

Parallel rice markets

Policy lessons from northern Senegal

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Cereals policy reform in Africa is often cast in terms of a choice between 'public-sector' and 'private-sector' solutions. Recent evidence from northern Senegal, including the first empirical data collected on parallel channel rice marketing activities, suggests that excessive reliance on either the state or the private sector is likely to result in unsatisfactory performance. Despite the claims of government authorities to the contrary, the performance of parallel channel marketing agents in the Senegal river valley compares favourably with that of the state grain marketing organizations. However, profit-motivated private traders are unlikely to meet all national food policy objectives, implying a continuing role for government participation in marketing activities.

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¹See John Abbott, 'Agricultural marketing mechanisms', in Dieter Elz and Caroline Hoisington, eds, *Agricultural Marketing Policy*, Economic Development Institute, *continued on page 258*

Many African policy makers evidently believe that the assembly, processing and distribution of staple food grains is too important to be entrusted to the private sector. Governments throughout sub-Saharan Africa have shown a tendency to intervene in cereals markets, often extensively. Common forms of intervention have included legal requirements that marketed surplus be sold to an authorized state grain marketing organization, fixing of cereals prices from farm gate to final consumer, government monopolization of grain imports and exports, and strict regulation of the private grain trade. Rice markets have been a particular target for government intervention (see Table 1).

Yet it is becoming increasingly clear public-sector participation in cereals markets has only rarely been successful. Numerous recent studies have concluded that state grain marketing organizations tend to perform poorly in Africa, often failing to achieve their stated objectives of stabilizing prices, ensuring adequate food supplies, or reducing marketing margins.¹ Faced with this evidence, and pressured by mounting budgetary deficits, a number of countries have begun to enact economic reforms designed to reduce direct state involvement in grain marketing activities in favour of more market-oriented cereals policies affording an expanded role to the private sector.

The thesis of this article is that although greater private-sector participation in cereals markets will often improve economic performance, privatization for its own sake (ie, motivated primarily by a desire to reduce the role of the state) will not necessarily bring satisfactory results. Private-sector marketing agents responding to economic incentives may be able to perform certain marketing functions more rapidly and cost-effectively than public organizations, but profit considerations can lead private traders to behave in ways that may be inconsistent with long-run policy objectives. Consequently, policy alternatives must be framed less in terms of 'either—or' choices between administered *v* market systems, and more in terms of complementary combinations of public- and private-sector participation.

This article draws heavily on empirical evidence generated during a recent study of rice markets in northern Senegal. The performance of

Table 1. Government interventions in rice markets in Africa (1980s).

Region	Countries in which rice is a major crop	Producer price controls	Legal government monopsony	Consumer price controls
Sahel	7	7	7	7
West Africa	10	9	1	6
Central Africa	5	4	1	3
Eastern Africa	2	1	1	2
Southern Africa	4	4	2	2
Total	28	25	12	20

Source: Cheryl Christensen et al, *Food Problems and Prospects in Sub-Saharan Africa*, USDA/ERS Foreign Agricultural Research Report No 166, Washington DC, 1981.

Senegal's official state-controlled rice marketing channel is compared with that of the illegal 'parallel' marketing channel. The analysis is noteworthy, because it is based on the first empirical data collected in Senegal concerning the activities of parallel channel market participants. The comparison provides insights into the relative strengths and weaknesses of administered v market-oriented cereals marketing systems. On the basis of these insights, policy reform proposals are discussed. Since many features of Senegal's rice marketing system are present in other cereals marketing systems throughout sub-Saharan Africa, the analysis has broad relevance.

The Senegal river valley: a case study

The Senegal river has served for centuries as a major commercial artery into the West African interior. During recent years the river has grown in strategic importance, as a prolonged drought has increased the dependence of riverine populations on its waters for irrigation. Agricultural development activities in the Senegalese portion of the river valley have been entrusted to a regional development agency, the Societe d'Aménagement et D'Exploitation des Terres du Delta (SAED), which performs a wide range of production-support activities, including construction of irrigation systems (known as 'perimeters'), organization of farmer associations, distribution of inputs, provision of production credit, and training of extension agents.

In addition, SAED also serves as the official rice marketing organization. Farmers wishing to dispose of surplus paddy are legally obliged to sell to SAED, which maintains buying points on every perimeter throughout the river valley. Besides providing farmers with a guaranteed market outlet, the buying points are instrumental in helping SAED recover loans. Farmers may repay production credit in kind, and indeed most of the rice ceded to SAED comes in the form of in-kind loan repayments. Paddy assembled at SAED buying points is trucked to one of SAED's two industrial mills for processing. Processed rice is then sold by SAED to the Caisse de Péréquation et de Stabilisation des Prix (CPSP), the government agency charged with the procurement and distribution of staple foods. CPSP distributes cereals through a network of licensed private traders. Although it handles all locally produced rice marketed through the official channel, CPSP remains primarily a distributor of imported grain (only 10 000 tons of domestic rice moved through CPSP warehouses in 1985, as compared to over 325 000 tons of commercial imports).

