

# Meeting Local Demands for Vegetables and Fruits

## The Dynamics of Farmers' Market

A Case Analysis of “Uzhavar Sandhai” of Tamil Nadu





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## **The Dynamics of Farmers' Market: A Case Analysis of "Uzhavar Sandhai" of Tamil Nadu**

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## Abbreviations

AoA	Agreement on Agriculture
AVE	Ad-Valorem Equivalent
CENTAD	Centre for Trade and Development
GDP	Gross Domestic Product
IIFT	Indian Institute of Foreign Trade
NTBs	Non-Tariff Barriers
NTMs	Non-Tariff Measures
READ	Research and Advocacy
SHGs	Self-Help Groups
SPS	Sanitary and Phytosanitary
US	Uzhavar Sandhai
WTO	World Trade Organization

# Contents

<i>Acknowledgements</i>	iii
<i>Abbreviations</i>	iv
<i>Foreword</i>	vii
<i>Executive Summary</i>	viii
1. Introduction	1
2. Need for the Study	3
3. Objectives of the Study	4
4. Scope of the Study	4
5. Limitations of the Study	5
6. Methodology Adopted for the Study	5
7. Profile of Uzhavar Sandhai	6
8. Socio-Economic Background of the Farmers	7
8.1 Gender Profile of the Farmers	7
8.2 Age Profile of the Farmers	7
8.3 Distance Travelled by the Farmers to Reach Uzhavar Sandhai	7
8.4 Size of Land-holding by the Farmers	8
8.5 Ownership Nature of Land-holding by the Farmers	8
9. Method of Cultivation and Process behind Uzhavar Sandhai	9
9.1 Type of Irrigation Used	9
9.2 Dynamics of Vegetables Cultivated and Sold in the Uzhavar Sandhai	9
9.3 Creating Awareness about Uzhavar Sandhai	9
9.4 Cost of Production Incurred in Cultivation	10
9.5 Quantity Brought to the Sandhai	10
10. Benefits to Farmers and Consumers from the Sandhai	11
10.1 Profit Margin Gained by Farmers	11
10.2 Benefit of Transport Facility	12
10.3 Support from the Various Governments	14
10.4 Other Support Systems inside the Sandhai	15
10.5 Farmers' Responses on the Working of Sandhai	15
11. Problems Encountered in the Uzhavar Sandhai	16
12. Conclusion and Policy Recommendations	17

### *List of Annexures and Annex Boxes*

Annex Box 1	:	Expectations from the Government	20
Annexure 1	:	Questionnaire used for the Survey	21

### *List of Annex Tables*

Annex Table 1	:	District-wise Uzhavar Sandhai in 2003	23
Annex Table 2	:	Gender Profile of the Uzhavar Sandhai	23
Annex Table 3	:	Cross Tabulation: Gender and Mode of Transport	24
Annex Table 4	:	Relationship Test – Chi-Square Analysis	24
Annex Table 5	:	Relationship Test – Correlation Coefficient	24
Annex Table 6	:	Age Profile of Farmers	25
Annex Table 7	:	Distance Travelled by the Farmers	25
Annex Table 8	:	Size of Land Holdings (Type of Farmers)	25
Annex Table 9	:	Cross Tabulation – Gender/ Size of Land Holdings	25
Annex Table 10	:	Nature of Holding	26
Annex Table 11	:	Cross Tabulation – Size of Land Holdings and Nature of Holding	26
Annex Table 12	:	Methods of Irrigation used by the Farmer	26
Annex Table 13	:	Cross Tabulation – Size of Land Holdings and Type of Irrigation	27
Annex Table 14	:	Types of Vegetables Cultivated	27
Annex Table 15	:	Number of Vegetables Sold Per day	28
Annex Table 16	:	Cross Tabulation – Types of Vegetables and Size of Land Holdings	28
Annex Table 17	:	Relationship Test – Correlation Coefficient	29
Annex Table 18	:	Awareness about Uzhavar Sandhai	29
Annex Table 19	:	Cost of Production Per Acre of Land	29
Annex Table 20	:	Cross Tabulation – Size of Land Holdings and Cost of Production	29
Annex Table 21	:	Quantity of Vegetables Brought	30
Annex Table 22	:	Cross Tabulation – Size of Land Holdings/Quantity of Vegetables	30
Annex Table 23	:	Relationship Test – Chi-Square	30
Annex Table 24	:	Relationship Test – Correlation Coefficient	31
Annex Table 25	:	Profit Margins of the Farmers	31
Annex Table 26	:	Mode of Transport of the Farmers	31
Annex Table 27	:	Cross Tabulation – Size of Land Holdings/Mode of Transport	31
Annex Table 28	:	Government Help in Transporting the Goods	32
Annex Table 29	:	Support Level During the Initial Years of Sandhai	32
Annex Table 30	:	Present Situation in the Sandhai	32
Annex Table 31	:	Change in the Life Style after Uzhavar Sandhai	32
Annex Table 32	:	Problems Encountered in the Sandhai	33
Annex Table 33	:	Expectation & Suggestion for the Present Government	33
Annex Table 34	:	Benefits to the Farmers & Consumers	33
Annex Table 35	:	Quantity Mode of Transport – Cross Tabulation	34
Annex Table 36	:	Cross Tabulation: Mode of Transport & Number of Vegetables sold	35
Annex Table 37	:	Relationship Test – Chi-Square Analysis	36
Annex Table 38	:	Relationship Test – Correlation Coefficient	36
Annex Table 39	:	Relationship Test – Chi-Square Tests	36
Annex Table 40	:	Relationship Test – Correlation coefficient	36
Annex Table 41	:	Cross Tabulation; Mode of Transport and Distance	37



## Foreword

Though the share of agriculture in value terms may be dwindling in the Indian economy, food and livelihoods security of 650 millions farmers, mostly small and marginal, still heavily depends on agriculture. Trade poses a serious challenge to the domestic agricultural policy and efforts are on to devise effective instruments and interventions to mitigate the risk arising from cheap agricultural imports. The policy makers are caught in a pincer situation wherein a balance needs to be struck in providing affordable agricultural commodities while at the same time providing the price incentive for farmers to maintain a fair and decent standard of living. In the light of increased competition from external trade there is a need to create and maintain necessary market safeguards at the domestic level in order to deal with the challenges thrown by a globalised agricultural sector. This assumes greater significance when the global trade is highly distorted.

India being the largest producer of fruits and the second largest producer of vegetables in the world, agricultural markets play an important role in providing the means of livelihood to millions of small and marginal farmers. Majority of small producers however remain deprived of fair prices for their produce on account of two broad reasons. First, the rural markets are characterised by large intermediaries and the market chain is highly unorganised with gains not forthcoming to the primary stakeholders. Second, fruit and vegetable products have a very short shelf life and poor infrastructure deprives the legitimate gains to both consumers and producers. With high demand growth projected in fruits and vegetables, pushed through by the growing level of income in urban pockets, there is an urgent need therefore to promote fair rural markets.

In an effort to overcome these constraints, an innovative market mechanism took shape in the heartland of Tamil Nadu, popularly called the Uzhavar Sandhais or the farmers' markets. Uzhavar Sandhai is a unique fair farmers' market model wherein 'informed consumers' buy the products of poor, small and marginal farmers at fair prices that induce the producers to stay in farming. Evidences suggest that Uzhavar Sandhai has effectively created a better market by providing opportunities for employment to lakhs of landless agricultural labourers in their own villages besides putting a check on migration. This practice is providing a viable marketing solution to several challenges put forth by the globalisation of agriculture.

This current study examines the impact of Uzhavar Sandhai on farmers' standards of living and has come out with insightful policy suggestions. I hope all the stakeholders would find this study useful.

**Palash Kanti Das**

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## Executive Summary

While India has been a predominantly agricultural economy, it now seems to be increasingly shedding this image and transforming itself into a service sector-driven economy. As more and more policy decisions are being taken in favour of the manufacturing and service sectors, less is said about the agricultural sector. On the trade policy front, policies followed by various Central governments after 1991 have been taking India towards a “*tariff-alone approach*”, which opened the economy to large imports of much cheaper agricultural goods and has threatened the very livelihood of both agricultural labourers and small farmers. Without adequate backing, people who are depending upon agriculture have nothing to gain, but more to lose. If this trend continues, farmers and agricultural labour will suffer and their livelihood security will be damaged.

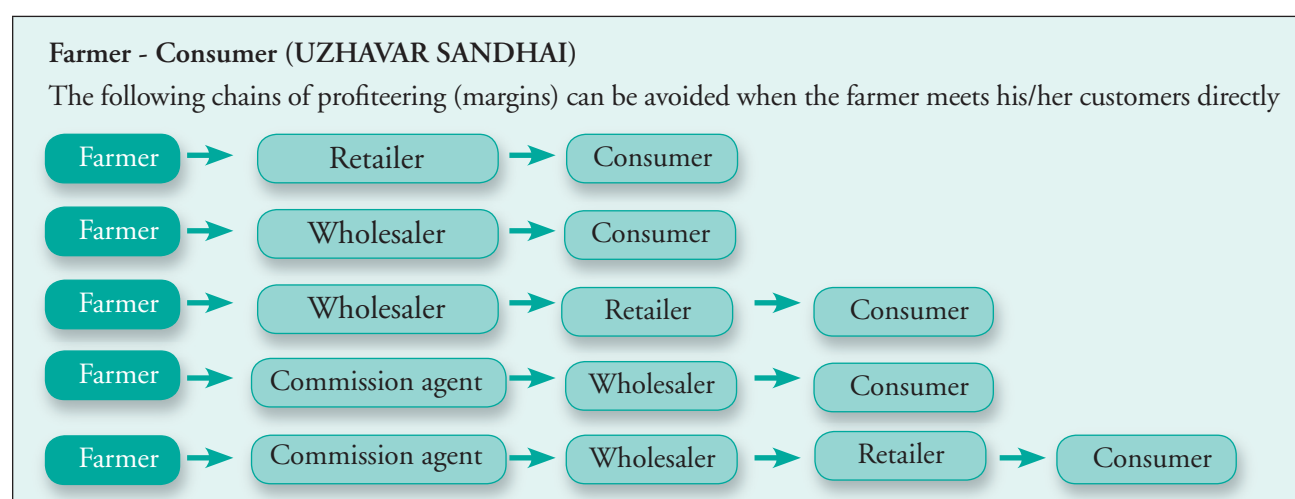
When we take the case of small farmers, it is found that vegetables have been the prime crop that is being cultivated by them and thus also their prime source of livelihood. India being the largest producer of vegetables and fruits, it should be able to make trade policy decisions to protect this

position. There are some very important lessons to be learned from the recent suspension of the WTO negotiations that seek to address the development concerns of developing countries (July 2006). It is absolutely essential therefore to create and maintain necessary safeguards at the domestic level in order to deal with the challenges thrown by a globalised agriculture sector.

In this context, an aspect that is of paramount importance in enabling the farmers to face up to these challenges would be to restructure the functioning of agricultural markets on the domestic front. This would first and foremost involve the elimination of traders and middlemen from exploiting the farmers. This could be done by starting a direct farmers’ market in places where there is significant population of small farmers and a corresponding demand for the produce yielding fair prices for both the farmers and the consumers. An example can be cited in the ‘Uzhavar Sandhai’ (farmers’ market) system followed in Tamil Nadu, where it has received tremendous support from farmers and consumers alike, both of whom benefit from such direct marketing (see Fig. 1).

FIG. 1

### Advantages of Direct Marketing



The “City-Centric Models” of farmers’ market with direct farmer-consumer sales can create more surpluses for small and poor farmers. Although not a popular idea in developing countries, in developed countries these markets have been very competitive because of their institutionalisation. However, they stress more on “*organic*” vegetables and fruits, thus creating a “*space*” for small farmers among the large corporate industrial farming.

