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**3. AUTHOR(S)**  
 Mellor, J.W.

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OPPORTUNITIES AND PROBLEMS ASSOCIATED WITH WHEAT  
PRODUCTION, MARKETING AND PRICING IN THE KATHMANDU VALLEY

By John W. Mellor

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Department of Agricultural Economics, Cornell University

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**Opportunities and Problems Associated with Wheat  
Production, Marketing and Pricing in the Kathmandu Valley**

**Preface**

This report is the product of a week's intensive look at the wheat situation in the Kathmandu Valley, preceded by intensive study of wheat production and pricing in India and a few brief prior visits to the Kathmandu Valley. Only brief acquaintance with the situation in Kathmandu necessarily results in incomplete knowledge of the situation. I have preferred to present information gathered and ideas, even though incompletely checked, rather than to ignore them. But this report must be taken more as a set of hypothesis for further checking than as a recommendation for immediate action.

**The Importance of Wheat Production in the Kathmandu Valley**

Wheat has a long production history in the Kathmandu Valley. However until recently production was utilized almost entirely for home consumption on the farm where it was produced. In the last few years introduction of inorganic fertilizers and new wheat varieties have resulted in substantial increase in both yields per acre and area planted. There is considerable uncertainty concerning the acreage and production for this as well as past years. However last year's production was probably about 15,000 tons, and production will increase this year by at least 30 percent to over 19,000 tons.

The total production of wheat in the Valley is significant and has important development implications. The rate of growth of production is impressive and clearly can continue for at least a few more years. However the total production of wheat in the Valley and the increase in each year is not large compared to other food grain magnitudes in Nepal. Total wheat production in Nepal is only about 1/10th of total paddy production.

The special significance of wheat production in the Kathmandu Valley traces from the opportunity which increased wheat production offers in three somewhat different areas.

First, wheat production can serve as a growth point for balanced development effort. The very fact that there is a difficult marketing situation because of lack of a history of wheat consumption and the relatively small scale of current production offers opportunity for development of a series of processing industries which can form an important growth point for further industrial development.

Second, increased wheat production offers special opportunities for a concentrated effort on cooperative marketing and storage in an unusually favorable environment for success, providing a toehold for successful cooperatives which may spread elsewhere as appropriate.

Third, wheat production offers a special opportunity for introducing new technologies to agricultural production with ramifications in fertilizer use, water development extension and research.

### The Current Wheat Problem

The current wheat problem has two aspects. First, there is a short run problem of dealing with this year's harvest. The solution to this must almost certainly include substantial movement of wheat out of the Kathmandu Valley. In the longer run the problem becomes an opportunity to develop wheat consuming industries in the Valley. These two aspects will be discussed separately.

### The Short Run Problem of Moving the 1968 Wheat Crop

The 1968 harvest represents the third successive year with a big per year increase in size of the wheat crop. Despite the large increase in production in 1967 it appears that the total crop was consumed without significant shipments to the Terai. A principal trader said that his total shipments to the Terai from the 1967 harvest were no more than 60 tons. He expected to ship a thousand tons or more. However the problem may be considerably more difficult this year. The 1967 wheat crop came after a very poor paddy crop, whereas this year's bumper wheat crop follows a bumper paddy crop. Thus there will be less pressure of paddy scarcity forcing consumption to wheat. Likewise the nearby hill areas have had a good crop this year so there may be less private flow to those areas. On the other hand, this year's wheat prices will be down considerably from last year and wheat will be a considerably lower cost source of calories than rice. This may induce more lower income persons to use a higher proportion of wheat in their diets. It is true that most Valley persons are rice eaters, but, most also seem acquainted with chappeties. A small proportional decline in rice consumption in favor of wheat would give a large percentage increase in wheat consumption and would absorb a high proportion of increased wheat production. These contrasting points indicate that the relatively small proportion of total Valley food grains supplies represented by wheat results in a wide probable error in predicting wheat consumption. Thus I will later recommend shipping 2,000 tons of wheat to the Terai before the rains. The margin of error in estimate of consumption is such that wheat may later be shipped back up from the Terai.

