Notes & Comments

A Proposal for Fiscal Incentives for the Raw-Jute Exports

by

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Introduction

While jute is an important crop, jute policy of Pakistan has often been inadequate. Efforts to improve the productivity of jute and to pursue a price policy consistent with the long-term interest of jute in the external market have been peripheral and uncoordinated and all along not been commensurate with the gravity of the issues involved.

In the twenty years since Pakistan came into existence, the world production of jute and allied fibres increased by nearly 300 per cent from a level of about 1.5 million metric tons during the period 1947-52 to 4.3 million tons during 1967/68, whereas Pakistan's production of jute has stagnated at a level around 1.0 to 1.3 million tons per annum. As a result, Pakistan's share in the world production has continuously declined from about 80 per cent in 1947/48 to only 30 per cent in 1967/68. In the same period the volume of world export trade in raw jute and jute goods increased by nearly 40 per cent whereas Pakistan's exports increased only marginally by 8 per cent — its share in raw jute had declined in absolute terms which could hardly be compensated by the increase in exports of jute goods [6].

In the external market, jute is now gravely threatened by substitutes. Unless price of jute is reduced sufficiently, substitutes, particularly synthetics and bulk-handling techniques, will make irreversible inroads into the uses jute is currently being put to, so that reduction of the price afterwards will not be of much avail. In the traditional packaging fields, jute has already lost substantial market, first to paper sacks and bulk handling and recently to synthetics. Jute is rapidly losing much of the dynamic market for carpet backing as well to synthetics. Woven and

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non-woven synthetic backings had already taken 25 per cent of the United States primary backing market from jute by 1967 and would have over 50 per cent by 1970. This will be equivalent to the loss of markets for four lakh bales of jute in the United States market alone. In the internal market, the production of jute is equally threatened by rice the demand for which is increasing due to relentless increase in population. High internal price of rice together with high-yielding rice varieties is threatening to reduce drastically the incentive for jute cultivation. Again, jute prices have continued to fluctuate violently from one season to the other. In the face of a rising trend of rice prices, low productivity and highly unstable jute prices which signify unstable income from jute, the jute farmers have hardly the proper incentive for allocating additional resources towards jute through purchased inputs such as fertilizer, water or seeds.

It is significant that the Third Five-Year Plan of Pakistan laid great stress on the need for increasing export of jute goods but not raw jute. The plan target for production of raw jute was set optimistically at 8.0 million bales. However, it is very likely that the production of jute in 1969/70, the final year of the Third Plan, will fall far short of the plan target. Failure to achieve the plan target for such an important crop can very simply be attributed to two factors: first, no well-conceived programme for increasing productivity of jute was implemented; secondly, price policy along with supporting measures was not adequate and the basis of such policy was not sound.

Balance-of-payments considerations have been the over-riding objective of Pakistan's raw-jute policy so far. On the one hand, the policy has been to keep the export prices of raw-jute high on the assumption of an inelastic world demand, on the other to keep the proceeds away from growers and shippers through export taxes or absence of export bonus. Another consideration has been to protect the jute industry on the basis of the "infant industry argument" by keeping the internal price of raw jute as depressed as possible. The main result has been to create more favourable conditions in other countries for an expansion of production than they exist in Pakistan.

In this paper, the basis for formulating an alternative price policy of jute in Pakistan is explored and a suggestion is made for increasing the producer incentive for inducing higher production in the short run. It is recognised, however, that the problem discussed in the paper is much more complex than the prognosis presented hereafter. The suggestion is made primarily to focus the alternative policy variable and stimulate discussion on this vital area of development of Pakistan's agriculture.

II. PAKISTAN'S SHARE IN WORLD EXPORT OF JUTE

In recent years, there has been significant increase of kenaf production in Thailand so that substantial export surplus has emerged from there. Kenaf is a

close substitute of jute almost in the whole range of sacking or similar products. In the manufacture of inferior jute goods, such as sacking or low-grade hessian, it has substantial technical advantage over jute. In addition, its price is 20-30 per cent cheaper than jute of comparable quality. As a result, exports of kenaf from Thailand have been able to cut into the export market of Pakistani jute in recent years. The statistical position is as follows:

TABLE 1

WORLD TRADE (EXPORT) IN RAW JUTE AND ALLIED FIBRES

(000 metric tons)

Exporting country	Av. 1946-50	Av. 1951-55	1958	1959	1960	1961	1962	1963	1964	1965	1966
Pakistan	953	931	891	797	758	599	686	727	780	693	670
Thailand	—	—	27	38	62	126	213	111	148	294	540
Others	17	33	15	43	12	8	12	—	45	29	111
Total world	970	964	933	878	832	733	911	838	973	1016	1321

Sources: [3 ; 5].