What Uzhavar Sandhai has done effectively in Tamil Nadu is to create a better market for the products of poor, small and marginal farmers with fixed prices and informed consumers. Two most important advantages, which the farmers have obtained through the Sandhai are the following. First, they are able to get a “*fair price*” for their produce, which they obtain as ready cash-in-hand in contrast to the situation when they sell to wholesale agents who make delayed settlements. Second, they can bring in very small quantities into the market, which is not possible in the wholesale markets. Thus, this market is like the life blood for many farmers and agricultural labourers as it supports continual farming and induces the farmer to stay in farming. By providing opportunities for employment to lakhs of landless agricultural labourers in their own

villages, this could also put a check on migrations to the cities. Uzhavar Sandhai thus could be playing a unique role in empowering the farmers in Tamil Nadu and avoiding the widespread farmers’ suicide that have been reported in other states like Andhra Pradesh, Maharashtra, Kerala, Karnataka, etc. It is therefore a unique fair farmers’ market model, which is capable of providing answers to several challenges put forth by the globalisation of agriculture.

One of the other significant positive aspects of the Sandhai is that it does not require much training, because all that is required is the introduction of the concept of fair farmers’ market. If they are given the required simple training in marketing techniques, then farmers can decide what to cultivate, when to sell and at what price, and whom to sell. As we gain experience, we can extend farmers’ markets to smaller towns and villages. Each region is ‘different’ by way of its culture, habits and socio-economic fabric, so we have to redesign the concept to suite the conditions of each locality. If implemented on a wider scale, farmers’ markets could improve the efficiency and power for decision-making by poor farmers in restructuring their living standards and could also strengthen the role played by developing countries in the WTO negotiations.



# 1. Introduction

Agriculture, which is considered the backbone of the Indian economy, has taken a back seat due to the apathy of government policies in the last two decades. The percentage of cultivable land has come down. Meanwhile, nearly 70 percent of the population depending upon agriculture for their daily livelihood directly or indirectly, is currently undergoing a transformation. With dwindling surpluses from agricultural activities, most of the labourers have now shifted to service sector activities like real estate, working as construction workers, and others (especially the second generation from farming families) who are semi-skilled have found solace in the periphery, working for courier companies and the like. Thus, semi and unskilled workers are forced to take up work in manufacturing (mostly contractual in nature) and service sectors – where wages are minimal and hardly any social security is provided by the company. Yet approximately some 20 percent of the villagers now depend solely upon agricultural income<sup>1</sup> for their livelihood directly.

Farmers' welfare directly depends upon the income generated from agricultural produce. This income would be high or low depending upon the nature of the price discovered in the market for the produce. The farmers often do not participate in determining the price and instead the middlemen and agents (and in the case of certain crops, the government) do it. These third parties make profit out of the loss imposed upon poor farmers by manipulating the demand-supply conditions. When this threatens the daily livelihoods of the villagers, they search for better sources of income outside agriculture. This

leads to sale of land, which ultimately drives the agricultural labour-force out of employment. The other side of the story is that due to the low prices received for their produce, farmers are sometimes compelled to give very low wages to the labourers, which is far less than what they might receive in comparison to the manufacturing sector. This forces the labourers to migrate out of agriculture. This indeed is not bad for an economy, which is in the second stage of reforms and globalisation. Reforms would be meaningful in the macro context, only if they provide greater employment opportunities with better wages and working environment. It is an irony that it is not so in the agricultural sector in a nation, which calls "Gandhi" the *father of the nation*, who always stressed upon "self sufficient villages" as the building blocks for making India a strong nation. Today we have a situation where large-scale migration of productive labour force (in the age group of 16 to 58) from villages to metros is creating unmanageable shanty townships. This has come about due to a combination of misplaced trade and other policies.

Globalisation is a process in which the entire nation is expected to benefit, including the small farmers as stakeholders. But in India, we see a different picture. Globalisation has left the small farming communities and agricultural landless labourers behind to languish in penury. In the era of corporate farming many large farmers have joined hands with big companies to do their business. This was carried out through the immense lobbying power and clout of large farmers with such companies as well as through the benefit of

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<sup>1</sup> The agricultural income is measured in quantum surplus, (surplus = market prices [what the immediate economic agent in the chain offers] minus total cost of production). As a source of income, this is highly uncertain, especially if a trader is involved as middleman who would manipulate market situations in his favour.

political nexus. Small farmers cannot do this, as they lack the above-stated skills and are not united under one group. As this situation stands to be corrected, we explore an alternative to the existing nexus through this study.

Another important issue, which has to be addressed surrounds the impact of globalisation in terms of falling commodity prices on small farmers. Despite being the largest producer of vegetables and fruits, India does badly on the export front because huge amounts of produced vegetables are not stored properly due to the lack of cold storage facilities. Even if some of the produce reaches the export gate, due to the heavy competition in the international market for vegetables and fruits created by developed nations by heavily subsidising their produce, the products from India with their higher prices lose in competitiveness. This is further aggravated by having a system filled with middlemen.

Further, with the formation of the WTO, India has had to open its own economy gradually to the international flow of agricultural commodities.<sup>2</sup> Trade policies followed by various Central governments since the early 1990s have thus been taking India towards a “*tariff-alone approach*”,<sup>3</sup> which has opened the economy to large imports of much cheaper agricultural goods and has threatened the very livelihood of both agricultural labour and small farmers. On many occasions, Indian imports of vegetables and fruits have displaced an equivalent demand for the same produced in India, which has had a direct impact on prices that farmers obtain. This can affect the local production and supply of agricultural commodities thereby adversely impacting our long-term national interest, namely self-sufficiency in food.

As farmers face falling prices and greater competition, steps are thus urgently needed within the domestic space to eliminate middlemen and give full value for the produce, so as to improve the standard of living of the farmers. However, since reforming the Indian marketing system would be a long and time-consuming process, it is in this context that a better marketing support for farmers enabling them to fetch higher prices than those in the existing system is being explored as a parallel marketing mechanism. This might prove helpful in creating a cooperative-like setup in agriculture. A rejuvenated farm sector would also be a better competitor in the world markets, in the event that developed countries agree to a meaningful cut in their domestic support (subsidies).

Such changes in the agricultural marketing system can be brought in through fair trading practices among the small farming community. Fair price is a part of fair trading practices and has to be inculcated in the agricultural society with great care. Problems like fair price, better market place, better quality, correct weighment of goods and facility to store and transport goods, etc. have to be addressed. If these problems are solved, then we can be assured that major hurdles in the way of a better fortune for the farmers will be removed. In particular, the price should be a profitable one for the farmers and should make some difference in their quality of life and give enough incentive to them and their next generation to take up and continue farming as their livelihood. This kind of supportive fair marketing system can be drawn from examples of weekly farmers’ Sandhais (markets) that are prevalent all around rural Tamil Nadu. The present study tries to focus on the daily dynamics of “Uzhavar Sandhais” to understand how they make a significant difference in farmers’ standard of living.

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<sup>2</sup> With very few restrictive measures like monitoring imports in sensitive commodities.

<sup>3</sup> The tariff-alone approach pursued so far under the WTO’s Agreement on Agriculture (AoA) has seen Indian agricultural tariffs being reduced progressively and thus giving increased access to imports, whereas India’s own agricultural exports have failed to gain any significant access in other countries (especially the developed countries) due to the presence of Non-Tariff Barriers or Measures (NTBs/NTMs). Taking a “balanced approach” in addressing the issues in the AoA would mean addressing both NTBs/NTMs (in particular SPS issues) as well as tariff issues, together with other more specific issues such as export subsidies and domestic support, and also the livelihood and developmental issues in this context. Again, on a specific issue like the Ad-Valorem Equivalent (AVEs) tariffs, there is far from any kind of consensus.



## 2. Need for the Study

Under the Agreement on Agriculture (AoA), the Central government policies are committed to protecting small and marginal farmers as one of the main agenda in the ongoing WTO negotiations (Doha Development Round). Domestic support in terms of better price discovery for farmers' produce is the need of the hour for the Indian small and marginal farmers. If the government assists villagers with an organised marketing facility, it would solve many problems faced by them.

As mentioned in the earlier section, one of the major problems faced by the small farmers is the menace of middlemen and agents. This can be better explained with a simple illustration. Say, for a farmer, the cost of total production per kilogram of tomato is Rs.2/-. He/she then takes them to the market where he/she has to sell them to middlemen. We assume here that the farmer is ignorant of the demand–supply gap that exists in the market. The middlemen take advantage of the ignorance of the farmer by offering him/her a lower price and assure the farmer that the price quoted is the prevailing one in the market due to the current market situation. Easily the farmer accepts the price of Rs.4/- per kilo. The middleman then sells the produce (tomato) in the retail and wholesale markets at Rs.10/- per kilo and makes a profit of Rs.6/- per kilo, which should have gone naturally to the farmer, but whose profit is now restricted to only Rs.2/-. The retailer then buys the same and sells it at Rs.14/- per kilo to customers. The present marketing system clearly does not offer enough margin of profit for the farmer to lead a livelihood, which offers him/her some hope and, as always, he/she remains poor.

From a farmer's point of view, the price he/she receives on his/her agricultural produce is much less than the imported counterpart. When this condition prevails, the Indian farmer will continue to remain unprepared for the onslaught of better quality measures like Sanitary and Phytosanitary

(SPS) measures. So if the government helps in creating a better infrastructure in small townships like setting up an organised market for agricultural produce that would offer him/her a better price, then the farmer can have the power to improve his/her production conditions and meet better quality standards.

An organised agricultural market can be viewed as one, which contains better space and place for farmers to sell their goods. This market should also provide some sort of transport facility to move the goods from the farmers' gate to the market. In addition, the authorities in consultation with the farmers of the region should fix the price on a day-to-day basis. This line of thought has already gone into the minds of some Indian states; one pioneering effort being that by the state of Punjab. In Punjab, a farmers' market was established in the year 1987 by the name 'Apni Mandi', which catered to every need of small as well as big farmers. The same system has been adopted in Tamil Nadu since 1999.

Farmers' market in Tamil Nadu is called 'Uzhavar Sandhai' and was first started in Madurai. During the initial stages it was considered as highly successful and had the full backup of farmers. Since it catered to the needs of small and marginal farmers, many such markets have been opened throughout Tamil Nadu. As per 2002 data, Tamil Nadu had 102 Uzhavar Sandhais.

But, what is noteworthy is that the Uzhavar Sandhais or the farmers' markets in Tamil Nadu have survived despite inadequate support from the government, which has focused its energies behind the promotion of self-help groups (SHGs), providing them with infrastructure and soft bank loans, etc. Therefore, the Uzhavar Sandhais have survived purely because of the merits in their "unique system of marketing". This needed a revisit and that is the primary goal of this study.

However, there is also an academic interest into how and why such a unique system has survived despite all odds.

This study tries to bring out the real effectiveness of these Uzhavar Sandhais on the livelihood of farmers. It attempts to analyse the following issues: how far Uzhavar Sandhai has helped the farmers in meeting their expectations from farming and

in improving the same. Can establishing a “City-Centric Model” be emulated on a larger scale as a model for developing countries, to keep corporatisation of agriculture at bay, and to protect farmers from monoculture while keeping the biodiversity intact? If yes, would such fair farmers’ markets be useful in solving at least some of the problems, which the farmers face on a daily basis in other states and developing countries?

### 3. Objectives of the Study

The main purpose of the study is to explore the impact of Uzhavar Sandhai on farmers’ standard of living. If their lifestyle has improved, then the contribution of Uzhavar Sandhai towards the same has to be revealed. In addition, the adaptable nature of the market is studied in depth to understand how it could suit the different situations of various regions where this system could be put in practice. Also, the study tries to understand the reasons behind the setting up of Uzhavar Sandhai (US). Almost seven years have passed since the first such Sandhai was started. Thus, the core objectives of the study are: estimation of the return or profit earned by the farmers in relation to size of farms, irrigation facilities, cost of cultivation, distance travelled, place and time of operation of US. However, we would also like to understand the inner-dynamics of the Uzhavar Sandhai. Therefore, the objectives also include:

(a) Study of socio-economic profile and class basis of the farmers who participate in the Uzhavar Sandhai (US);

(b) Analysis of the type and quantity of the commodities with distance covered to reach the US along with the costs incurred by different categories of farmers; and

(c) The difficulties and problems encountered by farmers and the government response to the same.