One reason why CPSP handles so little domestically produced rice is that a relatively small proportion of local production makes its way into the official marketing channel, generally 10–15%. Exactly what happens to the rest of the crop is subject to dispute. Without a doubt, farmers

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World Bank, Washington DC, 1985; Robert Bates, *Markets and States in Tropical Africa: The Political Basis of Agricultural Policies*, University of California Press, Berkeley, 1981; Robert Bates, 'Governments and agricultural markets in Africa', in D. Gale Johnson and Edward Schuh, eds, *The Role of Markets in the World Food Economy*, Westview Press, Boulder, CO, 1983; CILSS, *Cereals Policy Reform in the Sahel: Synthesis*, Elliot Berg Associates, Alexandria, VA, 1986; Doris Jansen Dodge, *Agricultural Policy and Performance in Zambia*, Institute of International Studies, Berkeley, 1977; David Jones, 'State structures in new nations: the case of primary agricultural marketing in Africa', *The Journal of Modern African Studies*, Vol 29, No 4, 1982; William Jones, 'Economic tasks for food marketing boards in tropical Africa', *Food Research Institute Studies*, No XIX, 1984; Michael L. Morris, 'Rice marketing in the Senegal river valley: research findings and policy reform options', *MSU International Development Paper No 8*, Department of Agricultural Economics, Michigan State University, East Lansing, MI, 1987; Jacqueline Sherman, Kenneth H. Shapiro and Elon Gilbert, *The Dynamics of Grain Marketing in Burkina Faso*, Center for Research on Economic Development, Ann Arbor, MI, 1986.

retain a portion for home consumption, but SAED's persistent claim that very little paddy is marketed has begun to ring hollow in the face of growing evidence of a thriving parallel market for rice. This evidence includes the recent installation of numerous small rice hullers throughout the river valley, the presence of large numbers of unlicensed rice traders, and the appearance of illegally traded local rice in urban markets far from the production zones.

The two main rice marketing channels in the Senegal river valley are depicted in Figure 1. The official marketing channel comprises a network of government agencies, parastatal organizations, and licensed private traders who are authorized to trade rice in accordance with official regulations and policies. The parallel marketing channel consists of unauthorized marketing agents who trade rice illegally. (The

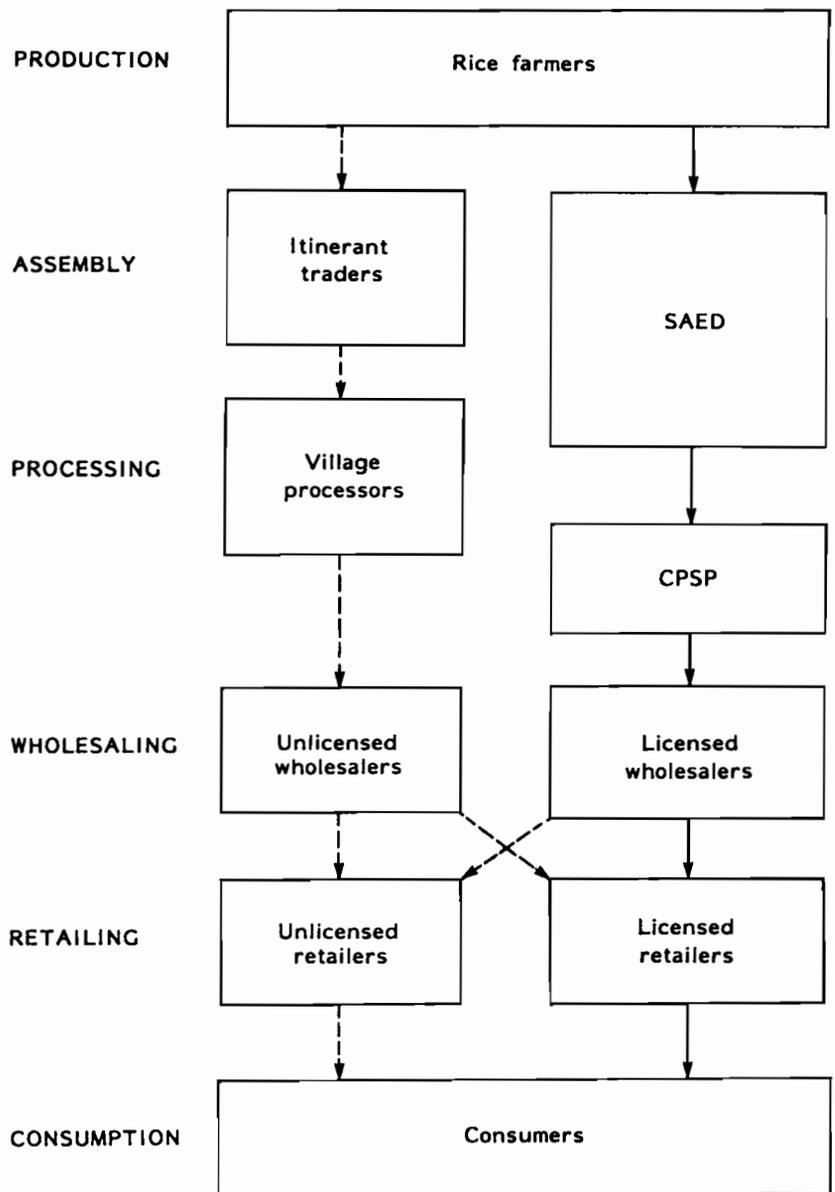


Figure 1. Rice marketing channels in the Senegal river valley.

distinction between the official and parallel channels is sometimes blurred, however, because unauthorized traders may at times trade at official prices, and because licensed merchants may at times engage in illegal transactions.)

