

Challenging the Validity of Theory-based Policies: The Case of Valuing Paddy Lands in the wet zone of Sri Lanka

This article is the ninth in a series of articles by the Centre for Poverty Analysis (CEPA) exploring various dimensions of poverty in Sri Lanka.

Understanding the value of a good or service is one of the central problems driving the development of economics as a discipline. Classical economists, such as Smith and Marx, tried to develop a theory of value to investigate economic dynamics. Smith is widely credited with first presenting the so-called "paradox of value" (also known as the diamond-water paradox), which investigates the apparent contradiction of why water, which, on the whole, is much more useful, so much cheaper than diamonds, which has very little use in terms of human survival. Another influential contribution has been Marx's discussion of three types of value: labour value (value of labour used in making a product), use value (utility derived from a product), and exchange value (the market price)¹.

While price, or 'exchange value', is easily revealed in the market, 'use value' is more difficult to determine with some economists, particularly in the neoclassical school of thought, believing that it cannot be measured. When an exchange takes place in the market, the buyer and seller reveals whether they are willing to buy or sell at a given market price, but they do not necessarily reveal their entire value function. The price is determined by equating the price at which the marginal buyer (who is the buyer who places the lowest value on a good or service, among those who end up buying) is willing to buy, and the price at which the marginal seller (who is the seller who places the highest value on a good or service, among those who end up selling) is willing to sell. At this price, all buyers who are willing and able to pay more than what the marginal person is willing and able to pay will buy, and all sellers who are willing to sell at a price less than what the marginal seller is willing to sell, will sell. Because all we see is the market price, there is a tendency for

price, or the exchange value, to take precedence in translating the economic theories on value into policy and practice.

In Sri Lanka, economic concepts provides the bedrock for development policy and analysis, and concepts of supply and demand are being used to determine value even in the absence of a willing buyer and a willing seller, for example, to determine compensation for land and assets acquired under the Land Acquisition Act.

This paper challenges the orthodox concept of equating value to the market price based on a study of paddy cultivators in the wet zone of Sri Lanka who were affected by land acquisition for the construction of the Colombo - Matara expressway. The monetary value set for wet zone paddy lands and the compensation paid to owners when those lands are acquired, raised several questions as to how economic theories of value are translated into policy and practice. In particular, the paper raises questions regarding "non-economic" aspects of valuing cultivable land, such as household perceptions about food security and the value of traditional lifestyles, and argues for policy to be based on understanding the phenomenon, rather than a conveniently- simplified theory.

Productivity of Wet Zone Paddy Cultivation

Wet zone paddy cultivation is mainly rain-fed, while minor irrigation systems can also be seen in some parts. Productivity of paddy cultivation in the wet zone is generally low as compared to the dry zone (Table 1). In contrast to the dry zone where water is scarce resource, in the densely-populated wet zone, it is land which is the scarcest resource. The land parcel size is also generally small, mainly because most paddy lands in the wet zone are hereditary, and have been subjected to fragmentation in many generations. Reduced availability of labour is also a problem as people, particularly the younger generation, are moving to alternative forms of employment in areas close to urban centres.

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Table 1
Productivity of paddy lands
by water usage type

	Average yield (kg/ha)	
	2007 Yala	2007/2008 Maha
Major irrigation systems	4,915	4,803
Minor irrigation systems	3,776	3,812
Rain-fed systems	3,320	3,357
Sri Lanka average	4,543	4,181

Source: Department of Census and Statistics, 2008.

The main problem in the wet zone, however, is the climate which necessitates water management. The higher rainfall creates problems for cultivation, such as poor drainage of excess water and bronzing (iron toxicity). The availability of sunlight, an essential factor for paddy cultivation, is also limited due to the higher number of cloudy days in the wet zone. The small land parcel size also further impacts this as shading from nearby trees affects the availability of sunlight. The confluence of these factors results in lower productivity in the wet zone compared to other paddy cultivation areas in the country².

The combined effect of these factors is the gradual movement out of paddy cultivation by traditional wet zone farmers³. The extent of land used for paddy cultivation has been decreasing in recent years, while built-up areas associated with the spread of urbanisation are on the increase. For example, in the wet zone districts of Colombo, Kalutara, Galle and Matara, the extent under paddy cultivation during the important Maha season decreased by 25% between 1990 and 2008⁴.

