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## **Value Chain in Poverty Alleviation — A Model for Institutional Initiatives for Organizing and Capacity Building of Farm Work Force**

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### **Abstract**

This paper has looked into the concept of value chain system in a different perspective, viewing capacity building of farm workers similar to human resource development. The agricultural sector, which was agricultural labour surplus has become labour deficit due to its migration to non-agricultural sector for better employment and higher income. On the other side, in the total cost of cultivation of paddy (Cost  $A_1$ ), almost 50 percentage has been the labour cost. Under this situation, Kerala Agricultural University (KAU) initiated a novel programme in 2008 with the aim of effective utilization of educated unemployed youth of Kerala for promoting mechanization in paddy farming by constituting a group called Food Security Army (FSA). The intervention to organize, train and assure the supply of labour to the agricultural sector has resulted in better living conditions of the FSA members. Apart from considerable socio-economic upliftment of these members, the intervention could facilitate the increase in the coverage of paddy cultivation in Kerala. The annual income per member upon joining FSA has been found one-and-a-half times of what they were earning earlier, from Rs 333/day (average for male and female) to Rs 448/day (up by nearly 35%). On hourly basis the rise has been found 20 per cent which is due to difference in work hours per day. Further, they could get work for 7 (range of 6-9) months in a year, which is up by 17 per cent. Though the current signals project a prospective future, some potential threats are to be considered. The programme has created additional income for their better livelihood, but in some cases it may prompt them to leave the profession to move up further on the economic and social ladder. Therefore, there should be a continuing programme to build up the capacity to make good of the exit.

### **Introduction**

The concept of value chain in agricultural production is generally centered on raw materials. But, one of the important inputs in the production process, viz. farm labour is often left out of the ambit of this concept. At the same time, labour shortage in agriculture is being reported as one of the most important problems. Historically, the agricultural labour force was constituted by the lowest sections of the social order who lived in penury and deprivation. There are several reports on the decreasing work force in agriculture. The predominance of aged people in the agriculture labour group and the shrinking base of skilled labourers in the

sector are the major constraints in agricultural output in Kerala. The preference for skilled or unskilled work in the secondary and tertiary sectors, compared to the primary sector is one of the major reasons for this decline. Added to this is the growing outmigration to other places, states or countries.

This paper has looked into the concept of value chain system in a different perspective, viewing farm worker capacity building similar to human resource development. The paper has analysed the impact of such an institutional initiative in adding value by organizing, capacity building through training and institutionalizing the supply of the most critical input in farming, viz. farm labourers, to their household welfare.

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## The Crisis

Kerala state is facing a severe paddy crisis caused by large-scale reclamation of agricultural land for construction and an acute shortage of farm workers. According to the State Planning Board, Kerala lost over 500,000 hectares of paddy fields between 1980 and 2007. The harvest almost halved to 630,000 tonnes during this period, severely threatening Kerala's food security. Currently, the state is able to produce only 20% of the food grain requirement, and is heavily depending on trade.

Agriculture used to be the major source of employment for both men and women in a Kerala village. But, the proportion of male labour in the agricultural sector has declined over time because of outmigration for better employment and higher wages (Thresia, 2004). In 1981, the agricultural labour constituted 28.23 per cent of main workers, which drastically fell to 16.07 per cent in 2001. Traditionally, Kerala economy is agro-based and a major proportion of women in the labour force work in agriculture and traditional industries like cashew, coir, and handloom. Mounting casualization of work, falling incomes, and increasing insecurity of employment are real threats endangering the interests of women in the agricultural sector. According to Eapen (1994), the accelerated shift towards cash crops associated with the commercialization process has reduced employment opportunities for women in the agricultural sector. On an average, a woman gets three-and-half months of work in a year, indicating a state of severe under-employment in the agriculture sector in Kerala.

At the same time, most of the field crops of Kerala are labour-intensive. For instance, of the total cost of cultivation (Cost A<sub>1</sub>) of paddy, almost 50 percentage is labour cost (GoK, 2007). On an average, one hectare of paddy farming requires 200-250 humandays labour, most of which should be skilled in nature. This sector, however, is constrained by assured and adequate supply of both skilled and unskilled workforce.