As irrigation technology spreads throughout the river valley, Senegalese policy makers have begun to confront the prospect of large increases in local rice production. Uncertainty about the ability of the existing marketing system to handle increased flows of grain has led to calls for an evaluation of current cereals marketing policies, with the goal of revealing strengths and weaknesses of the official marketing channel and identifying potential bottlenecks to future expansion. A notable feature of the policy dialogue, however, has been the government's rigid insistence on maintaining its legal monopoly over the rice trade. Although marketing of millet, sorghum and maize was recently turned over to the private sector, it is still technically illegal for anyone other than SAED to purchase paddy from farmers. The government's desire to control the rice trade is apparently based on two factors: (1) the view that private traders will not pay producers a high enough price for paddy to make rice farming profitable; and (2) the belief that production credit will be repaid only if farmers are legally required to sell to SAED.

Data collection

Eighteen months of field research was carried out during 1984 and 1985 in an effort to shed light on the organization and performance of rice markets in the Senegal river valley. Primary data collection began with informal interviews of market participants in both the official and parallel channels – farmers, assemblers, processors, transporters, wholesalers, retailers and consumers.² At the same time, published and unpublished financial records of the major government rice marketing organizations (SAED, CPSP) were comprehensively reviewed. Subsequently, three formal field surveys were carried out: (1) a three-month multiple-visit survey of 122 licensed cereals traders (7 wholesalers, 41 wholesaler-retailers, and 74 retailers); (2) a complete census of the entire population of village rice hullers located in the river valley; and (3) a single-visit costs-and-returns survey of a sample of 26 village hullers.

Summary of research findings

Official marketing channels

Government cereals policies have been successful in several important respects. For example, SAED has been instrumental in helping to establish irrigated agriculture in the Senegal river valley. The area under irrigation has expanded slowly but significantly over the past 10 years, while paddy production has increased more rapidly due to improving yields and higher cropping intensities (see Figure 2). These achievements can be attributed in large part to SAED's production support programmes, without which few farmers would have been able to make the transition from traditional rainfed and flood-recessional agriculture to irrigated crop production. The state thus has played a key role in helping to establish and protect the 'infant' rice industry.

Yet along with this success have come a number of problems,

²The parallel channel poses a particular challenge for researchers. Marketing activities are difficult to observe, much less study using conventional data collection methods. Because buying and selling rice outside the official channel is illegal, traders take pains to conceal their activities, for example by conducting transactions through intermediaries, by dealing only in small lots, by misrepresenting sources and destinations of grain, and by keeping several sets of books. With patience and ingenuity, however, it is possible to collect reliable data. For a detailed description of the methods used in the present study, see Michael L. Morris, 'The BAME Fleuve cereals marketing study: methodology', *BAME Working Paper 85-16*, ISRA, Dakar, 1985.

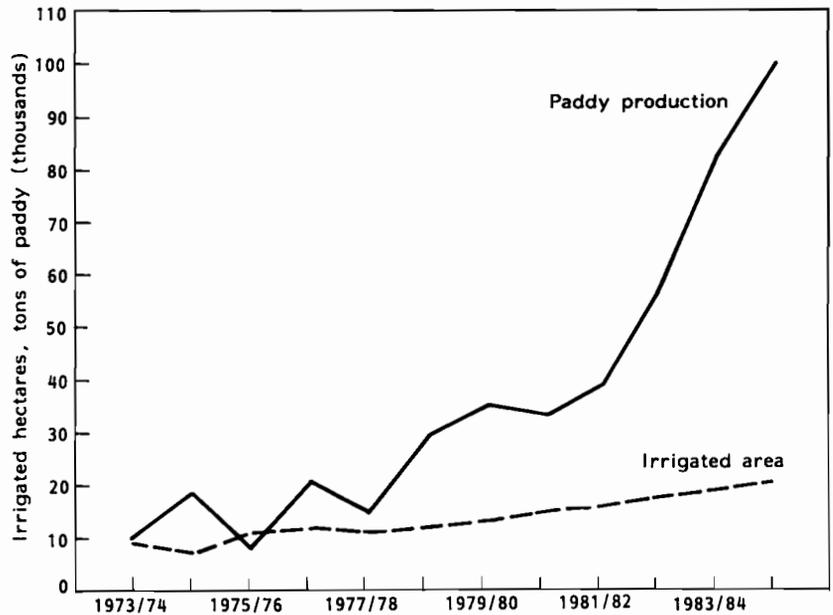


Figure 2. Evolution of irrigated area, paddy production (1973–85).