Further, given that the WTO stresses the uniqueness of any system that is adopted in a country for protecting its food security and domestic welfare, this is taken as another focus area in the study. The Uzhavar Sandhai is thus also assessed for understanding the elements of uniqueness in the trading system it follows and quantum of surplus it can generate by just eliminating the middlemen. Finally, as we suggest the wider applicability of the fair farmers’ market system, the study also attempts to bring out the threats and challenges faced by this particular type of market, as operational in Tamil Nadu.

### 4. Scope of the Study

The benefits of Uzhavar Sandhai can be better realised by other farming communities in the country and outside, if the relevant facts are proved empirically. Further, any systemic faults can be corrected with the backing of public and private partnerships and appropriate government policies. If this model of

fair farmers’ markets proves to be a successful one, then implementation of similar market models in a number of developing countries on a wider scale can be considered with suitable modifications according to the varying cultural and socio-economic conditions prevailing in different countries.



## 5. Limitations of the Study

What needs to be highlighted is that this survey gives a static picture of an otherwise dynamic market. This is actually one of the most prominent of all the limitations of the study, which needs to be considered while interpreting the results. Time was the main constraint faced by the authors for going back to the same Sandhai, and may be the same farmer, in order to compare their earlier responses and obtain a dynamic analysis.

Also, the study is confined to Erode and Coimbatore districts of Tamil Nadu, covering only six Uzhavar Sandhais. So, it has a limited mandate and cannot be generalised in the strictest sense.<sup>6</sup> Further, there could be deviations from the descriptions of strong feelings, both positive and negative, expressed by the farming community in these two districts. The necessary secondary source of data was not available owing to the

reluctance in parting with information by the then officials in these two districts. Such data would have strengthened the study further. In addition, as in the case of any sample survey-based studies related to income status, the farmers were very reluctant to part with income details. The income level, which they have stated, is on an annual basis, and this in no way reflects the true picture. Hence, we limited our survey to the enquiry of the operational details of Uzhavar Sandhai.

Better evidence is certainly possible when the entire state of Tamil Nadu is included in the survey, but this could not be done because of time constraint. In the initial stages of the Uzhavar Sandhai, there were as many as 100 Sandhais in the whole of Tamil Nadu. The present scenario, however, is completely different as many Uzhavar Sandhais have closed down.

## 6. Methodology Adopted for the Study

Random sampling was used to choose the markets to be surveyed. Once the market was identified, nearly the complete population on a particular day was surveyed for the sample. This case study is structured on the functioning and problems of Uzhavar Sandhai. Therefore, to bring out the significance of the Sandhai, it was imperative to adopt a simple analysis.

At the outset, two districts were selected randomly for getting the information. From these two districts, six Uzhavar Sandhais were chosen for the survey. Erode and Coimbatore districts were the sample area. Within these two districts, only the well-functioning Sandhais were considered. These Sandhais were:

1. Sampath Nagar Uzhavar Sandhai – Erode Town (Erode District)
2. Dharapuram Uzhavar Sandhai – Dharapuram Town (Erode District)

3. Sathyamangalam Uzhavar Sandhai – Sathyamangalam Town (Erode District)
4. Gobichettipalayam Uzhavar Sandhai – Gobichettipalayam Town (Erode District)
5. R.S. Puram Uzhavar Sandhai – Coimbatore Town (Coimbatore District)
6. Singanallur Uzhavar Sandhai – Singanallur (Coimbatore District)

Of the eight Sandhais in Coimbatore District, the two selected ones were the only existing well-functioning Sandhais; the others located in Tirupur town, Pollachi, and Udumalpet were not selected for the study. From these six Uzhavar Sandhais, 330 respondents were randomly surveyed according to the availability of farmers. In other words, at the time of the survey, Erode had a full strength of 80 shops, hence every farmer was selected. Although Dharapuram Sandhai has 53 shops, only 42 were

occupied during the survey and this entire lot was selected. Sathyamangalam posed a different situation. It has a shop allotment for 52 farmers but it was occupied only by 27 respondents during the study period, so only these respondents formed part of the sample. Gobichettipalyam has shops for 48 farmers but at the time of the survey it was thronged by 50 farmers, and so every one of them

was taken. R.S. Puram in Coimbatore has 110 shops for allotment but on the day of the survey, it was occupied by 81 respondents. Singanallur has 60 shops, but the survey could be done only on the 49 occupied farmers. The empirical analysis was carried out with time-tested and the simplest of statistical tools to bring out the relevant facts keeping in mind the advocacy feasibilities of the study.

## 7. Profile of Uzhavar Sandhai

Uzhavar Sandhai of Tamil Nadu has taken the cue from 'Apna Mandi' of Punjab and Haryana. The former agriculture secretary to the Government of India, M.S. Gill, during his trip to the former U.S.S.R. happened to visit 'Kal Ghaj', a farmers' market where farmers were selling fresh and green vegetables on the roadside on a collective basis, at a high premium directly to the consumers. Impressed by this, he mooted the idea of farmers' market in the early 1990s and initiated 'Apna Mandis' in Punjab and Haryana, which proved to be a phenomenal success. Andhra Pradesh followed suit and started the 'Rythu Bazaar' on lines similar to that of Punjab and Haryana. The concept of farmers' market was initiated in Tamil Nadu by the DMK government in October 1999.<sup>4</sup>

The main reasons behind starting this market system were to facilitate farmers to sell fresh fruits and vegetables directly to the consumer at remunerative prices without the intervention of middlemen and traders. Also, the Sandhai holds the price level of vegetables steady, giving no room for manipulation by middlemen and traders. It also acts as an information centre for marketing

vegetables and most importantly as a check on the level of exploitation. In addition, adequate training is given to all farmers to access information like prices prevailing in similar markets, which in better days, were interconnected under a single network.

The market place is located in important centres to help both the customers and farmers living in and around that centre. Each market has 60 to 100 small shops or sheds. Each farmer is allotted a shop or shed to sell his/her produce. The government appoints a marketing committee to identify the farmers and give them a permit card or identity card. They do not have to pay any rent or commission for selling their goods for this. The Marketing Committee will fix a price and the same price will be applicable for the particular commodity for the whole day. The prices are fixed for a commodity on the basis of the previous day's price of that commodity in the wholesale market. Moreover, the prices are also prominently displayed in front of every shop. The consumers are also assured of correct weighment, as the farmers who sell their goods at the market should use only the balance and weights supplied by the marketing committee.

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<sup>4</sup> Sivakumar R, 2003, "A study on Working of Uzhavar Sandhai in Erode District", dissertation submitted in December.

## 8. Socio-Economic Background of the Farmers

### 8.1 Gender Profile of the Farmers

In the farming community, both men and women play an important role in working towards empowering their welfare and standard of living. In the present study, it was observed that 75 percent of the farmers were men and the remaining 25 percent were women (see Annex Table 2). It is important to note here that women coming in the early hours daily to the market and selling the goods reflects very positively on the gender-sensitive social fabric of the society in the region. This 25 percent can go up if proper transport facility is made available to them. Currently, out of the 83 women respondents, 60 percent use the free bus transport provided by the government (see Annex Table 3). If the government provided more free transport, many more women could use this Sandhai to sell their produce.

### 8.2 Age Profile of the Farmers

Maximum number (32%) of farmers were in the age group of 41 to 50 (see Annex Table 6). Of these middle-aged farmers, 25 percent were women. Out of the 83 women respondents, an equal number of them were distributed among all age groups. This is a very positive factor, which is unique to Tamil Nadu alone in southern India that women travel during the very early morning hours (for example: 4.00 a.m.) to reach the market. Timings of this model of market may vary from place to place based on the gender sensitivity of the local population.

### 8.3 Distance Travelled by the Farmers to Reach Uzhavar Sandhai

The farmers (about 54%) have to cover almost 11 to 30 km to reach Uzhavar Sandhai and another 36 percent of the farmers travel less than a 10-km distance to sell their produce (see Annex Table 7). Our suggestion is that if more townships are identified, farmers will need to travel only a lesser distance, which may get better gender representation too. There are some (4%) who travel above 70 km to come to Uzhavar Sandhai. In the Coimbatore Uzhavar Sandhai, it is observed that

many of the farmers are from the Nilgiris (a hillock near Coimbatore). The distance and time taken for travel would be around two to three hours to reach the market. If the Uzhavar Sandhai did not offer sufficient profit margins, farmers from the Nilgiris would not be willing to take the pain of travelling such a long distance to sell their produce. When asked about the considerable time taken for the journey, farmers said that they had taken rooms near the Sandhai to stay for a week. The goods from the Nilgiris are transported daily on rented vehicles. While staying at Coimbatore, the farmers sort out everything regarding the quantity and transport through telephone. They come to Coimbatore because selling the same in the Nilgiris is not profitable. These farmers demand free transport from the state government.

Another interesting fact was observed in Sathyamangalam where the customers coming to the Uzhavar Sandhai are very few. What the farmers say is that the Sandhai is located in a place, which was unsuitable from the very start. Rather than buying from the Sandhai, the consumers find it more feasible to buy from the retail market, which is nearer to the bus stand. The farmers are in a desperate situation because after travelling for long distances, they have had to go back without selling anything. So, in desperation and rather than returning empty-handed (in terms of money), these farmers end up selling their commodities to sellers in the retail market at a throw-away price. This is the reason why we stressed on the location of the fair farmers' market; if customer convenience is not taken into consideration when setting up the Sandhai, it is bound to fail. Each Sandhai should ideally be located within a radius of 20 km.

The consumer should be the prime focus before any important decision on the choice of market location is made. Some simple issues to be addressed are: it should be visible (a good example is the Singanallur

Uzhavar Sandhai); it should be convenient for customers to buy and board the town bus; if not, the Sandhai should be located in the middle of a densely populated area (for instance, as in R.S. Puram). The relationship test done through chi-square (see Annex Table 4) and simple correlation (see Annex Table 5) does show that there exists a strong relationship between the availability of transport system and farmers' interest in coming to the Uzhavar Sandhai.

#### 8.4 Size of Land-holding by the Farmers

Which category of farmers is interested in coming to the Uzhavar Sandhai? This question is answerable only if we know whether they are small farmers, marginal farmers or big farmers. We have therefore categorised our sample into: poor farmers who hold less than one acre of land, small and marginal farmers who have two to five acres of land for cultivation<sup>5</sup> and big farmers who possess more than five acres of land.

Majority of the farmers (67%) who utilise the Sandhai falls under the small and marginal category (see Annex Table 8). Although big farmers comprise only about 23 percent, poor farmers comprise only 8 percent. Of the total 224 respondents in the small and marginal farmer category (see Annex Table 9), women hold 27 percent of the land, while men hold 73 percent of land. The poor farmer category totalled to 27 respondents, and among them, it is found that 37 percent are women. Among the category of poor farmers, nearly half comprise women farmers. This figure speaks volumes about the gender-empowering nature of Uzhavar Sandhai. It also indicates that Uzhavar Sandhai benefits both the poor as well as small and marginal farmers and even induces big farmers to participate.

#### 8.5 Ownership Nature of Land-holding by the Farmers

Land ownership makes all the difference in the living standard of farmers. The ideal situation is when the farmer owns his/her land where the total cost of production from the land does not carry any lease rent component and so farmers can make the greatest margins. But, during years when he/she gets better profits, the farmer can expand his/her land holding, which could lead to a better quality of life. This could be done either by buying the neighbouring land or leasing the same land. Surely, this will lead to an escalation in the cost of inputs and may therefore not be viable except for the so-called big farmers who have the wherewithal to make the necessary initial investments. But the same cannot be true for the small and marginal or the poor farmers. Hence, it is important to understand the nature of land ownership among the Sandhai users.

It was found from the survey (Annex Table 10) that almost 92 percent of the farmers own their land. While some four percent cultivate their own as well as leased land, another four percent cultivate only leased land. Of the total 305 farmers who own land, 70 percent are small and marginal farmers and 23 percent are big farmers (Annex Table 11). It now further indicates that small and marginal farmers dominate Uzhavar Sandhai. This market is like the life blood for many agricultural labourers and farmers as it supports continual farming, and fetches them a "*fair price*" for their produce. This could also be one reason why we have not yet heard of suicides as big news items of Tamil Nadu farmers. Uzhavar Sandhai may thus be playing a unique role in empowering these farmers and in avoiding the widespread farmers' suicides that have been reported in Andhra Pradesh, Maharashtra, Kerala, etc.

