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**The CGPRT Feed Crops Supply/Demand and  
Potential/Constraints for their Expansion  
in South Asia**

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# Comments on CGPRT Report on Prospects of Feed Crops in India – A Country Report

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The feed sector in India is expected to grow phenomenally. The main driving force behind that is a booming livestock sector. India possesses a wealth of livestock with poor productivity. Despite being low yielding, the historical performance of the livestock sector in India has been quite impressive. The astonishing growth in the dairy sector brought the white revolution to India. The per capita availability of milk and eggs has increased considerably during the past two decades. The dairy and poultry sectors are generating enormous employment opportunities to small and marginal farm holders. While small and marginal farmers control the dairy sector, poultry is in the organized sector and sharing the full benefits with the farming community. India has also joined the group of exporting countries of dairy and poultry products. These are non-traditional export items; their quantum jump in export is further inducing growth in the livestock sector.

Feed and fodder are most critical for the growth of the livestock sector. Indian livestock is dependant on and growing in the scarcity and poor quality of feed and fodder. Despite their importance, the feed sector has not received due attention in the country. A sizable share of the feed and fodder requirement of the livestock sector is met from crop by-products. Research focus, production environment and policy support were quite meek for the feed sector. This has led to a widening gulf between demand for and supply of feed and fodder in the country. Considering these issues, the study is very welcoming. The timing of the study is also important for India, as the reform process (both economic and Research and Development) is forward looking.

The study intends to estimate the demand for the supply of feed and fodder for the emerging livestock sector. It also assesses the constraints to growth promotion of feed production. The key issue of future policies to make the feed sector a viable one is also proposed by the study. The study covered a range of issues in the feed sector of the country. There are a few comments on the report, which are listed below:

While the intentions of undertaking the study are quite relevant, the approach adopted in addressing the issues is rather weak. The methodological framework in estimating the area and production are not specified. The econometric models employed in projecting area and production need the inclusion of more variables. The area response came from past prices, risk, resource endowments, besides lagged acreage. Similarly, production is influenced by the application of fertilizers, irrigation, technology (as HYV area) and crop area among others. There is a need to estimate these response functions by overcoming the problems that arise due to autocorrelation when time series data is used. Non-inclusion of relevant variables leads to erroneous estimations of area and production.

While estimating area and production, the new economic regime has been completely overlooked. For example, in the case of maize, there are predictions that China, which is exporting maize at present, will be a net importer of maize by 2010 due to the explosion in

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livestock production. Under the scenario, India may emerge an important country for maize export. Similarly, demand for sorghum would be more for fodder than the grain. The fodder demand and supply needs projections for milch animals rather than feed. Furthermore, in all cases, the technological contribution seems to be assumed as stagnating. Specifically, in the case of pearl millet, the projections suggest an area expansion and production contraction. Growing demands for multi-purposes may encourage producers to adopt improved technologies, which eventually augments production. It would be useful if more realistic assumptions are made before estimating the area and production.

The section on agricultural policies is too weak. Although the feed sector received less emphasis on policy dimension, there are various centrally sponsored programs that focus on feed and fodder production. For example, maize research was strengthened in 1957 and a multilocational and multidisciplinary approach was given to address all the researchable issues concerning varietal development, developing agronomic cultural practices, checking diseases and insect pests, etc. Also in 1994, further research strengthening was undertaken by elevating maize projects to the level of Directorate, adding basic and strategic research agenda in addition to the above. Maize was added to a technology mission on oil seed and pulses (TMOP&M) in 1995, with an emphasis to increase area under hybrids to enhance average productivity by up to 3 t/ha. In the early nineties, the Technology Mission on Maize through Accelerate Maize Development Programme (AMDP) emphasized increasing production to achieve self-sufficiency through production and distribution of a quality seed and by conducting frontline demonstrations of improved technologies. Soon after AMDP, an integrated cereal development programme in course cereal based cropping systems (ICDP) was launched in 1995 to integrate productivity per unit area/time in six states-Gujrat, Karnataka, Maharashtra, M.P., Rajasthan, Sikkim in 830 identified blocks. Large numbers of minikit demonstrations are also conducted for the propagation of new technologies. A UNDP pilot programme in the year 1997, under the umbrella of TMOP&M, started to tackle farmer's problems of production, marketing, storage etc.