As a result of the emergence of Thailand as exporter of kenaf on a substantial scale, Pakistan no longer enjoys the monopoly or near-monopoly position as it used to do prior to 1961 in the world export market of jute and allied fibres. Pakistan and Thailand now supply about 60 : 40 of the world jute export, if we ignore smaller exporters like Nepal, the Congo, Brazil and others. India and China, the other major producers of raw jute and allied fibres, have no export surplus or are unlikely to have any in the near future. This might suggest that we can treat Pakistan and Thailand as oligopolists. Now, were they to behave as perfect oligopolists in the sense of following each other's moves perfectly, we would expect the demand curve facing each to be about as inelastic as the world demand. However, this has not been the case. In actual practice, Thailand's policy has been exactly opposite to Pakistan's moves. Whereas Pakistan has penalised her jute producers first by retaining the pre-Partition acreage control till 1960 and the export tax on raw jute till 1967, Thailand has gone ahead with a vigorous programme for expanding her kenaf production through subsidised input programmes and guaranteed minimum prices. One consequence of this is that in the export market Pakistan jute no longer faces an inelastic demand.

III. ECONOMICS OF JUTE PRODUCTION IN EAST PAKISTAN

My analysis of the economics of jute production in East Pakistan, on the basis of Nerlovian adjustment models [10] shows that:

1) The principal determinant of jute acreage and, for that matter, production of raw jute in East Pakistan is the jute farmer's expectation of the relative price of jute and rice that is largely based on the ratio of the two in the preceding year.

2) The response of jute farmers to relative price has tended to vary over the years. It has tended to decline somewhat over the years as comparison of the price elasticities of acreage in the pre- and post-Partition (1947) periods suggests.

3) Farmers response to the relative price and the yield rates of jute and rice seems to be higher than to the relative gross revenue, as appears from the comparison of elasticities found from the adjustment model and the price expectation model with those from the revenue expectaion model.

4) The relative yield rate of jute and rice is also an important factor determining the farmers' decision on acreage to be planted under jute.

5) Relative price and yield ratio along with lagged acreage explain as much as 70 to 80 per cent of the variations of the jute acreage. On the other hand, relative gross revenue from jute and rice along with lagged acreage explains about 58 per cent of the variations, *see* [1 ; 10].

There has been a long-term decline in jute acreage in East Pakistan (Table II). Since under the existing technological conditions prevailing in the agriculture of East Pakistan, production of jute is primarily dependent on a choice between a cash crop and a food crop. The long-run decline in jute acreage can be explained largely by the long-term fall in the internal price of jute relative to the price of rice in East Pakistan. The fall in the relative price of jute in East Pakistan has been due to sharp increase in the price of rice, which rose rapidly during World War II and again 2½ times between 1955/56 and 1957/58. Rice production had lagged behind population growth in East Pakistan, with only a small increase in the rice acreage and with no perceptible increase in the yield rate up to 1959/60. From 1960/61 till 1964/65, the price of rice did not increase much, thanks to the increased imports of rice and wheat under PL-480 and the exceptionally good harvests in 1959/60, 1960/61 and 1963/64. In 1960/61, the price of jute shot up to record level and the jute-rice price index rose with it, but the subsequent decline in the price of jute brought the index back to close to the previous level.

During the Third Five-Year Plan (1964/65—1969/70), output and acreage have apparently increased with the falling yield rate and jute/rice price ratio. While this is partly explained by the difference in statistical method of estimation of jute acreage and output (*see* note to Table II), this is also indicative of the progressive decline in the response of jute acreage and production to the relative price of jute and rice throughout the post-Partition period. This reduction in price responsiveness of the jute farmers in East Pakistan is a manifestation of the growing pressure of the population on the land and the consequent increase

in the subsistence cultivation of rice. Practically all the jute output moves to the market and traded for cash, whereas vast quantities of rice are retained for home consumption and do not enter into price formation. The area which this rice represents is very likely to respond to prices only after subsistence requirements are met. The reduction in the supply elasticity of jute in the post-Partition period of rice shortage is, therefore, primarily due to an increase in the subsistence cultivation of rice and the consequent reduction in the margin of flexibility between the cultivation of jute and rice.

TABLE II

LONG-TERM TREND IN JUTE ACREAGE AND PRODUCTION IN EAST PAKISTAN

Period	Acreage (*000 acres*)	Yield rate (*lbs./acres*)	Output (*000 m.t.*)	Relative price (jute/rice)
1936/37 to 1940/41	2592	1198	1349	147
1941/42 to 1945/46	1803	1234	1008	102
1946/47 to 1950/51	1750	1188	1057	109
1951/52 to 1954/55	1505	1464	994	87
1955/56 to 1959/60	1443	1544	1095	71
1960/61 to 1964/65	1732	1393	1204	71
1965/66 to 1968/69	2194	1164	1277	69

Source: Figures for 1936/37 to 1959/60 are from [10]. Figures for 1960/61 to 1962-69 are from the Bureau of Agricultural Statistics, Department of Agriculture, Government of East Pakistan.