<sup>5</sup> Since agricultural land in Tamil Nadu is quite barren, without adequate irrigation facilities, 2–5 acres of land do not yield a significant produce. This is the reason for this particular size categorisation in this study.

# 9. Method of Cultivation and Process behind Uzhavar Sandhai

## 9.1 Type of Irrigation Used

Currently, Indian agriculture is undergoing a serious problem of water management. Severe drought is now a common phenomenon in many states. Despite these problems, it is important to highlight that the agricultural sector's real contribution to the total GDP of the country has not declined. Water management in agriculture however is very important because this determines the quality and quantity of produce that the land yields. Since Uzhavar Sandhai is mainly meant for the small farmers, this issue has to be addressed clearly. Many poor, small and marginal farmers have to depend upon good monsoon, perennial well water and canal irrigation. In Tamil Nadu, after failed monsoons for the last two years, the current year witnessed a very abnormal monsoon and this has made the farmers very happy.

During the survey, it was found (see Annex Table 12) that 63 percent of the farmers use well water for irrigation, and some 16 percent use both well water and bore well water for irrigation. It is also observed that eight percent of the respondents depend on canal water. The same (8%) was found in the case of bore well irrigation. Out of the 54 respondents who have both well water and bore well, 59 percent were small and marginal farmers and 39 percent were big farmers (see Annex Table 13). It is noticed that larger number of small and marginal farmers spend more money towards alternative sources to have proper irrigation as their livelihood is almost completely dependent on this occupation alone.

## 9.2 Dynamics of Vegetables Cultivated and Sold in the Uzhavar Sandhai

As Uzhavar Sandhai deals only in fresh vegetables and fruits, the present case study focused on the type of vegetables farmers cultivated in their fields. It was observed during the survey (see Annex

Table 14) that the majority of farmers brought in local produce. Only a few sold fruits, which were mainly confined to seasonal fruits like banana, cucumber, guava, pomegranate, custard apple, muskmelon, papaya, jackfruit and chickoo. Some were found selling flowers as well.

Out of the 330 samples collected from the two districts, it is found that majority of the farmers sold tomato, brinjal, ladyfinger, coconut, ridge gourd, bitter gourd, chillies and greens. Some of them also sold banana leaf as there is a demand (among South Indians in general) for using these leaves for (packing, etc.) eating one's food. Drumstick, onion, lemon, carrot, beetroot, radish, cabbage and cauliflower were also being sold.

The next important message from the analysis is that poor farmers brought and sold not more than two types of vegetables daily (see Annex Tables 15 and 16). On the other hand, the small and marginal farmers used to sell about four types of vegetables, inclusive of fruits, daily in the Sandhai. As expected, the big farmers sold many more, as many as seven different types of agricultural produce in the market on a single day. It is evident from the correlation table (see Annex Table 17) that there is a significant relationship between the numbers of vegetables sold in the market and the size of the land holdings. The smaller the holding, the fewer types of vegetables are brought in and sold in the Sandhai and vice versa.

## 9.3 Creating Awareness about Uzhavar Sandhai

After the first Uzhavar Sandhai started in 1999, many farmers came to know about this system through several channels. The then government advertised through television, newspaper, panchayat bodies and also through agricultural officers. Importantly, the majority of farmers in the present



study (see Annex Table 18) were induced by panchayat bodies and agricultural officers to sell their produce in the Sandhai. Many also came to the Sandhai by getting information from regional newspapers. And some were aware of the market system through friends and relatives. During the survey, the respondents stated that agricultural officers from the government department (during the previous rein of DMK) were very helpful in many aspects. They had also assisted farmers by giving better ideas about the type of vegetables that should be cultivated and the financial assistance they might get from the government.

#### 9.4 Cost of Production Incurred in Cultivation

The cost incurred during the cultivation process decides the price of the goods in the Sandhai. Unlike industries, agricultural goods face a different cost structure. Prices of inputs like seeds, fertiliser, diesel, labour, rent for tractors, interest on loans and electricity charges make the total cost for the farmer. In Tamil Nadu, almost every input (except labour, tractor and diesel) that is included is available to the farmer at a subsidised rate and some are provided free of cost. Hence the cost of input comes down. The only cost that arises here is incurred on transporting these goods to the market place. In the Uzhavar Sandhai system, the government provides free transport facility from the farmers' doorstep, which negates the question of high transport cost. Clearly, farmers could sell their produce at a competitive price, provided there are no middlemen. However, in some situations, farmers have faced less availability of free transport and they have had to pay extra charges to carry the goods.

It was found (see Annex Table 19) that on an average, some 40 percent of the respondents incurred Rs.5,000 to Rs.10,000 on cultivating. But there were some (34%) who incurred less than Rs.5,000 and some (17%) who had to bear a cost between Rs.10,000 to Rs.20,000. Very few (9%) spent more than Rs.20,000 on producing these goods.

One should be very careful in interpreting this cost structure. If those who are considered as poor farmers (having less than one acre of land) spend above Rs.20,000, this is, by any yardstick, unaffordable to them (see Annex Table 20). How could they possibly spend this large amount and still find cultivation profitable, especially with less than one acre of land? Given that this defies logic, it was apparent that many farmers giving inflated estimates of their cultivation cost were not parting with the actual cost figures. The interesting inference is that small farmers with less than even one acre are more attracted to Sandhai and find the cultivation profitable. So, the farmers come to the Sandhai again and again. However, what is relevant for the study from the above is the evidence that the Sandhais have benefited the poor and small and marginal farmers since 1999. Thus, they have served the purpose and can be emulated as a model across other states and in other developing countries.

#### 9.5 Quantity Brought to the Sandhai

The importance and success of Uzhavar Sandhai could also be explored by the quantity of stocks that are brought daily into the market. If it is very high, we can say that the market is dynamic and if the quantity brought in is less, it can be safely concluded that the Sandhai is not so active. The present survey of the two districts brings out some important facts. On an average, the Sandhais located in these towns received about 75 kg of vegetables and fruits each. Some 40 percent of the respondents (see Annex Table 21) said that they were bringing in less than 50 kg daily in to the Sandhai. Twenty-eight percent brought in between 50 to 100 kg and some (21%) were even transporting above 150 kg. About 63 percent of the poor farmers bring in less than 50 kg to the Sandhai (see Annex Table 22). A few of them (11%) brought in as much as 150 kg to be sold, which is extraordinary and could have been the case of exceptional produce in particular instances. In the category of big farmers, about 43 percent used to fetch above 150 kg of vegetables. This clearly shows that the Sandhais are very dynamic and provide large marketing opportunities to

these farmers, and also how successful these “City-Centric Models” are.

When we observe the small and marginal farmers, it is interesting to note that they are somewhat evenly distributed in all the market segments. But a majority of them (42%) are transporting less than 50 kg. When the relationship test is examined it is found that the asymptotic significance level of both chi-square (see Annex Table 23) and correlation coefficient (see Annex Table 24) are

zero. That is, land size and quantity brought in are significantly related.

Another observation is that the majority of women (49%) used to bring in less than 50 kgs daily to the Sandhai. Clearly, they have been fetching only limited quantities for various reasons. But 19 percent women (with both small and large holdings of land) brought in more than 150 kg of vegetables each to the market.

## 10. Benefits to Farmers and Consumers from the Sandhai

It was found that almost every farmer is of the same view: Uzhavar Sandhai does benefit producers and the consumers alike. Of the 330 respondents surveyed, 99 percent said that they had benefited by the Sandhai (see Annex Table 34). If this is the case, then this market system can be extended to many towns and cities and other developing countries.

### 10.1 Profit Margin Gained by Farmers

The main motive behind the Uzhavar Sandhai is to enable the small farmers to get better profit margins. The usual practice in the Uzhavar Sandhai is to fix prices at levels, which are lower than the retail market and higher than the wholesale market. The authorities in charge of the Sandhai collect the information from the wholesale market and then fix the price of the vegetables in the Sandhai 10 to 15 percent higher than the wholesale market prices. In some cases, it is higher by even 20 percent or more. Even though this is the practice, in reality the price situation turns out to be different at times. This is because the wholesale market players exploit the situation and manipulate the fixing of Sandhai prices on a particular day by fixing their own prices around the same level as those prevailing in the Sandhai (in order to attract those farmers to the wholesale market itself away from the Sandhai) and closing at unrealistically low prices towards the end

of the trading day. Since the referral price for the Sandhai authorities are the wholesale closing prices, this would mean a lower price level at the Sandhai on the following day, when compared to the wholesale market. That is, the wholesale market players play around with prices and get the Sandhai prices fixed at lower rates so that it is not remunerative for the farmers to sell at the Sandhai and they would sell rather at the wholesale market. It is like a cat-and-mouse game; it may be sometimes difficult to assess who is chasing whom.

As in any income-related survey, a basic problem faced during the survey was in obtaining the exact details of the farmers’ profit margins. The respondents did not part with the exact information on the degree of profit margins they gained from the Sandhai. Even so, what came out from the survey was in support of the above-mentioned dynamics. About 46 percent of the farmers said that they gained more than 20 percent as profit in the wholesale market and obtained lesser in the Sandhai (see Annex Table 25). Another 41 percent of the respondents were of the view that they used to get between 10 to 20 percent in both the markets. About 13 percent said that their profit margin was about 10 percent less than in the wholesale market.

Given that the farmers are free to choose the option of selling in the wholesale market, there is some unrest about this issue. However, despite the lower profit margins in the Sandhai, farmers are still not enthusiastic about the former. One of the reasons is that the environment in the Sandhai is much more encouraging and comforting. But, the most crucial factor aiding their decision in support of the Sandhai is the fact that farmers get their money in the wholesale market only after a week or two, whereas in the Sandhai they get ready cash. This works like some kind of a “ready money factor” which lures them to sell their fruits and vegetables in the Uzhavar Sandhai. In the wholesale market, sometimes even after a week they do not get the whole payment from the wholesaler/retailer. They have to wait for another week for the next settlement. So the profit they gain in the wholesale market is of no use in comparison to the loss they would have to incur if the “open market rate of interest”<sup>6</sup> is to be considered. In the Uzhavar Sandhai, they get the money whenever they make a sale and the profit made, if compared to the wholesale market appears to be less, is very comfortable and helpful to the farmer, since it is cash-in-hand. But, if the farmers were to opt for selling at the wholesale market, they would have had to forego the option of getting their money immediately and would have ended up at the ‘whims and fancies’ of the wholesale market traders. Another important advantage is that there are no restrictions on quantities, so that even small/poor farmers with a single kilogram of produce (say, green chilli) can also come and sell at the Sandhai, if he/she possesses the farmer’s identity card. The message therefore is loud and clear. If farmers are given a choice between the wholesale markets that offer a better profit margin than in the Sandhai and the latter, their option would be to come back to the Sandhai. This speaks volumes about the rural unorganised non-banking (credit) system.

Thus, it is established that the Sandhai provides a much more secure system for the small and poor farmers. Of course, there was some uneasiness about the government control over the fixing of prices at Uzhavar Sandhai, which came out during the survey.

At the other end, let us look at this whole situation from the consumer’s point of view. Since the price is much cheaper in Uzhavar Sandhai than in the wholesale market, consumers swarm the Sandhai. This could be observed in the early morning where we could see massive crowds in the Sandhai. This is in fact a true picture. Sandhai located in Cowley Brown Road, in Coimbatore starts functioning as early as 4 a.m. and closes by 7 a.m. The market is just active for three hours and the entire stock is sold out. Clearly, the Sandhai has been a very good and vibrant market much needed by small farmers and consumers alike. Consumers who want to buy fresh vegetables do not mind coming so early in the morning to these Sandhais because of the added advantage of lower prices than their nearest retailer. If one has to go just by the response of customers and the ‘*hustle and bustle*’ which these markets generate, then it is clear that the Uzhavar Sandhai model is indeed a vibrant one.

