cambridge, Mass.: Harvard University Press, 1967 (1827).
- March, James G., and Simon, Herbert H., Organizations, New York: Wiley, 1958.
- Montgomery, John D., "On the Decentralization of Integrated Rural Development Activities," unpublished draft, 1981.
- Montgomery, John D., and Rahman, Masikur, Integrating Rural Development: Views from the Field, Lincoln Institute Monograph #81-3, Cambridge, Mass.: Lincoln Institute of Land Policy, 1981.
- Mosher, Arthur T., Thinking About Rural Development, New York, Agricultural Development Council, 1976.
- Olson, Mancur, and Zeckhauser, Richard J., "An Economic Theory of Alliances," The Review of Economics and Statistics, Vol. XLVIII, No. 3, August 1966.
- Paul, Samuel, "Masagana 99," teaching case prepared at the Kennedy School of Government, Harvard University, 1980.
- Paul, Samuel, "The Indonesian Population Program" (Parts A and B), teaching case prepared at the Kennedy School of Government, Harvard University, 1980a.
- Porter, Michael, Competitive Strategy, New York, Free Press, 1980.
- Rose-Ackerman, Susan, Corruption: A Study in Political Economy, New York: Academic Press, 1978.
- Ruttan, Vernon W., "Integrated Rural Development Programs: A Skeptical Perspective," International Development Review, 1975/4.

Bibliography (cont.)

- Scitovsky, Tibor, "Two Concepts of External Economies," Journal of Political Economy, Vol. 62, No. 2, April 1954.
- Siffen, William J., Administrative Problems and Integrated Rural Development, Bloomington, Ind.: International Development Institute, Indiana University, a PASITAM Design Study, 1979.
- Viravaidya, Mechai, "Involving the Community--Thailand," in Malcolm Potts and Poursu Bhiwandiwalla, eds., Birth Control: An International Assessment, Baltimore: University Park Press, 1979.
- Wade, Robert, "Leadership and Integrated Rural Development: Reflections on an Indian Success Story," Journal of Administration Overseas, Vol. 17, No. 4, Fall 1978.
- Wellicz, "Lessons of Twenty Years of Planning in Developing Countries," Economica, Vol. 38, No. 150, May 1971.
- Weston, J. Fred, "Conglomerate Firms," in Basil S. Yamey, ed., Economics of Industrial Structure, Middlesex, England: Penguin, 1973.
- Weston, J. Fred, and Brigham, Eugene F., Managerial Finance, 6th Ed., Hinsdale, Ill.: Dryden, 1978.
- Whang, In-Joung, "Implementation of the National Family Planning Program of Korea: 1962-1971," in Gabriel A. Iglesias, ed., Implementation: The Problem of Achieving Results, Manila: Eastern Regional Organization for Public Administration, 1976.
- Williamson, Oliver E., "The Vertical Integration of Production: Market Failure Considerations," American Economic Review, Vol. 61, No. 2, May 1971.
- Williamson, Oliver E., Markets and Hierarchies: Analysis and Antitrust Implications, New York: Free Press, 1975.
- World Bank, World Development Report, 1980, Washington: The World Bank, 1980.