particularly with regard to marketing. SAED's organization as a large, centrally-managed bureaucracy causes frequent delays and disruptions in its marketing activities. Paddy delivered to SAED buying points often remains there for weeks before being evacuated, and payment to farmers rarely takes place until months later. Cumbersome operating procedures, information bottlenecks, and employee opportunism drive up operating costs by contributing to inefficiency, waste and corruption. SAED's operating costs are further inflated by an official pricing structure which distorts trade patterns by fixing panseasonal and panterritorial prices for rice. Parallel channel traders are quick to take advantage of profit opportunities in areas of concentrated production and consumption, while SAED is left with the unprofitable trade in remote, sparsely populated portions of the river valley. As a result, despite generous official marketing margins, SAED incurs perennial operating losses which must be made up with subsidies from the government and foreign donors.

On the distribution side, the performance of the official marketing channel has been equally mixed. Distribution functions are not carried out by SAED; rather, they are entrusted to licensed private traders operating under government regulations and policies. Although these traders do not suffer from the same institutional rigidities which afflict the state organizations, traders are subject to government regulations which significantly raise the cost of doing business without contributing appreciably to performance. Strictly enforced licensing requirements impose barriers to entry into the market and create opportunities for corruption which result in higher marketing costs. Wholesaling permits generally cannot be obtained unless the appropriate officials receive under-the-table payment, and renewal of these permits often requires additional bribes. Once licensing requirements are satisfied, regulatory compliance costs proliferate. Buying and selling activities of private traders are closely monitored by the economic police, the *Contrôle Economique*, and even minor infractions of official regulations often result in stiff fines or 'arrangements' (see Table 2). These payments are not insignificant considering the small volumes of grain handled by most

Table 2. Regulatory activities reported by cereals traders (1984).

Category of trader	Number of monthly visits by Contrôle Economique	Percentage of traders paying fines or bribes	Average monthly payment (FCFA) ^a
Wholesalers	1.64	57%	16 208
Retailers	0.77	86%	5 831

^a50 FCFA = 1 French franc. (\$1 = 500 FCFA when these data were collected.)

Source: Field surveys.

traders. For retailers located in Saint Louis, the average monthly payment of 5831 FCFA is equivalent to the official gross margin on 475 kg of rice, which represents the total monthly sales volume of many neighbourhood shopkeepers and market stall operators.

Although private traders are frequently penalized for violating marketing regulations, infractions are difficult if not impossible to avoid. Many regulations are so poorly designed that strict compliance would necessarily result in losses for traders. Rice wholesalers in certain parts of the river valley would earn negative marketing margins by purchasing rice at the official wholesale price, transporting it to their warehouses at official transport rates, and selling it at the official retail price (see Table 3). In such instances, the impossibility of compliance forces private traders either to engage in evasive behaviour to avoid detection or, alternatively, to bribe regulators to ignore transgressions.

Parallel marketing channel

Although government officials downplay the importance of non-official grain sales, the empirical evidence indicates that the parallel channel trade is extensive. The February 1985 census identified 122 village rice hullers operating throughout the river valley, 65% of which had been acquired by their owners during the previous 18 months. Average monthly throughput during the 1985 marketing season (January–March) was estimated at 5500 tons of paddy, over 2.5 times the amount processed by the SAED mills during the same period (see Table 4). Although a portion of the grain processed on village hullers was owned by farmers and destined for home consumption, the huller operators surveyed estimated that well over three-quarters of total throughput consisted of grain owned by itinerant traders and destined for sale

Table 3. Officially prescribed marketing margins on rice net of transport costs (Senegal river valley, 1985).

Location of trader	Official gross margin (FCFA/ton) ^a	Official transport cost (FCFA/ton) ^a	Official 'net margin' (FCFA/ton) ^a
Saint Louis	5 796	1 900	3 896
Dagana	6 996	3 906	3 090
Podor	8 396	6 975	1 421
Matam	12 196	21 700	(9 504)
Bakel	14 296	31 500	(17 204)

^a50 FCFA = 1 French franc. (\$1 = 500 FCFA when these data were collected.)

Source: Republic of Senegal, Ministère du Commerce Interieur.

Table 4. Estimated peak season throughput of village rice hullers compared to throughput of SAED mills (1985).

Location of facility	Operating village hullers	Paddy per day per huller (tons)	All hullers paddy/month (tons)	Combined SAED mills paddy/month (tons)
Upper valley	7	0.63	119	—
Middle valley	18	1.24	600	—
Delta	97	1.84	4808	2250
Total	122	1.68	5527	2250

Source: Field surveys, unpublished SAED records.

outside the region. Thus, published SAED estimates that 5% of the rice crop moves through the parallel channel are probably low. For 1985, a more realistic estimate of grain marketed through the parallel channel is 15–20% of total production (15 000–20 000 tons of paddy), more than half of marketed surplus.