Note: The figures for 1965/66 onward are not strictly comparable with the earlier figures because of a substantial revision in the method of estimation of jute acreage and yield rates. Till 1964/65, the acreage and yield rates were based on the so-called subjective method or eye estimation of village *chowkidars* and officials of the Agriculture Department. The production figures thus derived were reconciled with the flow-estimate or the trade estimate of production. Since 1965/66, the acreage and yield rates have been based on an objective method, such as the random sampling of jute area. Comparison of the subjective and the objective estimates of jute acreage and yield figures shows that the subjective method consistently underestimated the acreage by a margin of about 10-15 per cent while overestimating the yield rate by about the same margin so that the production figures obtained from the two methods were more or less acceptable [9]. The progressive decline of yield rate of jute in recent years (since 1965), of which much has been talked about, is thus primarily a statistical illusion —the result of switching over from one method of crop estimation to another and should not be taken seriously. Nevertheless, the present yield rate is low and there is scope for increasing the yield rate substantially through application of modern yield-raising inputs.

Added to this is the fact that jute crop has a higher variability in terms of yield per acre, harvest price and gross return per acre (yield per acre times price per unit of yield) in the recent period due primarily to the recurrent floods and other uncertain weather conditions. The risk element, therefore, plays a significant role in the patterns of investment and other expenditures on the farm, each of which being further dependent on the resource position of the jute farmer. In the theory of investment between alternative portfolios or investment activities there are at least two polar types of behaviour recognized, *i.e.*, the risk-averting or the risk-taking behaviour. In fact, a large diversion of acreage to jute is not always feasible unless either the extent of fluctuations in yield, price and returns is reduced for jute or the pay-off for risk-taking on these accounts is significantly raised. It is quite optimal for a subsistence farmer not to divert his acreage from jute significantly, since this behaviour is consistent with the policy of playing safe under conditions of rising risks [1].

TABLE III

COST OF PRODUCTION OF JUTE AND AUS PADDY IN EAST PAKISTAN AVERAGE OF 1965 AND 1966 SEASONS

(rupees per unit)

Factor input	Jute varieties		*Aus* paddy
	Capsularis	Olitorius	
Seed and manure	30.58	36.58	41.83
Human labour	1208.09	210.44	122.65
Bullock labour	43.72	39.00	46.48
Rent and interest	54.45	52.26	47.52
Total cost per acre	336.84	338.28	258.48
Total cost per maund	28.60	26.53	18.77

Source: Calculated from figures obtained from the Pakistan Central Jute Committee survey of cost of production of jute and rice during 1965 and 1966 seasons.

The output and price of rice will thus continue to be the main limiting factors in the long-run supply of jute in East Pakistan. Cultural practices of the two crops are such that land, labour and equipments are readily interchangeable between their cultivation. Rice prices largely determine the social opportunity cost of using land for jute cultivation, since rice production is usually to be foregone in order to grow jute. From the cost of production side as well, jute is at a disadvantage compared to rice.

At market prices, the cost of production of jute is nearly two-third higher than the competing *aus* paddy. However, it may be argued that the opportunity cost of family labour in East Pakistan is lower than market wage in view of the widespread under employment in agriculture [11]. It has been observed that about 50 per cent of the labour input in jute production is met by hired labour on the average [2]. Using a price of family labour at half the prevailing market wage rate for hired labour (which is roughly equivalent to the cost of food for family labour)[1], the cost of cultivation of main jute varieties and the competing rice crop works out as follows: it is seen that the cost of production of jute is still 50 per cent higher than the cost of production of rice.

Instability in Jute Prices and Its Impact on Farmers' Incentives

One of the potent sources of the producer's disincentive to resource allocation in favour of jute production is the violent fluctuations in jute prices that continue to recur from one season to another with a remarkable regularity. In fact, the observed movements of production and price of jute (relative to rice) in

TABLE IV

MAGNITUDE OF THE ANNUAL FLUCTUATIONS IN WORLD JUTE PRICES

	Degree of annual fluctuation around the trend
Price in India and Pakistan	
1900—1913	24.0
1920—1938	24.8
1948—1966	36.0
Price at London Market	
1900—1913	21.3
1920—1938	23.2
1948—1966	27.1

Source and note: The degree of annual fluctuation is measured by the normalised standard error. For the period 1900 — 1938, the price is represented by average price of raw jute at Calcutta, as quoted in the Index Number of Indian Prices (1861-1931) and its annual addendum. For the period, 1948-66 the price is the average balancing centre price at Narayanganj, as quoted by the Directorate of Jute and the Jute Board. The price at London market is the price of raw jute, as reported in the Journal of the Royal Statistical Society (General Series A).