While there is a severe shortage of agricultural labour, the unemployment rate in Kerala is growing at an alarming rate (GoK, 2009). The work participation rate has declined. According to the 2001 Census, the number of agricultural workers in Kerala was around 16.2 lakh which is more than twice the number of cultivators (7.2 lakh). Close to three-fourths is in rural

areas and nearly half of them are female workers. The occupation-wise distribution of employment has indicated that 62 per cent of the workers are engaged in agriculture, 11 per cent in industry and 27 per cent in the service sector. The work participation rate (WPR) for men and women as per 2001 Census was 50.4 per cent and 15.3 per cent, respectively. A vast majority works in the unorganized, or informal sector, mostly in conditions of partial employment are often without adequate access to decent wages or social security protection.

## The Approach

It was under this background that an institutional intervention was planned and implemented by Kerala Agricultural University (KAU) in the year 2008. The programme aimed at effective utilization of educated unemployed youth of Kerala for promoting mechanization in paddy farming by forming a 'Food Security Army' (FSA). This win-win situation was designed as a 22-day training module on running and repairing of transplanting machines with only 20 hours of classroom lectures. The remaining 155 hours were spent in the field on practical lessons. Apart from machinery operations, the trainees were taught to raise mat nurseries and master the intricacies of methodical paddy cultivation. The farmers' cooperative banks and block panchayats began buying the transplanting machines for renting out to these workforces. To make this workforce sustainable and systematic, they were encouraged to form societies called 'Agro Machinery Operation Service Centres' (AMOSC). Each trainee was called an Agro Machinery Operation Service Executive (AMOSE). To speed up capacity building, training was started outside the KAU campus. A Mobile Agro Machinery Training Unit (MAMTU) was constituted for this purpose which helped expedite the process.

This study was conducted to assess the impact of this intervention on the members of FSA and has highlighted the problems and prospects of such an initiative. A sample of 38 members was randomly contacted and the information was gathered through a structured schedule, through personal interview method.

## Results and Discussion

The general background of the respondents with respect to age and education is furnished in Tables 1 and 2, respectively.

**Table 1. The number respondents in different age groups**

Age group (year)	Male	Female	Total
Below 40	9 (33.33)	8 (72.73)	17 (44.74)
40-50	13 (48.15)	2 (18.18)	15 (39.47)
50-60	5 (18.52)	1 (9.09)	6 (15.79)
Total	27 (100)	11 (100)	38 (100)

*Note:* Figures within the parentheses are percentages to total

**Table 2. Educational status of respondents in Kerala**

Education	Male	Female	Total
Lower primary	1 (3.70)	Nil	1 (2.63)
Upper primary	7 (25.93)	1 (9.09)	8 (21.05)
High school	14 (51.85)	6 (54.55)	20 (52.63)
Pre-degree	3 (11.11)	3 (27.27)	6 (15.80)
Degree	1 (3.70)	1 (9.09)	2 (5.26)
Technical course	1 (3.70)	Nil	1 (2.63)
Total	27 (100)	11 (100)	38 (100)

*Note:* Figures within the parentheses are percentages to total

The majority of workers (45%) were in the younger age group of less than 40 years, followed by the age group of 40-50 years (39.5%). Of the total sample, 71 per cent were male members of which nearly 50 per cent were in the age group of 40-50 years. One-third of them were of less than 40 years and the rest were 50 to 60 years old. Contrary to this, nearly three-fourths of the women workers were in the age category of less than 40 years. The higher representation of younger people in the group reflects the social acceptability and prospects of better efficiency in their work. At the same time, this indicates the non-suitability or poor acceptance of the technology among the older population.

Education level of individuals has a direct bearing on the work efficiency and skill development. It was more important in the case of machine operation and management. More than half of the respondents had studied upto high school level and the female literacy was found to be more than that of the male counterparts. This is not surprising as the literacy level in Kerala is very high and the sex ratio is also favourable. Generally, the transplanting work is taken up by the group upon request from padasekhara samities (association of farmers who own land in any particular padasekharam, which is a continuous stretch of paddy

**Table 3. Impact of KAU programme on the employment and income of FSA members**

	Before joining FSA	After joining FSA	Change, %
Wage per hour (Rs)	41.63	49.77	19.55
Wage per day (Rs)	333	448	34.53
Hours of work/ day	8	9	12.5
Days of work/week	6	6	0
Months of work/year	6	7	16.66
Average annual income	11988	18816	57

land) in the respective areas. The rate and approximate time for the work is fixed in advance.