In recent years, the parallel channel trade has begun to compete directly with official SAED marketing operations. During early 1985 when an increase in the official retail price of rice provided a particularly attractive profit opportunity for parallel channel traders, farmer sales of paddy to SAED fell sharply from previous levels (see Figure 3). This development was viewed with alarm by public officials. Although official marketings as a percentage of total production had been declining for several years, the total quantities of grain moving through the official channel had nonetheless been increasing slowly. But during the first six months of 1985, a sharp decline in SAED purchases led to severe underutilization of government marketing facilities, and a concurrent decline in CPSP sales to wholesale distributors weakened state control over the rice price structure (see Figure 4).

How has the parallel marketing channel performed from an economic point of view? Empirical evidence generated by the field surveys (the first reliable data collected on parallel channel marketing activities in Senegal) fails to substantiate the view espoused by many government policy makers that parallel channel rice traders are inefficient and exploitative. On the contrary, the data indicate that the parallel channel trade in many respects compares favourably with official marketing operations. According to farmers, parallel channel traders respond quickly and effectively to changes in market conditions, adjusting their offer prices in response to local supply and demand conditions, taking immediate delivery of grain, and offering on-the-spot cash payment. Analysis of marketing margins dispels the notion that these activities are essentially exploitative. The estimated costs and returns data presented in Table 5 show how parallel channel traders can earn positive net returns to their marketing activities while benefiting both producers and

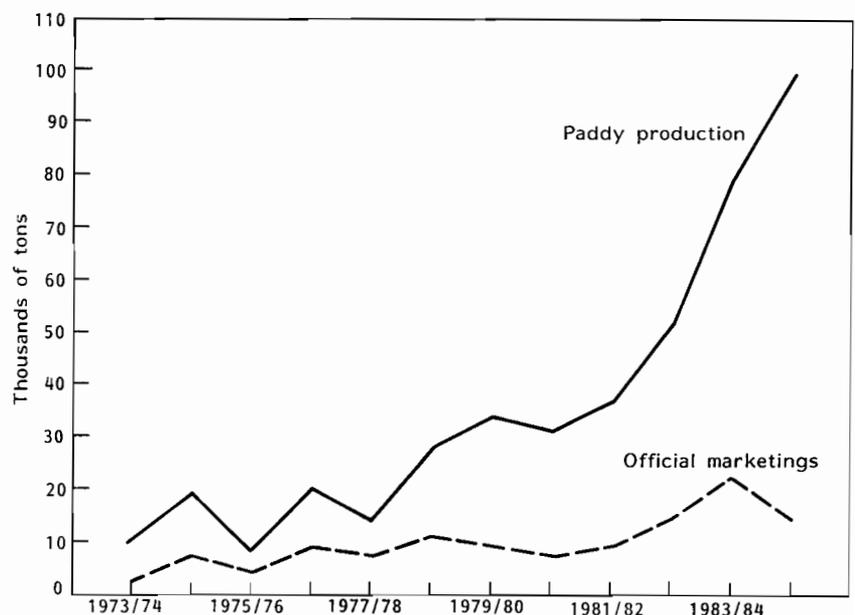


Figure 3. Evolution of paddy production, official marketings (1973–85).

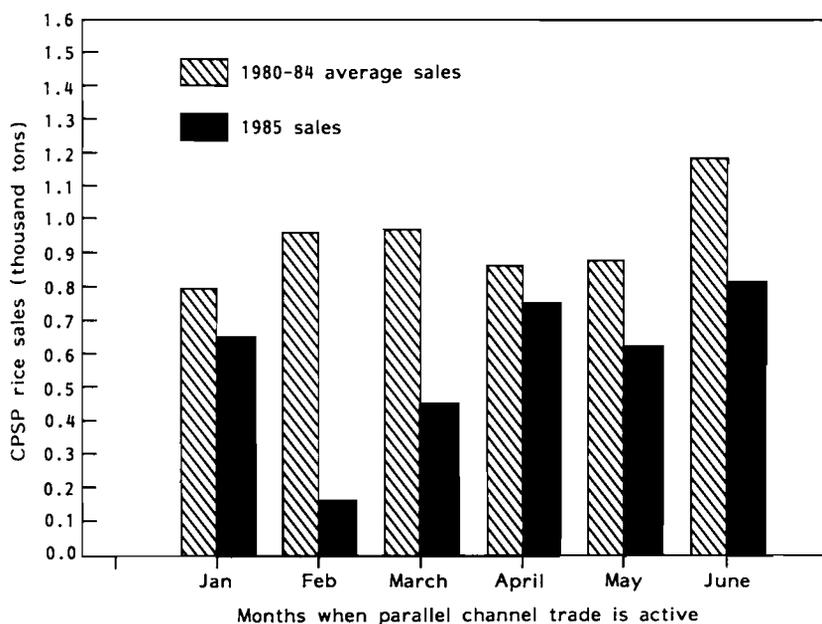


Figure 4. CPSP monthly rice sales, Saint Louis warehouse (1980–85).

consumers in the form of more favourable prices and improved marketing services.