### Problems in Marketing Wheat

Farmers in the Valley are clearly worried about marketing this year's crop of wheat. They will consume some at home, but plan to market a high proportion of wheat they produce. They see the Valley as a rice consuming area and wonder who will buy their wheat. In addition they found last year that only one or two buyers showed any interest in buying wheat. This is in sharp contrast to paddy in which there are many, many buyers who travel from village to village buying paddy and moving it to intermediate markets. In a well developed crop like paddy, the marketing system, contrary to folklore, can be expected to be well developed and fairly competitive. I suspect that for wheat, as a new crop to be marketed, the petty traders do not want to buy it because they do not see an assured market as they do for paddy. Conversely the bigger traders are not in the market because there is nobody doing the collecting in the villages. Thus we have a difficult bottleneck to break. This problem of

course presents an unusual opportunity for the cooperatives to enter the vacuum and to simultaneously fill an important function and to get themselves firmly established, thereby providing a base for later expansion into other areas.

The marketing problem outlined above is clear and was mentioned in very similar terms by all the farmers we spoke with and by the traders as well. Both the large trader and the manager of the biscuit factory made specific mention of the lack of village collecting facilities. Both granted that this problem did not prevail in regard to paddy marketing.

Current estimate of consumption of wheat in the Valley suggests a surplus of about 4,000-5,000 tons. This surplus may, of course, not develop because farmers may store more or Valley consumption may rise substantially in response to low wheat prices. This also may be an underestimate of the surplus, due to a larger crop than expected, a drop in wheat consumption due to the larger paddy crop or farmers marketing a higher than normal proportion of the crop.

Surplus wheat may be handled either by storing in the Valley as a buffer stock for future years, possibly for greater than expected consumption in the Valley later in the year, or allowing for shipment to the hills as necessary. There is apparently very little empty godown capacity in the Valley. The cooperative storage being built will provide some 500 tons of storage this year. The government apparently has on the order of 13,000 tons of Chinese rice stored in the Valley. Presumably some storage could be made available by moving some of this on the market immediately. Some of the rice could also presumably be moved to the Terai and stored there. It appears that rice price will not move up seasonally as much as normal this year, so there appears to be little price advantage in holding rice this year.

It must be remembered that wheat is more difficult to store than rice, with greater insect damage likely. Thus if the government frees some storage for wheat, it should be concentrated in places where fumigation will be most easily performed and where administrative supervision will be tightest and most efficient. Scattering the wheat about under poor supervision will almost certainly result in substantial storage losses.

#### Shipping to the Terai

The surplus wheat in the Valley is very small in quantity compared to production in the Terai of Nepal or India. Thus once wheat is moved out of the Valley it can be absorbed in the Terai with no effect on Terai prices. Thus there should in theory be no problem in marketing wheat in the Valley at the Terai price minus shipping charges. The total handling charges run a little over Rs. 5 per maund. Trucks are apparently amply available and there should be no problem on that account. The bottleneck lies with collection. The traders who can move grain out of the Valley at low cost are not in a position to go from village to village to buy in small quantities. There must be a system of collection. That hardly exists at the moment. Of course, if the price spread opens wide enough many small traders will move into the business. But with a likely price in the Terai of about Rs. 37 per maund, and a

minimum cost of moving of Rs. 5, it might take another Rs. 4 or 5 spread to bring the small traders into a situation of this type. That may be the difference between a price providing reasonable incentive and one that does not.

We thus face an opportunity for the cooperatives. It appears that five cooperative societies will each have 100 tons storage capacity. If these cooperatives could be used as concentration centers they could provide a basis for efficient movement of wheat out of the Valley. 100 tons represent 20 truck loads, which could be efficiently handled by big traders. If each coop could turn over its wheat once a week, then 500 tons could be moved in a week. If we assume a 4 week shipping period between harvest and monsoon, then 2,000 tons could be moved out of the Valley.

The shipping period to the Terai may be quite short. Wheat harvest will not commence in earnest until mid-May. Even assuming that thrashing is done quickly this leaves at best four weeks before mid-June when it becomes difficult to move wheat from the farms to market. Thus these 5 coops could probably only serve in moving about 2,000 tons to the Terai. (This figure gives perspective to the 5,000 tons which is rumored to be brought into the Valley by the Government over the next few weeks.)

There is a difficult problem of coordination of operation of the 5 cooperatives. There must be incentive for farmers to market heavily through them, a tricky problem of phasing the flow, encouraging early marketing so as to prolong the shipping season, but not having more wheat than can be stored until the next shipment. Some storage might be handled in the short run on the ground, but the risks from this become greater and greater as the monsoon and pre-monsoon showers approach. The coops will need adequate working capital to finance purchases and good administration if they are to play their role effectively.