[1]And also making certain other adjustments in the valuation of the imported inputs which of course does not affect the results significantly.

the pre-Independence India and post-Independence Pakistan suggest a pronounced "cobweb" relationship between the two from one season to the next. Although exogenous factors like the retail price of rice on the supply side and the world production of jute-using commodities on the demand side tend to damp this cobweb effect, it is strong enough to be manifested in the observed series of jute production in Pakistan. A high price of jute in one season in general results in a larger crop the following season which in turn tends to depress the jute price which causes a small crop the next season, and so on. The net effect of this is severe annual fluctuations in the price of jute for a given change in supply. In fact, the degree of annual fluctuations has tended to increase over the years as the evidence in Table IV suggests.

It is significant that fluctuations in jute prices are smaller at the export than at the internal marketing level and are the highest at the grower's level. The following figures provide the evidence for recent years:

TABLE V

COMPARATIVE ANNUAL FLUCTUATIONS IN RAW-JUTE PRICES AT DIFFERENT STAGES OF MARKETING IN EAST PAKISTAN: 1947/48 — 1965/66

Marketing level	Annual fluctuations around the trend (%)
Growers' price	42.0
Baling centre price	38.8
Export price (*f.o.b.*)	32.0

Note: Annual fluctuation as measured by normalised standard error.

On its way from the growers' village to the ship (or to the domestic mills) jute passes through a number of transactions. Between the village and the baling centre, its price is increased by transport and handling charges, by the cost of sorting and baling and by the profits of intermediaries. Between the baling centre and the ship inland freight, port charges, export duty (abolished since January 1968) ocean freight, insurance and shippers' commission are added. Of these cumulative costs only breakage and insurance charges appear to be calculated directly on the basis of the price of jute at each stage and, therefore, vary in proportion to it. The other charges generally show much smaller year-to-year variations and are not usually related to changes in the price of jute. As a result fluctuations in jute prices become less pronounced at every stage beyond the first sale by the grower, reaching their minimum at the port of entry into the consumer countries.

However, the degree of instability observed in the export prices of jute is greater than that obtaining in the world markets for most other primary commodities [7]. Instability of raw-jute prices gives rise to instability in the prices of principal jute products — yarn, cloth and bags. Although instability in the prices of jute goods is comparatively smaller than jute prices, it is far greater than the prices of the competing products like paper sacks or synthetic products. The secular trend away from jute to the substitutes has, in fact, been accelerated by the relative instability of jute prices which has not shown any sign of diminishing over the years. The high peak prices of jute in the early sixties have also stimulated more or less permanent increases in the production of kenaf in Thailand and allied fibres elsewhere which have not shrunk proportionately when the jute prices fall.

The most obvious impact of jute prices on the economy of Pakistan is felt in the value of export proceeds. The average year-to-year fluctuations in export proceeds from raw jute is found to be around 25 per cent from the year 1948 through 1966. Almost the same degree of instability in export proceeds from raw jute was found for British India.

Since jute is entirely grown in East Pakistan, which is the poorer region of the Pakistan economy, the regional impact of the sharp flucations is quite severe. It is the main cash crop of the East Pakistan peasants and accounts for about half the cash money income of the agricultural community. The average annual fluctuation in the aggregate cash income of the jute growers in East Pakistan (measured in real terms by deflating the gross income by the retail price of rice) between 1947/48 and 1966/67 calculates at 36 per cent. For people living at a subsistence level such startling variations in income must entail considerable hardship. Furthermore, these data are averages which cancel out offsetting movements of individual incomes. Individual farm families have much less income security than is disclosed by the average figure. Although such a degree of instability in their cash incomes may not make the jute growers as a group any poorer in the long run it does discourage them from investing in their lands and therefore affects the productivity of jute cultivation. The uncertainty has been aggravated by the recurring floods which damage the crop to a considerable extent year after year. The result has been that the East Pakistan jute growers have hardly the right incentive for increasing the level of purchased inputs for increasing productivity.

With the current emphasis on the attainment of self-sufficiency in foodgrains in East Pakistan through increased production of rice, jute has been put at a further disadvantage in the internal market. To increase rice production within the shortest possible time a vigorous programme of supplying as a package subsidised inputs to rice farmers is now being implemented. The magnitude of this programme vis-a-vis the nominal governmental efforts for jute on similar lines can be gauged from the following figures in Table VI.

TABLE VI

SUBSIDY ON JUTE AND FOOD SELF-SUFFICIENCY PROGRAMME IN EAST PAKISTAN

(Average of 1967/68 and 1968/69)

Inputs	Physical amount	Total cost	Subsidy elements
Rice and other food			
		(....in million rupees....)	
1) Fertilizer	838,00 tons	444.1	259.8
2) Plant protection	21.8 million spray acres	183.8	163.8
3) Seeds	0.6 million mds.	11.9	7.1
4) Water	Low-lift pumps, tubewells and irrigation by gravity canals	363.0	214.5
Total Rice:		**1002.8**	**645.2**
Jute			
1) Fertilizer	42,000 tons	22.7	13.0
2) Plant protection	3.3 million spary acres	24.8	24.8
3) Seeds	8,000 mds.	0.7	0.4
Total Jute:		**48.2**	**38.2**

Source: [4].

