

CHAPTER: 5

Impact of Cluster Development Programme in Handicrafts Sector of Tripura

- 5.1. Impact study based on 'Before and After Approach'.
- 5.2. Impact study based on 'With or Without Approach'.
- 5.3. Statistical Analysis.

CHAPTER: 5

Impact of Cluster Development Programme in Handicrafts Sector of Tripura

The impact of cluster depends on the benefit derived from the introduction of cluster approach. In the present study two methods namely, 'Before and After Approach' and 'With or Without Approach' are applied to study the impact of clusters in handicraft sector of Tripura.

5.1. Impact study based on 'Before and After Approach':

The 'Before and After' Approach method is a popular method to study the impact in social science research. This method is applied to make the impact of Cluster Development Programme in handicraft sector of Tripura in the present study. It is observed in the field study that out of 192 sampled artisans as participant of sampled clusters area, 98 artisans have been performing their entrepreneurial activities in handicraft sector since 1980 i.e. before the introduction of cluster approach. Their entrepreneurial status, in the regime of cluster approach is compared with before the introduction of cluster approach. Considering the UNIDO prescribed indicators, the impact study of cluster approach is made in the present study. The indicators of positive impact of cluster on entrepreneurship include increasing revenues, reducing dependence on single trader/market, increasing formal training/skill, increasing access to credit, better information and contacts, less discrimination, improved governance. In the light of the above indicators, effort is made to study the impact of the clusters in the present study.

Comparison in respect of number of artisans:

Table: 5.1
Number of Respondents artisans

| | Before Cluster Approach | After Cluster Approach | | |
|--------|-------------------------|------------------------|-----|-------|
| | No of Artisans | No of Artisans | | |
| | | Old | New | Total |
| Male | 17 | 17 | 21 | 38 |
| Female | 81 | 81 | 73 | 154 |
| Total | 98 | 98 | 94 | 192 |

Source: Source Field Study

The table 5.1 mirrors that out of 192 sampled artisans; only 98 artisans, i.e. 51% of total sampled artisans are found to be engaged in entrepreneurial activities in handicraft sector before the introduction of cluster approach. Out of 98 artisans 17 are male and 81 are female. After introduction of cluster approach total number of artisans is increased by 49%. It denotes that the introduction of cluster approach had made the positive entrepreneurial environment which is capable to attract new entrants in the field of handicraft sector under the umbrella of cluster approach. The increasing growth rate in number of artisans is observed after the introduction of cluster approach for both male as well as female artisans. The growth rate in number of artisans is found to be high for male artisan who stands to 123% and for female it is 47%. In this respect it is to be said that cluster facilitating entrepreneurial environment promotes to increase the start up rate of entrepreneurship in the sampled cluster area.

Table: 5.2

Artisans by Caste in Sampled Clusters: a comparison between
Before' and 'After' Cluster Approach

| Category | Before Cluster Approach | | After Cluster Approach | |
|----------|-------------------------|---------------|------------------------|---------------|
| | No of artisans | % of artisans | No of artisans | % of artisans |
| ST | 1 | 1.0 | 2 | 1 |
| SC | 29 | 29.6 | 88 | 45.8 |
| OBC | 59 | 60.2 | 84 | 43.8 |
| General | 09 | 9.2 | 18 | 9.4 |
| Total | 98 | 100 | 192 | 100 |

Source Field Study

The observation relating to category of artisans in sampled clusters reflects that handicrafts activities are dominated by Schedule caste and Other Backward classes which stand to about 45.8% and 43.8 % respectively of total sampled artisans in the regime of cluster approach. Only 1% artisans belong to ST category and 9.4% remains for General category. The percentage of ST Category artisans is found to be remained same and in General Category artisans it is only increased from 9.2% to 9.4% in the regime of cluster approach. Their share in entrepreneurial activities in sampled clusters is not found to be encourageable. The appreciable increasing rate is observed in SC category artisans, which has increased from 29.6 % in before

cluster approach to 45.8% in after cluster approach. The share of OBC category of artisan’s entrepreneurial activities in sampled clusters is observed highest before the introduction of cluster approach and their participation in the regime of cluster is decreased to 43.8% from 60.2 % in ‘Before Cluster Approach’. The increasing rate of SC artisans implies that cluster facilitates to encourage financially and socially backward people towards entrepreneurship which in turn promote the inclusive entrepreneurship.