## 10.2 Benefit of Transport Facility

Transporting the goods from the farmers’ gate to the sale point is a tedious task involving huge rental cost for the vehicle, large distances to be covered as well as concerns related to the perishability and safety of the goods. In the marketing system where the middlemen are involved, they take the responsibility of everything. This also means that they become the decision maker, which leads to the exploitation of the farmer in question. Therefore, some very important policy decisions have to be taken by the government for helping out the poor farmers. As vegetables and fruits are perishable in nature, they have to be safely transported at a lower

<sup>6</sup> The economics of open market interest rate versus price differential operates here. For each Rs.100 a debtor farmer obtains at the open market, what he/she gets in hand is only Rs.90, because the interest portion of the loan is cut even before the loan is given (a sum of Rs.10 is charged on a daily basis). Given that such unimaginable interest rates prevail, the Sandhais’ relatively lower prices on certain days in comparison to wholesale market does not become a disincentive, because of the advantage he/she gains by obtaining ready cash settlement at the Sandhai.



cost. Sometimes even this low-cost transport facility is not available. Storage facilities are also required at the sale point so that the goods are kept fresh. For this, cold storage facility is indispensable. If such facilities are provided, the interests of the farmers in coming to Uzhavar Sandhai will increase further.

During the initial days of the Uzhavar Sandhai, the government of Tamil Nadu plied town buses from the farmers' gate to the Sandhai. During interviews, farmers pointed out that a number of buses were earlier provided covering almost all the rural areas. The buses start very early in the morning so that they can reach Sandhai by 4 a.m. No fare is collected for the luggage and the persons. Once inside the Sandhai, the farmers would be provided with tray vehicles, which can be used to upload and download the produce, free of cost.

The situation of public transport has become very bleak as the buses on many routes have been taken off the free service facility, which once existed. Earlier, while a particular rural area had been connected with 10 route buses to transport the goods, the same area has now been cut off from the provision or receives only one designated service. This indeed has worried the farmers for they had stressed this point strongly during the survey. In the brighter days, each Sandhai used to have some 100 to 120 farmers selling their produce. But this has come down drastically now, probably due to the lack of free town bus. In Erode Sandhai, some farmers have to pay a minimum fare for themselves and their produce in a supposedly free town bus.

It was found from the analysis that 56 percent of the respondents (see Annex Table 26) used free town bus to transport their produce, and another 28 percent used their own vehicle. Rented vehicles were used by 14 percent of the farmers. But the glaring difference appears in the next set of analysis. When crosschecked with the size of land holding, it was surprising to note that poor farmers (having less than one acre) had their own vehicles (37%), which they were using to transport vegetables (see Annex

Table 27). Also when it was checked with kilograms of vegetables sold, it was found that farmers selling less than 50 kg used both their own vehicles (41%) and town bus (53%) to transport their produce (see Annex Table 35). Respondents who sold between 50 to 150 kg predominantly used the town bus and those who sold more than 150 kg used both the town bus services (58%) and rented vehicles (31%). Within this category, it is even more surprising to find farmers (12%) who spend less than Rs.5,000 on their holdings using own vehicles. Some 58 percent of the small & marginal farmers used the free town bus. Their own vehicles were used by 27 percent of the small and marginal farmers. In the case of big farmers, 54 percent of them used the town bus even though they had the capacity to buy and own a vehicle. Only 26 percent used their own vehicles for transporting the luggage. On comparison, we find that personal vehicle is more pronounced in the case of poor (37%) and small and marginal farmers (28%) than the big farmers. These interesting findings could perhaps be due to the possibility that poor farmers and small and marginal farmers could be owning vehicles like bullock-cart in the case of the former, or scooters in the case of the latter, etc. This could not be independently ascertained in the absence of data on the type of vehicle owned by these farmers. However, it is clear that ideally, the Sandhai should have a proper location (in urban townships) near the farmers' villages to sell their produce at a price, which is fixed by a truly representative marketing committee.

Also noted in this analysis was that female members (26%) had the capability to bargain and rent a vehicle for transporting, and some eight percent had their own vehicles. It clearly shows that the female members of the farming community are efficient enough. It is also reflective of a combination of societal factors consisting of cultural, socio-economic factors, etc. If encouraged in the right direction, we can see a greater number of them coming to the Sandhai.

When the composition of transport and type of vegetables are analysed through a two-way table,

it was found that out of 103 respondents who bring in only one type of vegetable to the market mainly used the town bus (54%) and their own vehicle (37%) (see Annex Table 36). Out of the 93 respondents who sold two types of vegetables, 55 percent were also the users of the town bus and some 33 percent used vehicles of their own for transportation. Farmers who were selling three types of vegetables mostly used town bus (53%) and rented vehicles (27%). Hence it can be stated that farmers who used to bring in fewer types of vegetables either carried them with the help of their own vehicles or used the services of the town bus. When the relationship test was applied with the help of chi-square and correlation, it was found that there exists a strong significant relationship between the types or number of vegetables brought into the Sandhai and the mode of transportation used (see Annex Tables 37 & 38).

But the main observation that needs to be highlighted is that this survey only gives a static picture of an otherwise dynamic market. This is one of the limitations of the study that we need to consider while interpreting all the results. Time was the main constraint in going back to the same Sandhai and may be the same farmers, for verifying their responses on another market day.

So, the types of vegetables they carry daily may vary. The same farmer who brought in one type of vegetable (say, tomato) on a particular day, may bring four to five types the next day. And he/she may have the habit of travelling only by the town bus or only by his/her vehicle. If needed, he/she may also rent a vehicle. It all depends on the situation and the distance. If the distance is less, he/she may use his/her vehicle or may choose to use the town bus. These observations can be confirmed with another set of analysis (see Annex Table 39) as below.

It is apparent that majority of farmers who travel less than 10 km use own vehicles (56%) to transport their produce and 36 percent of the respondents travel by the town bus to bring their produce to Sandhai. That is, farmers coming from

lesser distances like to use their own vehicles rather than rented vehicles or the town bus. From Annex Table 27, it can be seen that small and marginal and large farmers use own vehicles more than the poor farmers. Hence we can say that small and marginal farmers coming from lesser distances may use their own vehicles. When the distance increases to more than 10 km, it was found that 77 percent of them preferred to use the town bus. The analysis also confirmed another finding, that when the distance increased to more than 30 km, farmers used both personal vehicles (25%) and the town bus (50%) in transporting their produce. Using personal vehicles to cover this long distance might be due to non-availability of bus services to these areas or because of the fact that the farmers might find it more convenient to travel in the early hours.

A further observation is that when the distance increases (in km) to more than 50, almost all of them used rented vehicles rather than the town bus. The government does not provide the town bus in these early hours to cover this long distance. This had its impact on the Sandhais and number of farmers have dropped from the days of free bus services. Out of the 330 respondents surveyed for this study, only 22 of them travelled beyond 50 km to sell their produce in Uzhavar Sandhai. Both the chi-square test and correlation brought out the strong and significant relationship between the 'mode of transport' and 'distance travelled' by the farmers (see Annex Tables 37, 38 & 39).

### 10.3 Support from the Various Governments

Uzhavar Sandhai in Tamil Nadu was structured, planned and implemented by the DMK government in year 1999. In 1999, it was a successful implementation carried out overnight all over the state and farmers welcomed this wholeheartedly since it had many benefits. Each and every district in the state had a minimum of four and a maximum of seven such Sandhais. Apart from the farmers, consumers were very happy as they began getting farm-fresh vegetables at a cheaper price.

Due to the indifferent attitude of the then government in 2001, the tide turned against Uzhavar Sandhai. Many favourable facilities from the Uzhavar Sandhai, were withdrawn thus discouraging the farmers from using the market system.<sup>7</sup> Phase by phase, some Uzhavar Sandhais were closed down citing the reason of low usage and activity. Later on, many were decentralised and brought under the local municipal bodies. In effect, nothing was done and eventually the government decided to close as many Uzhavar Sandhai as possible. On an average, now each district does not have more than two Sandhai, with Erode being an exception.

Even though the government extended many farmer-friendly schemes like subsidised loans, free electricity, subsidised HYV seeds, farmer protection scheme, etc., which were populist by nature, it was still being pressurised by the local bodies and village communities to revamp the Uzhavar Sandhais. Their point of view was that Uzhavar Sandhai had enriched many family systems in the rural areas and had significantly improved the living standards of agricultural labour.

At this juncture, it is most pertinent to understand the farmers' assessment of the support extended by the government. It is evident from the survey (see Annex Table 28) that 66.4 percent of the respondents were happy with the help extended by the present government. However, the fact that the remaining 34 percent unhappy respondents also came to the Sandhai reflects the successful operation of the Sandhai.

In the next part of the analysis, we try to find out the types of support that have worked well for the Sandhai.

#### 10.4 Other Support Systems inside the Sandhai

During the implementation stages, the farmers had received supports like the free town bus, allotment

of shop according to first-come-first-serve basis, identity card system, fair price system, etc. The Sandhai at Coimbatore has two extra provisions. One is the "*Cinnthamani Co-operative Store*", which is a quasi-government cooperative organisation store that actually sells all types of non-vegetable products but also sells vegetables and fruits, which are not produced locally. Thus if a customer visits the market, he/she can finish buying all the necessary vegetables and fruits and does not have to go to the wholesale market for anything.

The second is the "*Aavin Depot*", which sells milk and milk products. Outside the Sandhai gate, newspaper vendors are ready with the day's newspaper. So when a consumer comes to the Sandhai at 4.30 in the morning, he/she can buy everything. As so many facilities are available, the consumers from even far away places do not mind the distance and they take their two wheelers or four wheelers to come to the Sandhai.

#### 10.5 Farmers' Responses on the Working of Sandhai

Three indicators were chosen to analyse the success of the Sandhais from the point of view of the farming community: the fixing of right price, the town bus service, and correct allotment of shops. It was found that 37 percent of the respondents were happy with all the three provisions, 19 percent were comfortable with only the town bus service, while correct allotment of shops made 18 percent happy. Some 12 percent of the members liked both the free town bus and the fixing of right price (see Annex Table 29).

When response was sought about the present situation, the analysis revealed that some 41 percent of the farmers were satisfied with the present situation in the Sandhai (see Annex Table 30). Another 40 percent said that even though the situation was not so good, they were satisfied with the present status quo. Some respondents (11%)

<sup>7</sup> In fact they had their own version of a populist project called Self Help Groups (SHGs), a similar kind of project addressing and promoting tiny entrepreneurs.

ranked the present Uzhavar Sandhai as the best. So, altogether 92 percent of the farmers were either happy (52%) by itself or with the status quo. This provides the strongest evidence in support of a policy statement to emulate similar markets elsewhere. One group of respondents (5%) stated that the present situation was bad. The state of Uzhavar Sandhai was different for just one percent of the farming community surveyed.

Even though we encountered mixed views from the respondents, the overall picture is that they were happy with the present situation prevailing in the Sandhai, even after the government had withdrawn assistance such as free transportation

of goods, etc. Also, it seemed that Uzhavar Sandhai has changed the life style of the majority of agricultural labourers/farmers and their families (see Annex Table 31).

Thus, it was observable that farmers were very satisfied with the present scenario while the consumers also seem to like purchasing from the Sandhai. Clearly, the Sandhai has had an everlasting impact on the livelihoods of these farming communities and the economy around it. Hence the government should be persuaded to continue with the Sandhai and to extend whatever possible support, so that the society as a whole benefits.

## 11. Problems Encountered in the Uzhavar Sandhai

When farmers were questioned about the problems they encountered, it came to light that they were facing certain basic problems. The most important factor, which they see as a hindrance was the starting time of the Sandhai. Some 36 percent of the farmers said that there should be a change in the timings. In Erode, the markets open by 5 a.m., but they do not see any customer until 6 a.m. They see some rush only by 7 or 8 a.m. Sometimes the market goes on till 10 a.m. The farmers complained that the Sandhai opens by 4 a.m., which was completely unrealistic, if your customers do not wish to come so early. However, it would have enabled the farmer to finish the sales and go back as early as possible. This is the reason why the local practices become important. In Coimbatore the Sandhai opens at 4 a.m., and works well and people do not complain. On the other hand, the same timings in Erode did put stress on the farmers. Such markets are unique, and they are also faced with certain unique problems like the density of population surrounding the Sandhai, visibility of the Sandhai, convenience of customers to board town bus, etc.