Assumptions Regarding Calculation of the Subsidies

1) Of the total distribution of fertilizer, 5 per cent is used on jute.

2) One spray acre of pesticide costs 7.50 rupees.

3) Jute seeds cost 90.00 rupees per maund, of which 40.00 rupees per maund is subsidy.

4) Low-lift pump of EPADC costs 4200 rupees per pump, of which 50 per cent is subsidy. Tubewell of EPADC is taken at 7000 rupees

per pump, of which 50 per cent is subsidy. For GK Project, DND and North Bengal tubewells and low-lift projects 70 per cent of annual capital and operating costs are subsidies.

It has not been possible to conceive a comprehensive input programme for increasing the productivity of jute so far. The existing program me, as seen above, is rather weak and its coverage is only marginal. In addition, the introduction of high-yielding new rice varieties such as IRRI-8 is likely to change the production possibilities drastically in favour of rice. From the field studies conducted since the 1967/68 winter it has been found that IRRI-8 variety of rice gives about three to four times the yield compared to the local varieties. The cost of cultivation of IRRI-8 is, however, nearly twice that of the local varieties. Thus, even discounting the IRRI-8 for higher cost of cultivation, it is still nearly twice as productive as the traditional rice varieties. The only major technological constraint in the IRRI-8 and jute substitutability is the availability of water. IRRI consumes nearly twice as much water as jute does, although the maturing period of the two crops are comparable as the following figures show:

TABLE VII

PERIOD OF GROWTH AND WATER REQUIREMENT OF JUTE AND RICE IN EAST PAKISTAN

Crop	Growing period	Water requirement during growing period
Jute	120 days (March—June/July)	40 inches
Aus paddy	110 days (March/April—June/July)	40 inches
IRRI-8 paddy	150 days (December—May)	75 inches

During 1967/68, the first year in which IRRI-8 has been cultivated on an extensive scale in East Pakistan, it extended to an area of 155,000 acres—of which roughly one-third of the area is also suitable for jute cultivation. During 1968/69 an area of nearly 400,000 acres was under cultivation of IRRI-8. In the long run, it is likely that substitution of jute land by IRRI-8 will be confined to those acres where the switchover from jute is not limited by physical and technical constraints. In case of a further breakthrough in evolving IRRI rice strains large-scale substitution of jute land by such rice varieties will be a real possibility unless the productivity of jute can also be raised dramatically in the mean time.

V. BASIC ELEMENTS OF A REALISTIC JUTE POLICY

It is now clear that the basic elements of Pakistan's jute policy should be based on the following objectives:

1) Jute price in the external markets should be kept sufficiently low so that Thai kenaf and other substitutes do not drive Pakistani jute out of its present uses.

2) In the domestic market the price of raw jute has to be kept at a reasonable level compared to the price of rice so that jute/rice price ratio does not fall so as to make jute cultivation relatively unprofitable.

3) The strategy for increasing production of jute should incorporate basic measures in the form of a package-programme directed towards increasing productivity. This will not only increase total production of raw jute from the present acreage but also lower the cost of production per unit.

4) The interseasonal fluctuations in jute prices should be minimised so as to reduce uncertainties at farmers' level in order to increase farmers' incentive for the use of purchased inputs.

Pakistan's jute price policy is, thus, beset with an apparent paradox. On the one hand, the external price has to be reduced substantially to retain competitiveness and, on the other, the domestic price needs to be raised to stimulate production in the face of increased threat from rice.

A very powerful mechanism is available to policy makers to reconcile these two apparently conflicting aims through the multiple-exchange rate system that has come to be known in Pakistan as the Bonus Voucher Scheme. Putting raw jute on export bonus is likely to achieve the following objectives simultaneously:

1) Reduce price in the export market and help improve jute's competitive position vis-a-vis Thai kenaf and substitutes.

2) Increase the internal price of raw jute and thereby increase producer incentive by improving jute's position relative to rice.

3) Reduce fluctuations in the external price of raw jute (the exporter will have flexibility in fixing export price even if internal price fluctuates) and thereby help increase jute's competitive position.

4) Eliminate leakages of foreign-exchange earnings through under invoicing of exports and thereby eliminate the necessity of the present export price check (EPC) mechanism and other forms of control.