Market Valuation of Paddy Lands in the Wet Zone

The historical trend of reducing paddy cultivation in the wet zone has further accelerated due to the more recent use of paddy lands for development. For example, the Colombo- Matara Expressway required the acquisition of about 300 hectares of paddy land because, policymakers deliberately chose low lands for the development to avoid displacing homesteads. Because of the low productivity of paddy lands in the area and the lack of a vibrant market for paddy lands, there was also a strong perception among project implementers that acquiring paddy lands would actually provide a windfall gain for farmers who had no other way of disposing of their paddy lands, and would allow them to move into more profitable activities.

The determination of compensation for paddy lands reflects this view. A perch of cultivated paddy land was often compensated at a lower amount than a fallow land in the same area. Paddy lands close to urban areas such as Homagama are compensated at a higher rate, not because of productivity reasons, but because of their potential for other uses due to the high demand for land in these areas. In almost every district secretariat (DS) division, paddy land was paid the lowest per perch rate of all agricultural land acquired in the area⁵.

As compensation rates were fixed in reference to market prices, the prevailing low demand for paddy lands further supported this rationale for low compensation. These low prices however hide low supply and an analysis of responses to a newspaper advertisement for the purchase of paddy lands in Colombo, Kalutara, Galle or Matara indicates that there is, in fact, very little paddy lands for sale, and distress sales account for the small amount of cultivated paddy lands on the market. This indicates that the market for paddy lands is affected as much by low supply as low demand, and point to the need for further investigation to understand the problem.

As neo-classical economic theory notes, market price is determined by the "marginal" buyer and the "marginal" seller. What the market price does not reveal are the value function of all those buyers and sellers who do not

enter the market at the equilibrium price. For this, we need to look beyond the market price, to qualitative data derived from social science research.

Valuation by Households

While economic analysis focusing on productivity and market valuation gives a low value to paddy farming in the wet zone, discussions with individual farmers indicate that they have a very different way of valuing their own paddy lands.

Because most farmers in the wet zone get a relatively small harvest, they cultivate mainly for household consumption rather than for commercial purposes. The harvest is often shared among the extended family, such as the families of siblings who may also have a part-interest in the land. After the harvest is shared among an extended family, only the surplus is sold. The sale of such surplus generates an additional, rather than a primary, source of income for the household.

Consumption of rice from their own paddy field is highly valued by these households, partly from a food security perspective and partly from a lifestyle perspective. Own production of rice is valued mostly because households are assured that the harvest would meet their own taste and quality requirements. Because these small-scale farmers mainly use traditional cultivation methods without the aid of much chemical inputs, they also valued the quality of their own rice against store-bought rice which they felt may have a higher content of chemical fertilisers and pesticides. Farmers felt that they were self-sufficient in rice, because they did not have to buy rice from shops. Losing their paddy cultivation meant that, instead of having a major part of their consumption needs met through their own cultivation, they had to bear the additional cost of purchasing their rice requirement. A paddy farmer from Imaduwa noted that:

"Now we have to buy rice by paying money. If we have our own rice, we could live by eating rice with coconut sambol. But, now we don't have that opportunity. Our status has gone down further, and the quality of our lives has got worse."

Cultivation of paddy on ancestral land holdings and the lifestyle that goes

with it are also valued by these households. There is a marked disinclination to sell or otherwise lose ancestral lands. Among the older generation in particular, there is a tendency to value a lifestyle that is quickly giving way to a more urban and fast-paced life style. In addition, because small-holder paddy cultivation is usually carried out with a community of farmers in a "yaya" system, the sustainability of the entire system is threatened when cultivation in individual lots is abandoned, which, in turn, disrupts social networks.

Despite the low monetary value placed on paddy lands by policymakers as reflected in the compensation package provided in the Southern Transport Development Project, the households which had lost paddy land due to the Expressway project were not able to find replacement land with the compensation. Because of the link to their lifestyle, households required that the replacement paddy land be close to where they lived which also precluded many households from looking for lands in areas outside of their villages. As potential buyers, they also face a sluggish market for paddy lands where many owners of cultivated paddy lands do not wish to sell unless compelled to do so.