A transport subsidiary for the movement of seeds (1986-87) through a central sector assistance scheme was provided with an emphasis on increasing yields by use of improved production technologies (Hybrids). Similarly, policies on feed, which influence the industry, also need to be incorporated in the report. Maize, as poultry feed, has the largest use for animal and poultry feed. Expanding the poultry sector in the 90's resulted in a significant diversion to industrial uses. It is estimated that about 5 million rural households (around 30 per cent of the poultry sector) may be involved in backyard poultry. Estimated demand of the organized sector (broiler and layer) may be as high as 3.7 mt. Demand of maize was expected to grow at 0.5 mt a year maintaining growth in the poultry sector in the 90's, but it has slowed down in the past couple of years due to excess production of parent stock and muted external demand of egg and egg powder.

Both feed production at farm level, and then processing at industry level need special attention. The question is why are prices falling in a situation of rising demand and stagnating supply. Logically, there should be a rising trend in prices and therefore, this issue needs further probing. Analytical findings will be more yielding than perceived personal biases for feed and fodder, historical trends have indelible effects, which need to be changed through more accurate analysis by considering the changing scenario, both economic and environmental. Conclusions based on proposal biases may not be effective in changing the environment. Such conclusions will also lead to invalid projections and affect the future policy decisions. Therefore, it is suggested that appropriate modeling methods be used to simulate for scenario analysis and propose appropriate policy support.

The report does not cover the domestic market and trade policies. These are important in the WTO regime. Trade policies for the feed sector (both cultivator and industry level) will alter

the feed scenario in the country. A Comprehensive review of existing policy could stimulate policy debate to correct the existing policies to promote feed and fodder production. Similarly, nothing has been reported under monetary and exchange rate policies. These are very important in the context of export-import. In previous years, the feed industry was threatened due to lowering restrictions. There is a need to comprehensively review all the production and trade policies of feed and competing sectors to craft policies to promote the production of feed and the livestock sector. The example is that the subsidized wheat export from India to South Korea is threatening the maize import (from United States of America) because the feed industry started using cheap Indian wheat for the poultry sector. It is not only affecting the maize prospects but also adversely affecting the emerging Indian poultry sector. Cheap exports of wheat to other countries is making the Indian poultry sector less competitive. These issues need to be highlighted to strengthen the feed and livestock sector.

Consumption structure has been ignored. There are many studies in India, which have dwelt on consumption patterns. Per capita use of maize as food has declined due to the availability of rice and wheat at affordable prices through PDS. Food use of maize is restricted mainly in tribal belts and hilly areas such as MP., UP., Bihar, Rajasthan, HP, Uttaranchal, J&K, etc. It is a proven fact that when economic development occurs, consumers substitute away from cereal to non-cereal sources of food. Estimated food use in the country is about 4 mt which is likely to decline to 3 mt by the end of 2002. It is also true that richer sections of the society consume maize in various processed forms. The consumption basket of the rural and urban population is radically changing. The increased livestock production was evidence of demand – pull rather than supply-driven. The changing demand pattern will influence the feed demand and supply. There is little attempt on assessing the demand for feedstuffs and feed crops. Similarly, the section on supply aspects is too less attended. The main limitation is that only long term past trends have been considered for future projections. Recent trends and future scenarios have to be incorporated in the analysis. On the supply side, although mention has been made to technologies, on projections these have to be included.

A clear section is needed on the future Research and Development needs in the feed sector. New seed policy for seed production and development was adopted by the Government of India in 1988. Liberalized Foreign Investment Policy permitted 100 per cent equity participation and encouraged multinational companies. Intellectual Property Right and Plant Variety Protection bill were passed by parliament in the year 2001 to protect the interests of the companies. However, constraints in the adoption of available technologies needs to be explored. These will be helpful in designing appropriate Research and Development policies, and production, marketing and trade policies for a growth-oriented feed sector.

Feed fodder production can be characterized as the poor (small and marginal) farmer's domain and grown in a marginal environment, which is prone to degradation of natural resources. Any policy and Research and Development support in this sector will directly benefit the poor farmers living in a marginal and fragile environment. Innovative, institutional arrangements through integration are emerging in the livestock sector, which are encouraging the growth of the feed and livestock sector in selected regions in India. The success of East Asian countries was an example for integration of production marketing and processing. Policy impediments of such integration need to be addressed.

The report may cover above-mentioned dimensions. Although much has been done in the study, the analytical vigor and future vision is missing. Inclusion of that would make the projections more realistic.