There are various methods by which the bonus rate or the rate of subsidy that can be allowed to raw jute under the present market conditions can be determined. As a rough and ready measure the rate of subsidy can be arrived at on certain assumptions regarding the relative importance of the cost of domestic resources consumed per unit output of jute on the margin and the foreign-exchange earning from an additional unit of raw jute export. The relation is given by: (for derivation of the relationship, *see* [8].

$$R = \frac{(1 + S) - a}{1 - \frac{1}{ef} - a}$$

Where R = the ratio of cost of domestic resources per marginal unit of jute output to the marginal foreign-exchange earning from export of raw jute,

S = the rate of subsidy or bonus rate to be determined,

a = the price of imported inputs such as fertilizer and pesticides supplied by the government at international prices per unit output of raw jute,

ef = the elasticity of foreign demand faced by Pakistan raw jute.

By imputing probable values of R, a and ef, the magnitude of S can be determined. The value of ef can be taken to be around 2.75 assuming share of Thailand in world export of raw jute and allied fibres to be conservatively at 30 per cent, a can be put at .05, *i.e.*, the value of imported inputs of raw jute is assumed as 5 per cent which is based on the present level of absorption of imported inputs in jute cultivation. The value of R can be arbitrarily put at 2.00 which reflects the current scarcity value of foreign exchange as measured by the price bonus voucher fetches in the market. With these parameters, the value of S or the subsidy that should be allowed to raw-jute export works out at around 20 per cent. With a premium of 180 per cent, a bonus voucher rate of 20 per cent gives a subsidy on foreign-exchange price of 36 per cent; or in other words if 20 per cent bonus rate is allowed to raw jute it is possible to reduce export price of raw jute by 36 per cent and still break even—similarly in the internal market the price of raw jute can be raised to the extent the subsidy is likely to be passed on to the jute growers. By varying r and ef, it is theoretically possible to determine a range of probable values for S, the subsidy rate, thus various policy alternatives can be worked out to take into account the change in circumstances.

There are a few erroneous impressions that need to be cleared in this connection. The first is regarding the objection from IMF or GATT for adding one more primary commodity on to the list of commodities enjoying bonus export if the above suggestion for raw jute is acted upon. There is no case for IMF or

any such organization to object to bonus vouchers on primary commodities *per se*. In Pakistan, there are already bonus vouchers on exports of raw wool and *basmati* rice as well as several other less important primary commodities. Apparently IMF does not object to them. What IMF dislikes is a complicated system of multiple-exchange rates. Pakistan already maintains four export exchange rates represented by bonus voucher rates of 0, 20, 30 and 40 per cent.

Then, it could be further argued that the jute cultivator would derive no benefit from an export bonus on raw jute, that the extra income would be entirely absorbed by various middlemen. If this were true, the jute mills, which generally have their own purchasing agents, would not face any increase in raw-materials cost but would also absorb the extra income. However, such a fear is clearly exaggerated. With some forty mills and sixty shippers in the field, the degree of competition is much greater than before. Improved rural roads and communicactions give the cultivator easier access to alternative market outlets for his jute. The close correlation between growers' and *f.o.b.* prices is itself an evidence that market forces permeate to the growers' level.

During 1968 as well as in 1967 the government policy has been to fix a floor price of jute in the internal market varying from 26 rupees to 28 rupees per maund (82.2 lbs.) depending on grade and type. With the rice price above 40 rupees per maund, such a floor price for jute hardly provides the effective incentive. Again, to be effective the price-support policy must be backed by an adequate purchasing programme by public bodies. At present, there are three public bodies — the Jute Marketing Corporation, the Jute Trading Corporation and the Jute Board — that undertake purchases of raw jute with the objective of maintaining the minimum floor price but not necessarily in a coordinated fashion. The combined purchases of these organisations in any year in the past have been only a small fraction of the total output. For example during 1967/68 the combined purchases of these bodies totalled 8.67 lakh bales compared to the production of 68.50 lakh bales or only 13 per cent of the output. For making a tangible impact on the prices these bodies should purchase at least 25 to 30 per cent of the production. To be really effective, the purchases by these bodies should also be concentrated in the harvest period, *i.e.*, July to August when a bulk of the jute growers market their products, rather than spread the purchases all the year round as at present. This will also help in reducing the winter-season fluctuations in jute prices at the producers' level.

The only serious objection to allowing bonus to raw-jute export is the fear that such an arrangement will raise the cost of production of Pakistani jute mills and will thus reduce their competitive position vis-a-vis Indian mills. Pakistan has made substantial investment in jute industry and a significant jute-processing capacity has been established. (In 1968 nearly 18,000 linear looms and about 250 broad looms were in operation out of an installed stock of 20,000 looms in all;

by 1970 another 3,000 looms are likely to be added.) Protection of the larger interest of the industry should, therefore, be a natural concern of Pakistan.

VI. THE EFFECT OF EXPORT BONUS ON RAW JUTE ON THE JUTE MANUFACTURING INDUSTRY

The mill interests have voiced considerable opposition to such a step on the ground that an export bonus for raw jute would drive up their fibre costs while strengthening the competitive position of mills overseas, thereby causing losses and injury to the Pakistan industry.