### Employment and Income

Prior to joining the group, the members were working largely as casual workers, mainly in non-agricultural sector such as service, manufacturing or construction, wherein the employment was not assured. They were earning Rs 333 per day (average for male and female) which was up by nearly 35 per cent after joining the group (Table 3). On an hourly basis, the difference was 20 per cent, which was due to difference in work hours per day. They are working nine hours a day in FSA as against 8 hours previously. Further, they had employment for full 7 (range of 6-9) months in a year, which was 17 per cent more. Even though the transplanting activity is seasonal in nature, the number of days of employment was more due to difference in planting time in different parts of the district.

Thus, the annual income after joining FSA was Rs 18,816, which is one and a half times of what they were earning earlier. Further, the social recognition, and personal esteem became high, because the job involved collective action and a steady income.

### Household Welfare Impacts

The additional income earned was reflected as better quality of living in terms of quality of food and other living standards. We could not measure the exact change in the food consumption pattern. Further, the respondents were also apprehensive in disclosing the changes in their asset position and livelihood standards. However, a majority of respondents (99%) stated to have specific changes with respect to asset creation, repayment of earlier debts or better living conditions (Table 4).

**Table 4. Impact of the KAU programme on household welfare**

Activities	Respondents percentage
Repayment of earlier debts	26.0
Savings/Risk management	19.5
Education of children	6.5
Asset creation (durable household goods)	21.5
Health care	5.5
Others	21.0

As is evidenced from the analysis, the income and asset position of the workers had improved substantially, after their joining in the group. The augmented income helped the labourers to clear-off their earlier debts (26%) and enhance savings through Recurrent Deposits (19.5%) or insurance policies. Different types of assets had been created, such as gold, land and house by some 21.5 per cent respondents. Household durable goods like television, refrigerators and vehicles were also purchased. Six per cent stated that the additional income had helped them to make further investments in education of their children. These data reflects only the lower bound of values of impacts, due to reasons cited.

### The Challenges

The organisational intervention in the farm sector was found to be a mutually beneficial arrangement, with much wider social dimension. But, some important issues were also to be addressed in this perspective. The occupational risk associated with farm works is to be taken care of and appropriate labour welfare schemes are to be introduced. The chances of injuries, and other health damages associated with machinery operation and farm work in general needs to be compensated. The prospects of introducing health insurance schemes may be explored to protect against such risks. Since a good proportion of women workers are also involved in the mechanism, the gender-specific health care requirements need to be properly addressed.

It has been found that the programme had created additional income enough to make qualitative and commendable improvements in the livelihood of farm workers. This may prompt them to leave the profession as they may further move up in the economic and social ladder. Anticipating this, there should be a regular

programme on capacity building to make good of the exit.

The success of the programme was largely on account of the personal managerial capacity of the KAU scientists, which is not expected to continue for ever. In that perspective, there should be an alternative, simultaneous capacity building arrangement for management abilities for the selected members within a group so that there is continuity in performance and sustained functioning. Further, the time of exit of the facilitating agency (here KAU) is to be decided in advance, so that the group may function of its own at the earliest. This type of model will facilitate to emulate the system elsewhere, irrespective of locational, technical and socioeconomic differences

### Conclusions

The institutional intervention by KAU to organize, train and assure the supply of labour to the agricultural sector has resulted in better living conditions of the members. Their employment opportunities and income are better and the social recognition and acceptability are higher. Simultaneously, intervention could facilitate to increase the coverage of paddy cultivation, as well. Though the current signals project a prospective future, some potential threats are to be considered, while we plan for sustainable and steady performance of the system. The model is flexible in its structure and hence can be emulated under all socioeconomic settings with suitable modifications. A few suggestions to further improve the efficiency and efficacy of the system have also been discussed.

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