The next difficulty they face is the distance to be covered. Of the total 330 respondents, 22 percent found it tough to cover the distance, as the Sandhai is located far away from their place (see Annex Table 32). This problem is a recent one, since in the initial stage there were many Sandhais located nearer to the farmers' places, but several of which have since been closed. Hence, they have to travel long distances to reach the Sandhai to sell their produce. It is because of this distance factor that the farmers feel that by starting the Sandhai early in the morning, they can complete their sales and go back early. To facilitate this, they insist that the authorities should ply the free town bus early in the morning. Since there is no such service as of now, farmers reach the Sandhai very late, and by then prime shop allotment is finished. Another way to sort out this problem is by opening the closed Sandhais.

In Coimbatore, the survey was made on two Sandhais: one at a place called Singanallur and the other at Cowly Brown Road, R.S. Puram. These two Sandhais had farmers from places more than



100 kilometres away. Farmers from Ooty thronged the market, which is 90 km away from Coimbatore. Due to this distance, the respondents take a rented house near the Sandhai and for transportation of their produce may use telephonic instructions with their farmland. Very few complained about the time factor and distance in Coimbatore. That is because at both these places, the Sandhai starts operating by 4 a.m. in the morning and the entire business gets completed by 7 a.m.

Proper shop allotment is another issue in the present setup. About 20 percent of the farmers are of the view that they do not get shop allotment according to their presence in the Sandhai. Some say that even if they are among the few early ones to enter the Sandhai, they are not allotted the prime shops because of some corrupt officials. There are also instances when an actual farmer does not get the shop allotted but traders in the

disguise of farmers manage to get the allotment by manipulating the officials.

During the weekends, every Sandhai receives lots of farmers, therefore the rush is huge and predictably shops are inadequate at this time. It is clear that there is a demand for constructing more shops. As these farmers do not get the shops, they have to settle on the floor, which is unhygienic and heaped with dirt and dust. Some shops do not have sheds to cover when there is rain or if it is very hot. On the whole, there is a clear and urgent need for construction of new shops in the Sandhais with proper roofing. About 18 percent of the surveyed farmers had no complaints against the Sandhai. They believe that Sandhais are pro-farmers and the government should encourage and strengthen such institutions and practices to help poor farmers receive better prices for their produce and improve their livelihoods.

## 12. Conclusion and Policy Recommendations

The Uzhavar Sandhai is a unique fair farmers' market model which is capable of providing answers to several challenges put forth by the globalisation of agriculture. One of the positive aspects of the Sandhai is that it does not require much training because all that is required is the introduction of the concept of fair farmers' market. Organised innovations and institutional structures do not come that easily within the circle of poor and small and marginal farmers without support from government bodies. Such thought processes may not cross farmers' minds as they are for the most part engaged in thinking about their future prospects and family problems created by low income levels and the lack of market for their produce. Thus, if they are given the required simple training in marketing techniques, they can decide what to cultivate, at what time to sell, at what price and to whom.

What Uzhavar Sandhai has done effectively is to create a better market for the products of poor, small

and marginal farmers with fixed prices and informed consumers, which induces the former to stay in farming. The latter will act as a guiding parameter in initiating small farmers towards deciding market movements and will in turn enthuse the succeeding generation to take up agriculture as an occupation. By providing opportunities for employment to lakhs of landless agricultural labourers at their own villages, this could also put a check on migrations to cities leading to the creation of shanty townships.

With the pressures of free trade bound to worsen the situation, Indian agriculture faces huge challenges to make it more competitive and productive. The recent failure/postponements by the WTO to address the development concerns of developing countries (July 2006) reflect some very important lessons to be learned in this context. It has been amply clear that it is absolutely essential to create and maintain necessary safeguards at the domestic level in order to deal with the challenges thrown

by a globalised agricultural sector. In this context, correcting the distortions in domestic markets would assume prime significance. Unless we put in place stronger institutionalised systems with democratic characteristics, we would be subjected to external dominance in our so-called “*self sufficient*” agricultural sector.

The following are thus the policy recommendations from the present study:

1. As the survey-based study of the Uzhavar Sandhai has established, this “City-Centric Market Model” is beneficial both for farmers and consumers alike and thus the foremost recommendation, which emerges is that these farmers’ markets should be strengthened as well as emulated elsewhere to empower the small farming community in our country. The farmers’ markets provide farmers with instant cash and fair prices and also provide a place to the consumers wherein they can buy vegetables and fruits cheaper than the retailer market. These can also enable farmers to withstand the forces of globalisation that have already crept in the forms of contract farming and corporate farming, which is fast gaining ground in India.
2. The success of farmers’ markets depends crucially on their marketing committees, which take decisions regarding prices, infrastructure development and support services. Thus, the second recommendation is that these markets should have permanent structures, which are also dynamic at the same time. It should be a truly representative committee with all the stakeholders – i.e. farmers, consumers, and government – actively participating in decisions such as fixation of prices, weightment of produce, etc.
3. Each city is ‘different’ by way of its culture, practices and socio-economic fabric. So we have to redesign the farmers’ market concept to suit the conditions prevailing in each town/city. Thus, the third recommendation towards a successful operation of this agricultural market model is that these markets should be established keeping in mind the socio-economic characteristics and cultural practices of the local population.
4. The successful operation of farmers’ markets also requires visibility and convenience of farmers and consumers to transport to the market place. One way of ensuring the latter is to locate the market in the middle of a densely populated area. If customer convenience is not taken into consideration while setting up the market, it is bound to fail. Thus, more townships should be identified so that farmers will need to travel only less distances. This would also yield better gender representation. Thus, a 20-km radius is recommended as the most ideal distance between different farmers’ markets.

So, what has been done effectively in Tamil Nadu should be practised by other state governments in their own innovative ways. This will surely improve farmers’ and agricultural labourers’ lives, and will ultimately help the agriculture sector growth in the economy.

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## Annex Box 1: Expectations from the Government

Many suggestions and expectations were received from the farmers during the survey (see Annex Table 33). The following are a summary of these.

1. Reviving the free bus transport to all the areas.
2. Provision of subsidised seed, loan, electricity, etc.
3. Construction of more shops inside the Uzhavar Sandhai.
4. Provision of cold storage facility to store the unsold stock.
5. Not to encourage and strictly prohibit traders from entering the Sandhai.
6. Maintaining proper sanitation in the Sandhai.
7. Opening the Sandhai early in the morning.
8. Appointing more staff and officials to take care of the problems faced by farmers.
9. Shifting the non-functioning Sandhais to places where they can get more customers.
10. Fixing higher prices than in the wholesale market.
11. Streamlining the issuance of identity card system.
12. Continuing the very provision of Sandhais and not closing them down.

The above list of expectations does not seem to be heavy, and can be easily met by the government if it decides to do so. All it requires is the political will and sincerity for adopting the changes. Rather than providing freebies, which may sometimes not work for the people, if Uzhavar Sandhais are provided effective support, it would have a significant impact in improving farmers' livelihoods, apart from improving the goodwill of the government.



# Annexure 1: Questionnaire used for the Survey

## Uzhavar Sandhai Questionnaire

1. Name of the farmer :
2. Age :
3. Sex : Male ☐ Female ☐
4. Location (name of the village) :
5. Place of the market :
6. Distance from the market ? : (km)
7. Size of the land holding (in acres)  
☐ Tiny ☐ Below 2 ☐ 2-5 ☐ Above 5
8. Type of Holding  
☐ Owned ☐ Leased ☐ Joined Ownership ☐ Other
9. Source of Irrigation  
☐ Well water ☐ Canal ☐ Bore well
10. Kinds of vegetables cultivated  
☐ Tomato ☐ Brinjal ☐ Snake Gourd  
☐ Bitter gourd ☐ Pumpkin ☐ Ribbed Gourd  
☐ Ash Gourd ☐ Green chillies ☐ Country Onion  
☐ Drumsticks ☐ Yam (Senai) ☐ Coconut  
☐ Banana ☐ Lemon ☐ Others – specify \_\_\_\_\_
11. Annual income from agriculture  
☐ Below Rs.5,000 ☐ Rs.5,001–10,000 ☐ Above Rs.10,000
12. From whom did you come to know of these Uzhavar Sandhai?  
☐ Television ☐ Newspaper ☐ Friends ☐ Relative  
☐ Panchayat Announcement ☐ Others – \_\_\_\_\_
13. How much did it cost you to produce this vegetable per acre?
14. Quantity of vegetables brought to Uzhavar Sandhai: \_\_\_\_\_ in kgs
15. Do you think coming here and selling these vegetables directly benefits both the customers and you?  
☐ Yes ☐ No

16. Which vegetables have you sold today?
17. What is the price of your vegetable today?
18. Did today's sale cover your cost and what was the profit margin?  
 Profit margin from Wholesale market \_\_\_\_\_  
 Profit margin from Uzhavar Sandhai \_\_\_\_\_
19. Did this type of market make any difference in your daily life?  
☐ Yes ☐ No
20. What mode of transportation do you use to bring the vegetables here?  
☐ Own Vehicle ☐ Town Bus ☐ Rented Vehicle
21. Does the government provide you any kind of support in transporting the vegetables?  
☐ Yes ☐ No
22. If yes, what kind of assistance do you get? \_\_\_\_\_
23. What kind of assistance did you receive during the initial stage of the Uzhavar Sandhai:  
☐ Free Bus Transport ☐ Shop Allotment ☐ Fixing Prices  
☐ Others
24. What is the situation now in Uzhavar Sandhai?
25. Problems faced in Uzhavar Sandhai:  
☐ Distance ☐ Time take for sales (duration)  
☐ Shop allotment (selling place)
26. What do you expect from the present government?
27. Suggestions for solving the problems:
28. Did you meet your expectations in the Sandhai?

Thank you.

ANNEX TABLE 1  
**District-wise Uzhavar Sandhai in 2003**

S. No	District	Numbers
1	Madurai	6
2	Thiruvannamalai	4
3	Thanjavur	3
4	Trichy	4
5	Salem	6
6	Dindukal	3
7	Theni	4
8	Thirunelveli	4
9	Villupuram	3
10	Dharmapuri	3
11	Namakkal	4
12	Vellore	7
13	Sivaganga	3
14	Ramanathapuram	2
15	Virudhunagar	6
16	Coimbatore	8
17	Thothukudi	2
18	Pudukottai	2
19	Karur	3
20	Cuddalore	4
21	Tiruvallore	3
22	Kanyakumari	2
23	Nagapatinam	2
24	Perambalore	2
25	Nilgiris	2
26	Erode	4
27	Tiruvarore	3
28	Kanchipuram	3
Total		102

Source: Sivakumar, R. (2003)

ANNEX TABLE 2  
**Gender Profile of the Uzhavar Sandhai**

Gender	Frequency	Percentage
Male	247	74.8
Female	83	25.2
Total	330	100.0

ANNEX TABLE 3

**Cross Tabulation: Gender and Mode of Transport**

SEX		Mode of Transport				Total
		Own Vehicle	Town Bus	Rented Vehicle	TB & OV	
Male	Count	85	126	34	2	247
	% within Gender	34.4%	51.0%	13.8%	.8%	100.0%
	% within Mode of Transport	91.4%	67.7%	73.9%	40.0%	74.8%
Female	Count	8	60	12	3	83
	% within Gender	9.6%	72.3%	14.5%	3.6%	100.0%
	% within Mode of Transport	8.6%	32.3%	26.1%	60.0%	25.2%
Total	Count	93	186	46	5	330
	% within Gender	28.2%	56.4%	13.9%	1.5%	100.0%
	% within Mode of Transport	100.0%	100.0%	100.0%	100.0%	100.0%

ANNEX TABLE 4

**Relationship Test – Chi-Square Analysis**

	Value	df	Asymp. Sig. (2-sided) <sup>a</sup>
Pearson Chi-Square	21.767	3	.000
Likelihood Ratio	24.246	3	.000
Linear-by-Linear Association	12.747	1	.000
Valid Cases	330		

<sup>a</sup> 2 cells (25.0%) have expected count less than 5. The minimum expected count is 1.26.