It must be remembered that there are enormous gaps in performance between the more efficient and the less efficient mills. In the less efficient mills, all measures of productivity and efficiency are substantially lower than in the better mills, which results in very much higher costs per unit of production. Economic policy, however, cannot be governed by a desire to ensure for the least efficient producers in each industry the rate of profit to which they feel themselves entitled.

Table VIII reproduces key productivity measures for the most and least productive mills, based on a consultant's preliminary survey of a number of private mills in 1967.

TABLE VIII

THE RANGE OF EFFICIENCY IN THE PAKISTAN JUTE INDUSTRY

(Level of Performance in 1967)

	Highest	Average	Lowest
Profit as per cent of turnover	21.7	14.5	5.3
Profit as per cent of capital	31.1	16.3	9.5
Turnover: capital employed	1.5	1.1	0.7
Annual sales per loom	70,990	55,150	42,390
Spinning efficiency (per cent)			
Light yarns	80	60	58
Heavy yarns	88	68	50
Weaving efficiency (per cent)			
Hessian looms	60	54	47
Sacking looms	70	64	58

These data amply illustrate the variations in productivity and cost level now prevalent in the industry. It is inevitable that with a reasonable degree of competitive pressure the least efficient in the industry will find their profit margins falling below expectation. However, their proper response would be to set their operations in order, and not to exert pressure on the government for protection at the expense of the grower and at the expense of the industry's future. The consultant's report alluded to above indicates a "considerable scope for improvement" in the operating efficiency of the average mill. Perhaps the time has come to focus attention on steps to raise productivity in the processing sector, as well as in the cultivation of raw jute.

Jute manufactures were put on export bonus as early as 1959; all the while raw-jute exports were penalised by an export tax that ranged between 10-14 per cent *ad valorem* which was ultimately borne by the jute growers and traders. Since 1964/65, however, there has been progressive reduction in the export tax on raw jute with its eventual elimination in November 1967. This, of course, has been a step in the right direction. The relative position of the raw-jute and jute-manufacture exports in this respect is traced in the following table:

TABLE IX

TREND IN EXPORT DUTY ON RAW JUTE (AD VALOREM EQUIVALENT) AND EXPORT BONUS ON JUTE MANUFACTURES IN PAKISTAN

Year (July-June)	Raw jute			Jute manufactures				
	Av. unit export price (*Rs. per ton*)	Export tax (*Rs. per ton*)	*Ad valorem* equivalent of export tax	Export bonus rate	Export bonus premium		Effective export bonus premium for jute manufactures	
1952/53	543	81	14.9	No bonus for export of jute manufactures				
1953/54	621	81	13.0					
1954/55	662	81	12.2					
1955/56	866	108	12.5					
1956/57	959	108	11.3					
1957/58	1011	108	10.7					
1958/59	963	108	11.2					
				Hessian	sacking	free	stamped	
1959/60	883	108	12.2	20%	20%	120	40	80
1960/61	1577	108	6.9	20	20	131	40	85
1961/62	1141	108	9.5	20	20	152	40	90
1962/63	1045	108	10.3	20	20	163	40	102
1963/64	1000	108	10.8	20	20	157	40	98
1964/65	1301	54	4.2	20	20	157	40	98
1965/66	1187	54	4.6	20	20	154	40	97
1966/67	1387	54	3.9	20	20	158	40	98
1967/68	1116	—	—	30	30	150*	—	150

*Average for the year, before and after the sterling devaluation.

Source: Calculated from data collected from Pakistan Jute Association and Pakistan Jute Mills Association.

However, over the past year or two jute-goods industry itself has benefited enormously from higher export incentives. In less than two years, the subsidy received by exporters of jute manufactures has risen from 20.5 per cent of *f.o.b.* value to 53.4 per cent of *f.o.b.* value. That is, the government has raised the subsidy to the industry by over 160 per cent in less than two years. This has come about through a more liberal bonus-voucher allowance, and through increases in the bonus-premium rate. In November 1966, for example, exports of jute goods were eligible for 10 per cent stamped bonus plus 10 per cent unstamped, while the premium rates were about 50 and 155 respectively. In November 1968, exports of jute goods received a 30-per-cent bonus of unstamped vouchers, while the market premium rate has risen to over 180. In contrast, the growers and the shippers of raw jute have benefited over the same period only by the removal of an export tax of 10.00 rupee per bale. This corresponds to an average benefit of less than 5 per cent.

There are limits on the extent to which this sort of discriminatory policy can be pursued before an impossible situation is created. The recent disturbance in the sacking market, with finished products being offered abroad at a lower price than the equivalent raw-jute content indicates that these limits have already been passed. The main effect of the massive subsidies on sacking exports, for which Pakistan's share of the world market is large, has been to let mills offer their products abroad at prices even below the price of the raw materials. Such distortion of relative prices has created a situation which is bound to drive overseas consumer interests to the use of alternative fibres. No overseas consumer could contemplate reliance on raw jute in the face of such discrimination.