Economic data explain the recent transformation of the dominant rice processing technology suggested by the findings of the huller census. Prototypical operating budgets developed from survey data indicate that village rice hullers can operate profitably under a wide range of capacity utilization rates. At current prices, and assuming typical use rates, hullers provide attractive investment opportunities for rural entrepreneurs, generating returns of 35–46% on the owner’s capital and management.³ Break-even processing fees are considerably below those charged by huller operators, indicating that many hullers will remain profitable as increased competition drives down fees.

Despite claims made by SAED representatives that industrial mills offer significant economies of scale in processing, the data reveal that small-scale processing technologies are competitive with industrial

³These rates of return are not directly comparable to commercial lending rates of 15–20%, since they have not been adjusted for a risk premium to reflect the inherent riskiness of operating an illegal marketing operation.

Table 5. Estimated costs and returns to labour and management of a parallel channel rice trader, 1985 (FCFA/kg paddy).

Purchase price of paddy (75 FCFA/kg)	75.00
Sales:	
Milled rice (140 FCFA/kg)	87.50
Husks and bran (33.3 FCFA/kg)	12.50
Total revenues	100.00
Gross margin	25.00
Bagging fee (100 FCFA/50 kg paddy)	1.25
Paddy bags (400 FCFA/80 kg sack/4 rotations)	1.25
Transport to mill (100 FCFA/80 kg paddy)	1.25
Milling fee (750 FCFA/80 kg paddy)	9.40
Winnowing fee (125 FCFA/100 kg rice)	0.78
Rice bags (400 FCFA/100 kg bag/4 rotations)	0.63
By-product bags (400 FCFA/60 kg bag/4 rotations)	0.63
Transport of rice (200 FCFA/100 kg)	1.25
Transport of by-product (100 FCFA/60 kg)	0.63
Opportunity cost of capital (15% per annum)	0.58
Total costs	17.61
Net margin	7.39

Source: Field surveys.

^aPaddy produced and consumed far from the SAED mills. (Based on SAED and CPSP reported cost data for 1981/82.)

^bPaddy produced and consumed close to the SAED mills. (Based on SAED and CPSP reported cost data for 1981/82.)

^cAverage costs reported by huller operators.

Sources: Robert Chateau, *Etude Sur les Coûts de Commercialisation et de Transformation du Paddy a la SAED (Campagne Agricole 1981/82)*, SAED, Saint Louis, Senegal, 1982; Arthur Anderson Gaye et Associates, *CPSP: Etude Diagnostique*, Dakar, 1982; field surveys.

Table 6. Processing costs with transportation linkages in the official and parallel marketing channels, Senegal river valley (1981/82, 1985).

Operation	Official channel 'Scenario 1' ^a (FCFA/kg paddy)	Official channel 'Scenario 2' ^b (FCFA/kg paddy)	Parallel channel ^c (FCFA/kg paddy)
Assembly	22.15	8.83	3.75
Processing	18.16	12.57	18.20
Distribution	8.62	1.27	1.25
Total cost	48.66	22.67	23.20

technologies under the conditions prevailing in northern Senegal. Table 6 shows how the ranking of alternative rice processing technologies depends on whether or not forward and backward transportation linkages are included in the calculations, as well as on assumed capacity utilization rates. Given the current spatial distribution of rice production and consumption, and given the chronic underutilization of the SAED mills, large-scale processing facilities have not demonstrated an absolute cost advantage over small hullers throughout the river valley. The SAED mills do represent the low-cost technology when production and consumption are geographically concentrated, but hullers are more cost-effective when rice is produced and consumed over a widely dispersed area, as well as when the industrial facilities are underutilized.

Yet if the parallel channel has performed well in many respects, as a market-oriented system it cannot be expected to accomplish all of the government's policy goals. Because most economic decisions in the parallel channel are made by profit-motivated individuals, there is underinvestment in activities whose benefits cannot easily be captured for personal gain. For example, individual traders have little incentive to invest in the systematic collection and dissemination of market information, with the result that the parallel channel is frequently characterized by information impactedness. Itinerant traders often have a hard time finding out where paddy is available to buy, and they frequently must undertake expensive travel throughout the production areas in search of grain.

In addition, parallel channel traders do not serve all producers equally. The spatial distribution of village hullers, depicted in Figure 5, reveals a concentration of parallel channel processing activity in the more accessible parts of the river valley, while remote areas are served

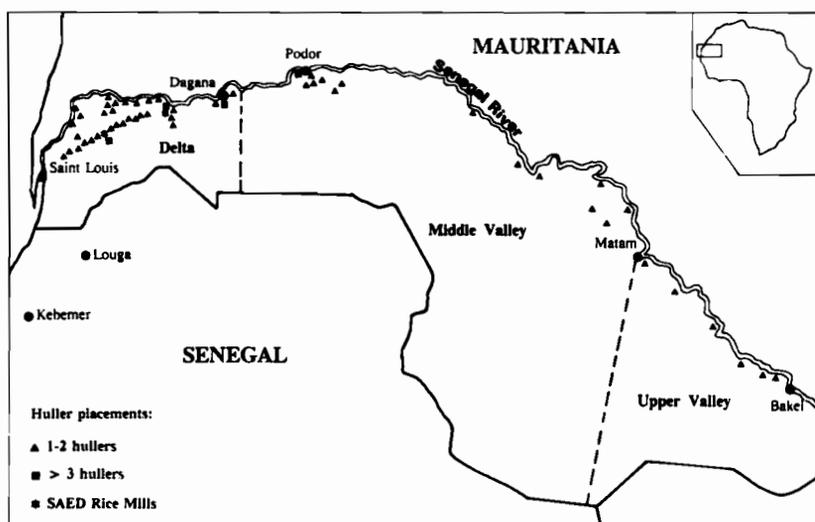


Figure 5. Location of village rice hullers in the Senegal river valley (February 1985).