ANNEX TABLE 5

**Relationship Test – Correlation Coefficient**

	Value <sup>a</sup>	Asymp. Std. Error <sup>b</sup>	Approx. T <sup>3</sup>	Approx. Sig.
Pearson's R	0.197	0.049	3.636	.000
Spearman Correlation	0.201	0.047	3.712	.000
Valid Cases	330			

<sup>a</sup> Not assuming the full hypothesis.

<sup>b</sup> Using the asymptotic standard error assuming the null hypothesis.

<sup>c</sup> Based on normal approximation.

ANNEX TABLE 6  
**Age Profile of Farmers**

Age	Frequency	Percentage
Below 30	40	12.1
31–40	92	27.9
41–50	106	32.1
51–60	71	21.5
Above 60	21	6.4
Total	330	100.0

ANNEX TABLE 7  
**Distance Travelled by the Farmers**

Distance	Frequency	Percentage
Below 10	119	36.1
11–30	177	53.6
31–50	12	3.6
51–70	8	2.4
Above 70	14	4.2
Total	330	100.0

ANNEX TABLE 8  
**Size of Land Holdings (Type of Farmers)**

Land Size	Frequency	Percentage
Below 1	27	8.2
2–5	224	67.9
Above 5	79	23.9
Total	330	100.0

ANNEX TABLE 9  
**Cross Tabulation – Gender/Size of Land Holdings**

Gender			Size of Land Holding			Total
			Below 1	2-5	Above 5	
	MALE	Count	17	163	67	247
		% within Gender	6.9%	66.0%	27.1%	100.0%
		% within Size of LH	63.0%	72.8%	84.8%	74.8%
	FEMALE	Count	10	61	12	83
		% within Gender	12.0%	73.5%	14.5%	100.0%
% within Size of LH		37.0%	27.2%	15.2%	25.2%	
Total		Count	27	224	79	330
		% within Gender	8.2%	67.9%	23.9%	100.0%
		% within Size of LH	100.0%	100.0%	100.0%	100.0%

ANNEX TABLE 10  
**Nature of Land Holdings**

Pattern of Holding	Frequency	Percentage
Owned	305	92.4
Leased	13	3.9
Owned & Leased	12	3.6
Total	330	100.0

ANNEX TABLE 11  
**Cross Tabulation – Size of Land Holdings and Nature of Holding**

(in Acres)

			Holding Type			Total
			Owned	Leased	Owned & Leased	
Size of LH	Below 1	Count	23	4		27
		% within Size of Land Holding	85.2%	14.8%		100.0%
		% within Holding Type	7.5%	30.8%		8.2%
		% of Total	7.0%	1.2%		8.2%
	2-5	Count	213	7	4	224
		% within Size of Land Holding	95.1%	3.1%	1.8%	100.0%
		% within Holding Type	69.8%	53.8%	33.3%	67.9%
		% of Total	64.5%	2.1%	1.2%	67.9%
	Above 5	Count	69	2	8	79
		% within Size of Land Holding	87.3%	2.5%	10.1%	100.0%
		% within Holding Type	22.6%	15.4%	66.7%	23.9%
		% of Total	20.9%	.6%	2.4%	23.9%
Total		Count	305	13	12	330
		% within Size of Land Holding	92.4%	3.9%	3.6%	100.0%
		% within Holding Type	100.0%	100.0%	100.0%	100.0%
		% of Total	92.4%	3.9%	3.6%	100.0%

ANNEX TABLE 12  
**Methods of Irrigation used by the Farmer**

Method	Frequency	Percentage
Well Water	208	63
Canal	29	8.8
Bore Well	28	8.5
Well Water & Canal	8	2.4
Well Water & Bore well	54	16.4
All Three	3	0.9
Total	330	100



ANNEX TABLE 13

**Cross Tabulation – Size of Land Holdings and Type of Irrigation**

			Irrigation						Total
			Well water	Canal	Bore Well	Ww & Cnl	Ww & Bw	All Three	
Size of LH	Below 1	Count	21	3	1	1	1		27
		% within Size of LH	77.8%	11.1%	3.7%	3.7%	3.7%		100.0%
		% within Irrigation	10.1%	10.3%	3.6%	12.5%	1.9%		8.2%
		% of Total	6.4%	0.9%	0.3%	0.3%	0.3%		8.2%
	2-5	Count	150	19	16	4	32	3	224
		% within Size of LH	67.0%	8.5%	7.1%	1.8%	14.3%	1.3%	100.0%
		% within Irrigation	72.1%	65.5%	57.1%	50.0%	59.3%	100.0%	67.9%
		% of Total	45.5%	5.8%	4.8%	1.2%	9.7%	.9%	67.9%
	Above 5	Count	37	7	11	3	21		79
		% within Size of LH	46.8%	8.9%	13.9%	3.8%	26.6%		100.0%
		% within Irrigation	17.8%	24.1%	39.3%	37.5%	38.9%		23.9%
		% of Total	11.2%	2.1%	3.3%	.9%	6.4%		23.9%
Total	Count		208	29	28	8	54	3	330
	% within Size of LH		63.0%	8.8%	8.5%	2.4%	16.4%	0.9%	100.0%
	% within Irrigation		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total		63.0%	8.8%	8.5%	2.4%	16.4%	.9%	100.0%

ANNEX TABLE 14

**Types of Vegetables Cultivated**

S. No	Type	S. No	Type
1	Tomato	14	Snake Gourd
2	Brinjal	15	Ash Gourd
3	Bitter Gourd	16	Pumpkin
4	Ribbed Gourd	17	Coconut
5	Green Chillies	18	Fruits
6	Yam	19	Flowers
7	Lime	20	Carrot
8	Ladyfinger	21	Beans
9	Drumstick	22	Potato
10	Banana Leaf	23	Beet Root
11	Onion	24	Radish
12	Greens	25	Cabbage
13	Banana	26	Cauliflower

ANNEX TABLE 15  
Number of Vegetables Sold Per Day

Types	Frequency	Percentage
1	103	31.2
2	93	28.2
3	85	25.8
4	36	10.9
5	7	2.1
6	5	1.5
7	1	0.3
Total	330	100.0

Types indicate the number of types of vegetables sold per day

ANNEX TABLE 16  
Cross Tabulation – Number of Types of Vegetables and Size of Land Holdings

			Veg. Sold Today							Total
			1	2	3	4	5	6	7	
Size of LH	Below 1	Count	14	12	1					27
		% within size of LH	51.9%	44.4%	3.7%					100.0%
		% within Veg. Sold Today	13.6%	12.9%	1.2%					8.2%
		% of Total	4.2%	3.6%	0.3%					8.2%
	2-5	Count	68	65	56	27	5	3		224
		% within size of LH	30.4%	29.0%	25.0%	12.1%	2.2%	1.3%		100.0%
		% within Veg. Sold Today	66.0%	69.9%	65.9%	75.0%	71.4%	60.0%		67.9%
		% of Total	20.6%	19.7%	17.0%	8.2%	1.5%	0.9%		67.9%
	Above 5	Count	21	16	28	9	2	2	1	79
		% within size of LH	26.6%	20.3%	35.4%	11.4%	2.5%	2.5%	1.3%	100.0%
		% within Veg. Sold Today	20.4%	17.2%	32.9%	25.0%	28.6%	40.0%	100.0%	23.9%
		% of Total	6.4%	4.8%	8.5%	2.7%	0.6%	0.6%	0.3%	23.9%
Total		Count	103	93	85	36	7	5	1	330
		% within size of LH	31.2%	28.2%	25.8%	10.9%	2.1%	1.5%	0.3%	100.0%
		% within Veg. Sold Today	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	31.2%	28.2%	25.8%	10.9%	2.1%	1.5%	.3%	100.0%

ANNEX TABLE 17

**Relationship Test – Correlation Coefficient**

		Value <sup>a</sup>	Asymp. Std. Error <sup>b</sup>	Approx. T <sup>c</sup>	Approx. Sig.
Interval by Interval	Pearson's R	0.192	0.050	3.551	0.000
Ordinal by Ordinal	Spearman Correlation	0.182	0.052	3.347	00.001
Valid Cases		330			

<sup>a</sup> Not assuming the null hypothesis.<sup>b</sup> Using the asymptotic standard error assuming the null hypothesis.<sup>c</sup> Based on normal approximation.

ANNEX TABLE 18

**Awareness about Uzhavar Sandhai**

Source	Frequency	Percentage
Television	11	3.3
Newspaper	64	19.4
Friends	46	13.9
Relatives	42	12.7
Panchayat	140	42.4
Agricultural Officers	81	24.5

ANNEX TABLE 19

**Cost of Production per Acre of Land**

Cost Per Acre	Frequency	Percentage
Below 5,000	111	33.6
5,001–10,000	132	40.0
10,001–20,000	57	17.3
Above 20,000	30	9.1
Total	330	100.0

ANNEX TABLE 20

**Cross Tabulation – Size of Land Holdings and Cost of Production**

			Cost				Total
			Below 5,000	5,001-10,000	10,001-20,000	Above 20,000	
Size of LH	Below 1	Count	17	5	3	2	27
		% within Size of LH	63.0%	18.5%	11.1%	7.4%	100.0%
		% within Cost	15.3%	3.8%	5.3%	6.7%	8.2%
		% of Total	5.2%	1.5%	0.9%	0.6%	8.2%
	2-5	Count	67	95	43	19	224
		% within Size of LH	29.9%	42.4%	19.2%	8.5%	100.0%
		% within Cost	60.4%	72.0%	75.4%	63.3%	67.9%
		% of Total	20.3%	28.8%	13.0%	5.8%	67.9%
	Above 5	Count	27	32	11	9	79
		% within Size of LH	34.2%	40.5%	13.9%	11.4%	100.0%
		% within Cost	24.3%	24.2%	19.3%	30.0%	23.9%
		% of Total	8.2%	9.7%	3.3%	2.7%	23.9%
Total		Count	111	132	57	30	330
		% within Size of LH	33.6%	40.0%	17.3%	9.1%	100.0%
		% within Cost	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	33.6%	40.0%	17.3%	9.1%	100.0%

ANNEX TABLE 21

**Quantity of Vegetables Brought**

Quantity	Frequency	Percentage
Below 50	133	40.3
50–100	95	28.8
101–150	31	9.4
Above 150	71	21.5
Total	330	100.0

ANNEX TABLE 22

**Cross Tabulation – Size of Land Holdings/Quantity of Vegetables**

			Size of LH			Total
			Below 1	2-5	Above 5	
Quantity	Below 50	Count	17	95	21	133
		% within Quantity	12.8%	71.4%	15.8%	100.0%
		% within Size of LH	63.0%	42.4%	26.6%	40.3%
		% of Total	5.2%	28.8%	6.4%	40.3%
	50 – 100	Count	7	71	17	95
		% within Quantity	7.4%	74.7%	17.9%	100.0%
		% within Size of LH	25.9%	31.7%	21.5%	28.8%
		% of Total	2.1%	21.5%	5.2%	28.8%
	101 – 150	Count		24	7	31
		% within Quantity		77.4%	22.6%	100.0%
		% within Size of LH		10.7%	8.9%	9.4%
		% of Total		7.3%	2.1%	9.4%
	Above 150	Count	3	34	34	71
		% within Quantity	4.2%	47.9%	47.9%	100.0%
		% within Size of LH	11.1%	15.2%	43.0%	21.5%
		% of Total	0.9%	10.3%	10.3%	21.5%
Total		Count	27	224	79	330
		% within Quantity	8.2%	67.9%	23.9%	100.0%
		% within Size of LH	100.0%	100.0%	100.0%	100.0%
		% of Total	8.2%	67.9%	23.9%	100.0%

ANNEX TABLE 23

**Relationship Test – Chi-Square**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	35.086	6	0.000
Likelihood Ratio	34.633	6	0.000
Linear-by-Linear Association	26.152	1	0.000
Valid Cases	330		

ANNEX TABLE 24

**Relationship Test – Correlation Coefficient**

		Value <sup>a</sup>	Asymp. Std. Error <sup>b</sup>	Approx. T <sup>c</sup>	Approx. Sig.
Interval by Interval	Pearson's R	0.282	0.054	5.322	0.000
Ordinal by Ordinal	Spearman Correlation	0.268	0.054	5.038	0.000
Valid Cases		330			

<sup>a</sup> Not assuming the null hypothesis.<sup>b</sup> Using the asymptotic standard error assuming the null hypothesis.<sup>c</sup> Based on normal approximation.