Challenging the validity of theory-based policies

The case study of paddy farmers affected by the Colombo - Matara Expressway highlights some issues which cannot be explained in the current discourse focused on productivity and market valuation. There is low demand for paddy lands, and therefore a low market price, but those farmers who are compensated at the market price are extremely unhappy at the compensation they received for the loss of their lands.

The evidence from the case study suggests that the demand for paddy land in rural areas is low, not because this land is not useful, but because the people with high value have limited income. Those who place a high value on paddy lands are mainly subsistence farmers who do not show up in the market for paddy lands because they cannot actually afford to buy lands. In addition, although the social cost of selling paddy land is high, because of breaking down of the yaya systems, the village lifestyle, etc, the private cost is

low. Individual farmers may sell their land not taking into account the social cost of disrupting the network. Therefore, the marginal seller is willing to sell at a low price even though the social cost of selling land is high.

It would also appear that the supply side of the market is also made up of two types of sellers; those who own paddy lands, but do not have much use value for these lands (mainly urban land owners), and those who own and cultivate the lands. The first group may have a low valuation as they may value the paddy lands solely as a productive asset. This would indicate a supply function which is initially flat and then becomes steep when the first group runs out of land (Box 1).

Households which do not enter the market at the equilibrium price, do so because they place a value higher than the prevailing market price on their lands. When land is acquired for a public purpose, it is largely taken from this group of land owners. As shown in Box 1, such land acquisition can be seen as a shift in the demand curve, which should result in a higher price (i.e., payment of compensation) for the marginal seller to agree to that compensation. In other words, the analysis should lead to the conclusion that households not willing to sell land at the market price, but whose land is acquired, should be compensated at a substantially higher level than the market price.

Conclusion

The available data show that paddy cultivation in the wet zone is on a decreasing trend with the extent under cultivation reducing year by year. A number of reasons have been identified to explain this trend, the main being competition for alternative uses of the paddy land and high labour costs due to availability of other employment opportunities. The trend is further accentuated by development projects which deliberately try to avoid highlands and displacement of homesteads, and are located instead on low lands including paddy. These policies are based on the assumption that there is little profitability or value in

paddy cultivation and that cultivators would be happy to dispose of their lands even at low levels of compensation. Because these lands have low productivity and are often unprofitable, there is very little emphasis on incentives and support to wet zone paddy cultivation to arrest the declining trend.

However, the case study of paddy farmers affected by the Colombo – Matara Expressway highlights some issues which cannot be explained in the current discourse focused on productivity and market prices. Despite the low levels of productivity and prices shown in the market for paddy lands, at the household level there is a substantially different valuation of this activity. Households place a greater value on cultivating their own rice for consumption. They feel that their quality of life has gone down because they are now dependent on “low-quality” store bought rice and also because they face the uncertainty of having to face market prices for their staple food – a valid concern in the context of food crises and other such volatilities in the international environment. There is also a sense of loss due to the changes in the traditional lifestyle associated with paddy cultivation. These valuations are reflected not so much in the prices prevailing in the market for paddy lands, but in the reluctance among cultivators to sell their lands.

The acquisition of wet zone paddy lands for the Colombo-Matara expressway provides a case study of the implications of basing policy on a

flawed understanding of economic theory. In this case, despite clear indications that there is no well-functioning market for paddy lands, the market price, or exchange value, was accepted as the true value and was used as the basis for determining compensation. This policy follows a general tendency among neoclassical economists to focus on ‘exchange value’ because ‘use value’ is much more difficult to measure, but which has led to a situation where reality must fit into the theory, rather than vice-versa. The case of wet zone paddy farmers affected by the Colombo-Matara expressway highlights the need to expand the policy discourse regarding agriculture, and paddy farming in particular, beyond purely economic concepts such as productivity and market value, to enable the inclusion of such concepts as preferences, perceptions and values of the farmer communities – and for such concerns to be taken seriously by policymakers. This would be a necessary prerequisite if development is to be both pro-poor and equitable.

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Footnotes

¹Stiglitz and Walsh, 2006.

²Discussions with Dr. D.S.de.Z. Abey Siriwardena, former Director of Rice Research & Development Institute, Batalagoda

³Athukorala and Hettiarachchi, 2005

⁴Department of Census and Statistics, Agriculture and Environment Statistics, 2008

⁵Centre for Poverty Analysis, 2007.

Box 1
Market for Paddy Lands in the Wet Zone