inadequately. This pattern is due in part to the concentration of production in the Delta, but it also shows how profit-motivated private traders tend to focus their efforts on more lucrative market opportunities at the expense of farmers situated in less accessible areas. In contrast, SAED buying points are located on every perimeter throughout the river valley, providing farmers with easily accessible market outlets and facilitating repayment of production loans. While private traders might be expected to move into the remote areas should SAED assembly operations be suspended there, they presumably would be forced to offer producers a lower price for their paddy in order to account for increased marketing costs. This would disadvantage farmers currently benefiting from the government policy of guaranteeing a uniform producer price throughout the region.

Effectiveness of current marketing policies

Several conclusions can be drawn from these results.

First, current rice marketing policies are poorly suited to existing market conditions. SAED may have been instrumental in bringing irrigation technology into the Senegal river valley, but SAED's marketing monopsony has outlived its usefulness now that irrigated rice production is established and a flourishing private trade has emerged. SAED lacks management capacity, institutional flexibility, and financial resources to respond quickly and effectively to changing market conditions, making official rice marketing operations unreliable, inefficient and costly.

Second, official rice marketing operations (including processing) are increasingly overshadowed by unofficial marketing activity. Although marketed surplus is still a relatively small portion of total production, farmer sales are expected to increase as the area under irrigation expands and average landholdings increase. The evidence suggests that unauthorized marketing activity is virtually impossible to suppress as long as there are profit opportunities for private traders, which is likely as long as a uniform pricing structure remains in place and/or as long as official marketing margins reflect costs incurred by the inefficient state grain marketing organizations. Efforts to eliminate parallel channel trade merely drive up costs, both for the government and for the private sector.

Finally, despite incurring additional costs (either in complying with cumbersome regulations or in taking measures to evade them), parallel channel market participants are able to outperform the state grain marketing organizations. Parallel channel traders are more flexible than the government organizations, use resources more efficiently and require less remuneration. This allows them to provide marketing services at low cost to many producers and consumers, although not to all producers and consumers at levels deemed desirable by government policy makers.

Implications for policy

The empirical evidence thus supports what some policy analysts have been arguing for years: profit-motivated private traders are able to provide a wide range of marketing services more rapidly and cost-effectively than the centrally-administered state grain marketing agencies. This implies that the performance of rice markets in the Senegal

river valley would improve if resource flows could be guided by market forces to a greater degree than is possible under current policies.

But in attempting to improve the performance of the current state-dominated cereals marketing system, it is not necessarily desirable to transfer responsibility completely to the private sector, as is currently being advocated by some analysts. Increasing the role of the private sector can lower system-wide marketing costs (eg, by encouraging more efficient use of resources and by reducing opportunities for corruption), but the behaviour of parallel channel participants suggests that private traders are unlikely to assume certain types of activities which may have an important bearing on the long-run performance of the overall marketing system.

It is important not to let policy analysis become dominated by ideology. M. Mackintosh is surely correct when she writes, 'In the absence of analysis of the operation of existing markets . . . proposals for market liberalization in the interest of higher production are merely statements of faith – and of preference for a market economy'.⁴ Certain obvious shortcomings of one-channel, state-controlled marketing systems can indeed be addressed by encouraging greater reliance on market forces, but the accumulating empirical evidence on parallel markets suggests that excessive privatization is likely to generate a new set of problems whose solution, ironically, may require a reversion to increased state participation.

Market systems represent an efficient mechanism for equilibrating effective supply and demand, but in a world characterized by externalities, transaction costs, barriers to entry, concentrations of economic and political power, and uncertainty about the future, market systems can be undone by market failures. Also, market systems are poorly suited for achieving non-efficiency goals, such as the redistribution of income in favour of relatively disadvantaged producers in remote areas. By implication, if good performance is to be achieved, resource allocation must be guided partly by market forces and partly by administrative decision, not exclusively by one or the other.

Cereals policy reform proposals for Senegal are presented below. The proposals are deliberately broad, because policy makers in Senegal are debating the general lines of a future rice policy framework (eg, considering whether the government's legal marketing monopoly should be maintained) and have yet to address specific institutional design issues.