#### Price Policy

The flow of wheat to market, as well as the incentives to farmers are importantly influenced by prices. The flow of wheat to market is importantly influenced by the prices offered as compared to what farmers expect over the season. Incentives are a matter of the relation between the prices actually received and the costs of production.

Farmers talk about expecting prices of Rs. 70 to 85 per muri, but my impression is that they will sell readily at Rs. 60-65 and that is more nearly what they expect. My impression is that they know conditions outside the Valley will make the price and that they get information about prices in the Terai.

#### Prices in India

Wheat prices in Nepal are strongly influenced by Indian prices. I have maintained that wheat prices in India this harvest would run about Rs. 70 per quintal. This is equivalent to about Rs. 32 per maund. The GOI procurement price for wheat is announced as Rs. 76-81, with the lower price for

the red Mexican varieties. At the present date the red Mexican wheats seem to be generally quoted at Rs. 70-75 throughout northern India, with little difference among states despite continued existence of zonal restrictions. This similar price at harvest among states in different zones has been common in the last few years, with the spread among states widening as the year proceeds. I rather doubt if the large interstate differences will recur this coming year. I have commented at length in other notes concerning the price situation and will not repeat that here. Adjusted for transport costs, a price of Rs. 30 or slightly less per maund in the Valley is consistent with the Indian prices I expect.

If the government wishes to place a floor under wheat prices it will face a difficult problem in collecting and storing the wheat it buys. If purchases become large then godown capacity will have to be freed of rice, perhaps by shipping to the Terai. Care will have to be taken in wheat storage if large losses are to be avoided. USAID technical help could be very helpful in this regard. In view of the problems of administering, financing and storing, it would be desirable to set a support price which was sufficient to prevent a demoralized market but low enough to reduce the likelihood of large purchases being necessary.

#### Incentive Implications of Price as Low as Rs. 30 Per Maund

The profitability of producing wheat in the Valley has greatly increased due to (a) sharply lower costs of production incident to the availability of inorganic fertilizers and the new high yielding varieties, and (b) the very high prices of the past few years. In talking to farmers and reviewing cost of production figures it appears that even at prices somewhat less than Rs. 30 per maund that wheat production will continue to be much more profitable than before the new varieties and fertilizers became available and that farmers will continue to expand production. Except for vegetable production in areas near markets, farmers seem to have no better alternatives to wheat production. They are used to the higher income from growing the wheat crop after paddy and will continue to expand planting of new varieties as laggard farmers become aware of the potential achieved by their progressive neighbors.

There appears to be a considerable potential for further expansion of wheat production through greater use of fertilizer and the new varieties. It is likely that the most profitable government action for increasing production lies with seeing to it that ample supplies of the profitable fertilizers are available to farmers in the time, place and form desired by farmers. There is obviously a great deal more to be done on this matter. Action here will in the short run be much more important than attempts to support the price above the normal market level expected during the coming years.

In the longer run the limitation to expanded wheat production will probably be set by the irrigation potential. It appears that good water control is a necessary prerequisite to profitable wheat production with the new varieties and high levels of fertilizer input. This shows even in a year like this which has had much higher than normal rainfall. It is not clear how large an acreage in the Valley is commanded by a reliable, well controlled water system. It

is even less clear what potential exists for expanding the irrigated acreage through better water management or increased water supplies. A study of this question would be useful as part of a major effort to expand wheat production.

#### Development of Cooperative Wheat Marketing as a Leading Edge

Establishment of cooperatives has substantial value (a) in providing an alternative to the private trade, thereby keeping the private trade more competitive, (b) developing attitudes in the membership conducive to other aspects of economic, political and social development. In general, however, it is difficult to establish cooperatives because they move into a generally competitive business competing against highly knowledgeable traders. In such conditions cooperatives generally render little economic service to their members and therefore have difficulty in holding or building membership.

The wheat situation in the Kathmandu Valley offers an unusually favorable environment for development of cooperative marketing. First, unlike paddy, wheat is a relatively new crop to be marketed and does not have a well established marketing system. Thus there is a little or no existing competition. Wheat marketing cooperatives will fill a new need. Secondly, at the present time there is a special need for a marketing system for wheat which concentrates production for ready handling by large traders and processors who have a special need for assured supplies in large quantity. This is a more specialized function than concentrating paddy for sale to retail traders. Third, there is already a special development effort in regard to wheat which provides opportunity for combining forces with consequent increased efficiency. Fourth, production of wheat is still relatively small and growing rapidly. Thus a program can start small and still fill a substantial proportion of the need and can expect to grow rapidly with the total production and market. This is basically a much more favorable situation than moving into a large existing business situation and expecting to gradually take it over.