ANNEX TABLE 25

**Profit Margins of the Farmers**

Profit Margin	Frequency	Percentage
Less than 10%	42	12.7
10%–20%	135	40.9
More than 20%	153	46.4
Total	330	100.0

ANNEX TABLE 26

**Mode of Transport of the Farmers**

Mode	Frequency	Percentage
Own Vehicle	93	28.2
Town Bus	186	56.4
Rented Vehicle	46	13.9
Town Bus & Own Vehicle	5	1.5
Total	330	100.0

ANNEX TABLE 27

**Cross Tabulation – Size of Land Holdings/Mode of Transport**

			Mode Of Transport				Total
			Own Vehicle	Town Bus	Rented Vehicle	TB & OV	
Size of LH	Below 1	Count	10	13	4		27
		% within Size of LH	37.0%	48.1%	14.8%		100.0%
		% within Mode of Transport	10.8%	7.0%	8.7%		8.2%
		% of Total	3.0%	3.9%	1.2%		8.2%
	2–5	Count	62	130	29	3	224
		% within Size of LH	27.7%	58.0%	12.9%	1.3%	100.0%
		% within Mode of Transport	66.7%	69.9%	63.0%	60.0%	67.9%
		% of Total	18.8%	39.4%	8.8%	0.9%	67.9%
	Above 5	Count	21	43	13	2	79
		% within Size of LH	26.6%	54.4%	16.5%	2.5%	100.0%
		% within Mode of Transport	22.6%	23.1%	28.3%	40.0%	23.9%
		% of Total	6.4%	13.0%	3.9%	0.6%	23.9%
Total		Count	93	186	46	5	330
		% within Size of LH	28.2%	56.4%	13.9%	1.5%	100.0%
		% within Mode of Transport	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	28.2%	56.4%	13.9%	1.5%	100.0%

ANNEX TABLE 28

**Government Help in Transporting the Goods**

Response	Frequency	Percentage
Yes	219	66.4
No	111	33.6
Total	330	100.0

ANNEX TABLE 29

**Support Level during the Initial Years of Sandhai**

Services	Frequency	Percentage
Free Town Bus	64	19.4
Shop Allotment	61	18.5
Fixing Price	25	7.6
Bus & Shop Allotment	10	3.0
Bus & Price	41	12.4
Shop Allotment & Price	7	2.1
All three	122	37
Total	330	100.0

ANNEX TABLE 30

**Present Situation in the Sandhai**

Situation	Frequency	Percentage
Best	38	11.5
Good	136	41.2
Bad	16	4.8
Worst	5	1.5
Satisfactory	135	40.9
Total	330	100.0

ANNEX TABLE 31

**Change in the Life Style after Uzhavar Sandhai**

Response	Frequency	Percentage
Yes	285	86.4
No	45	13.6
Total	330	100.0



ANNEX TABLE 32

**Problems Encountered in the Sandhai**

Problems	Frequency	Percentage
Distance	73	22.1
Time Factor	119	36.1
Shop Allotment	65	19.7
Distance & Time	7	2.1
Distance & Shop Allotment	2	0.6
Time & Shop Allotment	4	1.2
No Problems	60	18.2
Total	330	100.0

ANNEX TABLE 33

**Expectation & Suggestion for the Present Government**

Facilities	Frequency	Percentage
Free Town Bus	66	20.0
Subsidy	76	23.0
Shift the Uzhavar Sandhi	11	3.3
Sanitation	14	4.2
Shortage of Officers & Staff	12	3.6
Early Opening of Shop	13	3.9
More Shops Inside the Sandhai	27	8.2
ID & Permit Cards to be Streamlined	8	2.4
Not to Allow Traders	20	6.1
Drinking Water	17	5.2
Cold Storage Facilities	20	6.1
To Fix High Price	5	1.5
Continuation of Uzhavar Sandhai	20	6.1
No Expectation	21	6.4
Total	330	100.0

ANNEX TABLE 34

**Benefits to the Farmers & Consumers**

Response	Frequency	Percentage
Yes	328	99.4
No	2	0.6
Total	330	100.0

ANNEX TABLE 35

**Quantity Mode of Transport - Cross Tabulation**

			Mode Of Transport				Total
			Own Vehicle	Town Bus	Rented Vehicle	TB & OV	
Quantity	Below 50	Count	55	70	6	2	133
		% within Quantity	41.4%	52.6%	4.5%	1.5%	100.0%
		% within Mode of Transport	59.1%	37.6%	13.0%	40.0%	40.3%
		% of Total	16.7%	21.2%	1.8%	.6%	40.3%
	50 – 100	Count	27	55	12	1	95
		% within Quantity	28.4%	57.9%	12.6%	1.1%	100.0%
		% within Mode of Transport	29.0%	29.6%	26.1%	20.0%	28.8%
		% of Total	8.2%	16.7%	3.6%	.3%	28.8%
	101 – 150	Count	4	20	6	1	31
		% within Quantity	12.9%	64.5%	19.4%	3.2%	100.0%
		% within Mode of Transport	4.3%	10.8%	13.0%	20.0%	9.4%
		% of Total	1.2%	6.1%	1.8%	.3%	9.4%
	Above 150	Count	7	41	22	1	71
		% within Quantity	9.9%	57.7%	31.0%	1.4%	100.0%
		% within Mode of Transport	7.5%	22.0%	47.8%	20.0%	21.5%
Total		% of Total	2.1%	12.4%	6.7%	.3%	21.5%
		Count	93	186	46	5	330
		% within Quantity	28.2%	56.4%	13.9%	1.5%	100.0%
		% within Mode of Transport	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	28.2%	56.4%	13.9%	1.5%	100.0%

ANNEX TABLE 36

**Cross Tabulation: Mode of Transport & Number of Vegetables Sold**

		No. of Vegetables Sold							Total
		1	2	3	4	5	6	7	
Mode of Transport	Own Vehicle	<b>Count</b>	<b>38</b>	<b>31</b>	<b>15</b>	<b>6</b>	<b>3</b>		<b>93</b>
		% within Mode of Transport	40.9%	33.3%	16.1%	6.5%		3.2%	100.0%
		% within Veg. Sold Today	36.9%	33.3%	17.6%	16.7%		60.0%	28.2%
		% of Total	11.5%	9.4%	4.5%	1.8%		.9%	28.2%
	Town Bus	<b>Count</b>	<b>56</b>	<b>51</b>	<b>45</b>	<b>25</b>	<b>6</b>	<b>2</b>	<b>186</b>
		% within Mode of Transport	30.1%	27.4%	24.2%	13.4%	3.2%	1.1%	100.0%
		% within Veg. Sold Today	54.4%	54.8%	52.9%	69.4%	85.7%	40.0%	56.4%
		% of Total	17.0%	15.5%	13.6%	7.6%	1.8%	.6%	56.4%
	Rented Vehicle	<b>Count</b>	<b>9</b>	<b>9</b>	<b>23</b>	<b>5</b>			<b>46</b>
		% within Mode of Transport	19.6%	19.6%	50.0%	10.9%			100.0%
Tb & Ov		% within Veg. Sold Today	8.7%	9.7%	27.1%	13.9%			13.9%
		% of Total	2.7%	2.7%	7.0%	1.5%			13.9%
		<b>Count</b>		<b>2</b>	<b>2</b>		<b>1</b>		<b>5</b>
		% within Mode of Transport		40.0%	40.0%		20.0%		100.0%
		% within Veg. Sold Today		2.2%	2.4%		14.3%		1.5%
Total		% of Total		.6%	.6%		.3%		1.5%
		<b>Count</b>	<b>103</b>	<b>93</b>	<b>85</b>	<b>36</b>	<b>7</b>	<b>5</b>	<b>330</b>
		% within Mode of Transport	31.2%	28.2%	25.8%	10.9%	2.1%	1.5%	100.0%
		% within Veg. Sold Today	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	31.2%	28.2%	25.8%	10.9%	2.1%	1.5%	100.0%

ANNEX TABLE 37

**Relationship Test – Chi-Square Analysis**

	Value	df	Asymp. Sig. (2-sided) <sup>a</sup>
Pearson Chi-Square	41.659	18	0.001
Likelihood Ratio	40.985	18	0.002
Linear-by-Linear Association	8.842	1	0.003
Valid Cases	330		

<sup>a</sup> 16 cells (57.1%) have expected count less than 5. The minimum expected count is .02.

ANNEX TABLE 38

**Relationship Test : Correlation Coefficient**

		Value <sup>a</sup>	Asymp. Std. Error <sup>b</sup>	Approx. T <sup>c</sup>	Approx. Sig.
Interval by Interval	Pearson's R	0.164	0.051	3.010	0.003
Ordinal by Ordinal	Spearman Correlation	0.199	0.051	3.680	0.000
Valid Cases		330			

<sup>a</sup> Not assuming the null hypothesis.

<sup>b</sup> Using the asymptotic standard error assuming the null hypothesis.

<sup>c</sup> Based on normal approximation.

ANNEX TABLE 39

**Relationship Test-Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided) <sup>a</sup>
Pearson Chi-Square	218.404	12	0.000
Likelihood Ratio	158.398	12	0.000
Linear-by-Linear Association	88.790	1	0.000
Valid Cases	330		

<sup>a</sup> 12 cells (60.0%) have expected count less than 5. The minimum expected count is .12.

ANNEX TABLE 40

**Relationship Test - Correlation Coefficient**

		Value <sup>a</sup>	Asymp. Std. Error <sup>b</sup>	Approx. T <sup>c</sup>	Approx. Sig.
Interval by Interval	Pearson's R	0.519	0.045	11.011	0.000
Ordinal by Ordinal	Spearman Correlation	0.503	0.051	10.526	0.000
Valid Cases		330			

<sup>a</sup> Not assuming the null hypothesis.

<sup>b</sup> Using the asymptotic standard error assuming the null hypothesis.

<sup>c</sup> Based on normal approximation.

ANNEX TABLE 41

**Cross Tabulation: Mode of Transport and Distance**

			DISTANCE					Total
			Below 10	11-30	31- 50	51- 70	Above 70	
Mode of Transport	Own Vehicle	Count	67	23	3			93
		% within Mode Of Transport	72.0%	24.7%	3.2%			100.0%
		% within Distance	56.3%	13.0%	25.0%			28.2%
		% of Total	20.3%	7.0%	0.9%			28.2%
	Town Bus	Count	43	136	6		1	186
		% within Mode Of Transport	23.1%	73.1%	3.2%		.5%	100.0%
		% within Distance	36.1%	76.8%	50.0%		7.1%	56.4%
		% of Total	13.0%	41.2%	1.8%		0.3%	56.4%
	Rented Vehicle	Count	8	16	1	8	13	46
		% within Mode Of Transport	17.4%	34.8%	2.2%	17.4%	28.3%	100.0%
		% within Distance	6.7%	9.0%	8.3%	100.0%	92.9%	13.9%
		% of Total	2.4%	4.8%	0.3%	2.4%	3.9%	13.9%
	TB & OV	Count	1	2	2			5
		% within Mode Of Transport	20.0%	40.0%	40.0%			100.0%
		% within Distance	0.8%	1.1%	16.7%			1.5%
		% of Total	0.3%	0.6%	0.6%			1.5%
Total		Count	119	177	12	8	14	330
		% within Mode Of Transport	36.1%	53.6%	3.6%	2.4%	4.2%	100.0%
		% within Distance	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	36.1%	53.6%	3.6%	2.4%	4.2%	100.0%

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