Market organization and licensing requirements

Parallel channel traders have demonstrated the ability to provide timely and cost-effective marketing services at low levels of remuneration. Yet many potential market participants are discouraged from engaging in marketing activities because of barriers to entry, high regulatory compliance costs, expenses involved in avoiding detection by government regulators, or the threat of financial penalties for violating the government's legal marketing monopoly. Performance of the rice marketing system could therefore be improved through the following policy actions.

⁴Maureen Mackintosh, 'Economic tactics: commercial policy and the socialization of African agriculture', *World Development*, Vol 13, No 1, 1985, p 81.

Elimination of SAED's legal marketing monopoly. Eliminating SAED's monopoly on the assembly and processing of local rice would encourage private firms and individuals to assume many marketing functions

currently being performed at high cost by the state. Greater private-sector participation would reduce marketing margins in two ways: (1) by leading to more efficient use of resources throughout the marketing system; and (2) by eliminating unnecessary costs created by the present structure of regulations (eg, paying regulators to look the other way). Government fears that elimination of SAED's legal monopoly over purchases of paddy would lead to a decrease in repayment of production credit appear unjustified. The experience in numerous other countries makes clear that production-support programmes need not be linked directly to marketing activities in order to ensure credit recovery.

Removal of unnecessary licensing requirements. Many existing licensing requirements for private traders pose barriers to entry into rice marketing without contributing appreciably to performance. Removing unnecessary licensing requirements – for example, the requirement that wholesalers maintain a minimum balance in a regional bank account – would help reduce barriers to entry into the grain trade and increase competition in the marketplace. The empirical evidence from both parallel and official channels suggests that, as long as access into the grain trade remains unrestricted, competitive pressure will keep marketing margins small, ensuring favourable prices for both producers and consumers. Free access can be maintained by making commercial permits readily available upon payment of a small registration fee.

Clarification of the rules of the game. Many private grain traders currently have difficulty obtaining accurate information about marketing regulations. Regulatory changes are not always well publicized, and printed literature detailing official marketing policies is generally unavailable. To complicate matters further, cereals marketing regulations are inconsistently enforced by the Contrôle Economique.⁵ This makes it difficult to determine who is authorized to buy and sell grain, and under what conditions. Clarifying the rules of the game (for example, by publicizing marketing regulations and enforcing them in a consistent manner) would eliminate a major source of regulatory uncertainty.

Pricing mechanisms and levels of prices

Seasonal and regional variations in supply and demand factors result in corresponding variations in marketing costs and returns. In this context, the imposition of a fixed, uniform pricing structure (while admittedly easier for the government to administer) creates economic distortions, preventing prices from performing their vital signalling function and redirecting resources toward unproductive uses. At the same time, uniform prices induce private traders to concentrate their efforts on profitable marketing opportunities while leaving unprofitable trade to the state, thereby increasing the government's average marketing costs. Replacing the existing uniform prices with a flexible pricing structure would allow traders to adjust buying and selling prices in response to market conditions. They could thus earn positive margins despite highly variable marketing costs wherever effective demand exists, and the state would be relieved of the burden of having to provide all of the high-cost marketing services, including storage.

⁵Mark Newman, Pape Sow and Ous-seynou N'Doye, 'Regulatory uncertainty, government objectives, and grain market organization and performance: the Senegalese case', *BAME Working Paper 85-9*, ISRA, Dakar, 1985.

Role of government organizations

To complement the proposed market liberalization measures and price policy reforms, additional measures will be needed to redefine the role of the state grain marketing agencies. The purpose of these measures is not to 'reduce' public-sector involvement in cereals marketing, but rather to reorient the role of the government from attempting to monopolize a wide range of marketing functions towards providing facilitative services designed to complement and strengthen the activities of private traders.

Despite their obvious shortcomings, the existing state agencies serve real economic and political needs in Senegal. On the production side, SAED has played a key role in helping irrigated rice production to become established in the Senegal river valley. On the consumption side, CPSP has helped ensure the widespread availability of staple food grains at affordable prices during a lengthy period of chronic regional food deficits. Because profit-motivated private firms and individuals are unlikely to provide all of the services currently being provided by these government organizations, public-sector participation in the rice subsector should continue. However, it should have the more modest goal of maintaining a strategic presence in the market to provide a policy lever for influencing prices (including the cost of agricultural credit) and to introduce a standard of competition for private traders.

Conclusion

Cereals policy reform in Africa is often cast in terms of a choice between 'public-sector solutions' based on administered prices and 'private-sector solutions' based on market prices. Recent evidence from Senegal supports the contention that characterizing cereals policy reform options in these terms ignores the fact that, in an imperfect world, both administered systems and market systems are likely to result in unsatisfactory performance. In the past, cereals marketing policies in Senegal have tended to reflect ideological extremism, alternately vacillating between extensive state intervention in the economy and sweeping privatization. This article proposes policy reforms that seek out a middle ground, assigning considerable responsibility to private traders while recognizing the economic and political necessity of preserving state grain marketing organizations. Although the proposals relate to rice markets in Senegal, the problems facing Senegalese policy makers are hardly unique. To the extent that the situation in Senegal reflects the situation in other countries throughout sub-Saharan Africa, the analysis has wider applicability.