I see the prime needs for a cooperative marketing system for handling the current Valley wheat situation as (1) storage capacity, (2) resources for financing the purchase of farmers' wheat and holding while concentrating for sale, and (3) aggressive management encouraging farmers to market when the godown is low and holding back when it is approaching capacity. I would think that each cooperative would need a few field men for traveling around the village providing this type of information.

At the present time there are five cooperatives which will have 100 ton storage capacity. It would be useful to work very intensively with these five cooperatives, seeing to it that they keep a heavy flow of wheat, with quick turnover, for export to the Terai. This would provide a basis for moving some 10 percent of the total crop in an orderly way, would be a small enough job so that USAID technical support could handle it well and would demonstrate what well operated cooperatives can do, setting the stage for substantial expansion the next year.

If the members of these five cooperatives benefited very much this year from cooperative membership, it would not encourage growth of those coopera-

tives but would bring to bear pressures on groups inhibiting the development of other cooperatives.

In the longer run a cooperative system which could guarantee efficient movement of large quantities of wheat would do much to encourage wheat-using industrial firms with a symbiotic growth of the firms and the cooperatives, each capitalizing on the others growth. Quality and reliability are important to this type of operation. This argues for sacrificing speed of growth for quality.

#### Potential for Use of Valley Wheat for Processing

The quality of Valley wheat for making flour appears acceptable. The biscuit manufacturer imports flour but is already planning to build a flour mill to provide his flour locally. He argues that somewhat higher cost of local flour would be more than balanced by the advantage of reliability coming from local supply. He also argued that a marketing system is necessary as he could not organize to make collections directly on village to village basis. Thus, once again the cooperative could play an important role. The biscuit manufacturer has had Valley wheat tested for milling quality for his purposes and finds it adequate. It may be desirable to take action to equalize the price of imported or local flour so that there is no price incentive to use imported flour. Recent price declines may have removed this incentive.

#### Recommendations

##### A. Immediate Actions for This Year's Harvest

1. Do not import any whole wheat into the Valley after May 5. There is apparently little or no wheat in the Valley now, so some imports may be necessary to feed the flour mill and for immediate consumption. A cessation of wheat imports about a week before harvest commences would allow clearing of all stocks before the harvest comes in.

I would be exceedingly cautious about banning flour imports into the Valley. On the one hand in the long run, Valley production should be milled in the Valley and flour milling capacity should be greatly increased. In the short run cessation of flour imports would place a heavy burden on those industries which had invested capital in biscuit and breadmaking and who would then be left without supplies for the long period required to develop added flour milling capacity. Of course, it may be that the present flour mill could fill those needs and home consumption could fall back on traditional mills. These possibilities could be studied but I would be reluctant to see action taken which penalized the small wheat flour-using industries already coming up and which should in the long run receive encouragement.

2. Open up some government storage, say about 1,500 tons capacity by either selling that quantity of rice or moving it to the Terai. This small proportion of rice holdings and consumption would open up

capacity to take a significant proportion of the expected wheat marketing and would provide the potential for a support operation if necessary. I doubt if rice prices will rise much seasonally this year and will probably be lower next year than this, so such sales would probably make economic sense in any case.

3. Make a major effort to make the five cooperatives with 100 ton storage operative at high capacity with high turnover facilitating the shipment of as much as 2,000 tons of wheat to the Terai by private traders.
4. Provide a low government support price to prevent a demoralized market.

**B. Long Term Actions**

1. Major effort to expand flour milling capacity in the Valley by encouraging the present mill to expand, facilitating the biscuit company's plans to mill and encourage one or more additional flour mills to come up.
2. Encourage expansion of wheat processing companies.
3. Expand the cooperative marketing system.

**C. Long Term Outcome of Wheat Effort--the possibilities**

1. Total production of wheat in the Valley providing a substantial proportion of farmers' incomes and the expansion dating from the beginning of USAID's efforts.
2. A major cooperative marketing system which grew out of a few well run cooperatives commenced under USAID auspices.
3. A substantial wheat processing industry some of which predated the USAID effort but much of which will grow up subsequently to the development of the cooperative marketing system.

The above results should be large enough to count in the aggregate, should be easily measurable by usual standards and should have substantial demonstration effect.