Because of the recent large increases in export incentives, the average mill is in a position to absorb somewhat higher materials costs. For hessian and broadloom products, profit margins are large and have risen over the past two years.

Even in sacking, profits are adequate except for the less efficient mills[2]. It must be remembered that due to differences in productivity, the profit margins of the best mills tend to be four times those of the least efficient. Moreover, it is certain that any rise in raw-jute costs will result in firmer sacking prices in world markets. Pakistan now dominates untied markets, commanding a 25-per-cent to 30-per-cent cost advantage over India, the main competitor. Just as the slump in sacking prices was caused largely by *inter se* competition among Pakistani mills based on large export subsidies, a cost increase would restrict the flow of selling offers at these low prices. Pakistan's cost advantage in world

[2]There is some confusion over the accounting of depreciation allowances. New mills enjoy accelerated depreciation allowances much in excess of the rate of physical deterioration. This is a tax advantage. However, the resultant "costs" of 150 rupees to 200 rupees per ton are not costs, but an addition to cash flow and a part of corporate income.

markets would permit prices to firm up through this mechanism, even though an export bonus on raw jute will tend to lower the structure of jute prices abroad.

The Pakistan industry has also objected to any bonus on raw-jute exports on the grounds that this step would strengthen their overseas competition, by lowering external prices for raw jute while raising internal prices. This objection is also exaggerated. India is the major competitor in world markets. According to a recent IBRD study, Pakistan's competitive advantage over India is currently about 255.00 rupees per ton of sacking and 365.00 rupees per ton of hessian, taking all export taxes and subsidies into account. This very large advantage would not be destroyed by the measures proposed.

Over the longer run, a fall in raw-jute prices in world markets would be very much in the industry's advantage in Pakistan. Capacity expansion during the Fourth Plan and thereafter must be primarily in hessian, broadloom products and specialities. This is the product range of the European industry, which is threatening a wholesale desertion to polypropylene. Pakistan's strong interest is to preserve these markets for jute and discourage the entry of competing fibres. Ultimately, when the Pakistan mills have installed the necessary capacity, they will be able to take them over as they have world sacking markets. This will not be possible if those markets are lost to synthetics before Pakistan is able to install the additional capacity. Lowering the raw-jute prices while Pakistan enjoys the present export position in sacking would help preserve Pakistan's future export interests in hessian, carpet-backing and other products. For this reason, the opposition of the mills to a bonus on raw jute is short-sighted, not only in terms of the national interest but also in terms of the industry's interest.

REFERENCES

1. Acharya, G. S. and J. K. Sengupta, "Acreage Substitution between Jute and Rice — a Preliminary Hypothesis", *Arthaniti*, June 1968.

2. Ahmed, Raisuddin, *Farm Income in an East Pakistan District*. (Dacca: Agriculture Information Services, Agriculture Department, Government of East Pakistan).

3. Commonwealth Economic Committee, *Industrial Fibres*. (London: Commonwealth Economic Committee, 1966).

4. East Pakistan, *Programme for Attainment of Self-sufficiency in Foodgrains*. (Dacca: Government of East Pakistan, 1968).

5. European Jute Association, *Statistical Yearbook*, 1966. (European Jute Association, 1966).

6. F. A. O., *Agricultural Commodities Projection for 1975 and 1985.* (Rome: Food and Agriculture Organization, 1967).

7. F. A. O., "Jute Fluctuations in World Markets", *Monthly Bulletin of Agricultural Economics and Statistics*, January 1963.

8. Hufbauer, Gary C., *Export Promotion Policies in Pakistan in the Development Decade—Problems and Performance.* The Economic Development Seminar, 14 Race Course Road, Lahore, Pakistan.

9. Larson, Donald G., *A Comparison of the Results from Different Methods of Crop Estimation in East Pakistan.* Presented at CENTO Symposium on Agricultural Statistics, held 16-28 October, 1967 at Ankara, Turkey.

10. Rabbani, A. K. M. Ghulam, "Economic Determinants of Jute Production in India and Pakistan", *Pakistan Development Review*, Summer 1965.

11. Rabbani, A. K. M. Ghulam, *Measurement of Underemployment in Rural Households: A Case Study of Rice Cultivation in East Pakistan*—CENTO Symposium on Household Surveys, — Ankara 1964.

12. Rabbani, A. K. M. Ghulam and Raisuddin Ahmed, *Long-Term Jute Policy and a Programme for Increasing Jute Production in Pakistan.* (Dacca: Planning Department, Government of East Pakistan, November 1968).

13. Rabbani, A. K. M. Ghulam and Robert Repetto, "Foodgrains availability, Money Supply and the Price Level in East Pakistan", *Pakistan Development Review*, Summer 1968.