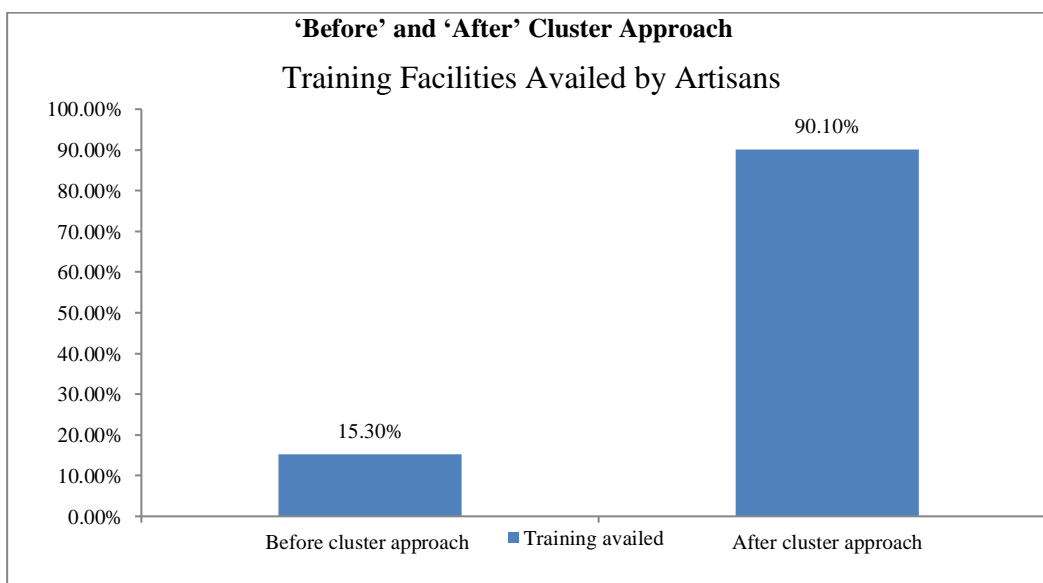
Table: 5.3

Training Facilities Aailed by Artisans: a comparison between Before’ and ‘After’ Cluster Approach

| Training | Before Cluster Approach | | After Cluster Approach | |
|----------|-------------------------|---------------|------------------------|---------------|
| | No of artisans | % of Artisans | No of artisans | % of Artisans |
| No | 83 | 84.70 | 19 | 9.9 |
| Yes | 15 | 15.30 | 173 | 90.1 |
| Total | 98 | 100 | 192 | 100 |

Source Field Study

Chart -5.1



Source: Field Study

This table 5.3 mirrors that only 15.30% sampled artisans availed training facilities before introduction of the cluster approach. The cluster approach has dilated the scope of training facilities through the soft intervention to the sampled artisans which has extended to 90.1% sampled artisans after introduction of cluster

approach from 15.30% in before cluster approach. The increasing trend of training facilities availed by artisans in the regime of sampled clusters area which in turn promotes the entrepreneurial activities. The provision of training, as soft intervention of cluster development programme (CDP) was also noticed from the study of UNIDO Methodology of CDP. Government of India through different schemes has provided the training facilities for skill up-gradation to the artisans of artisanal clusters.

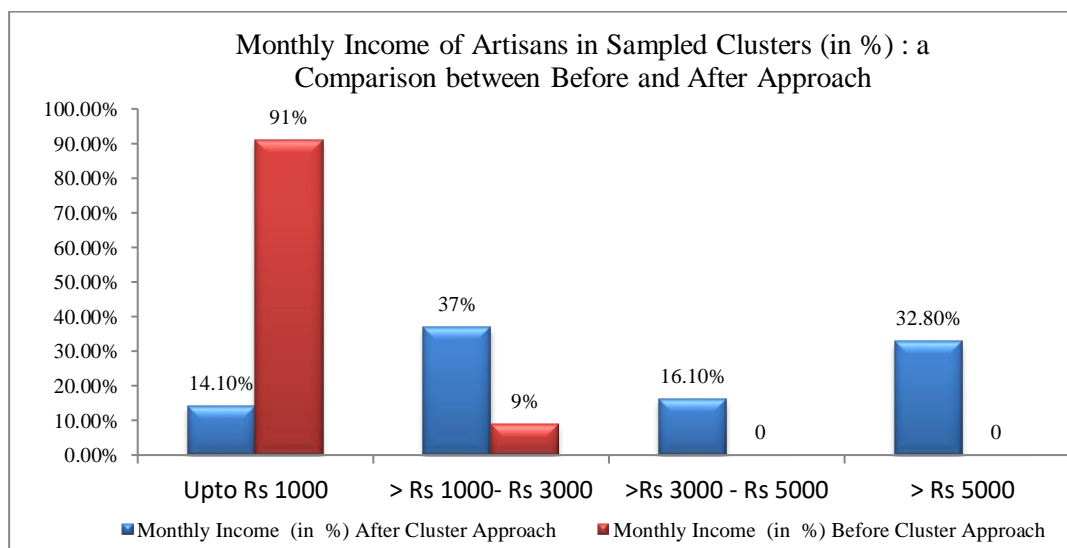
Table: 5.4

Monthly Income (in Rs) of artisans from Handicraft: a comparison between 'Before' and 'After' Cluster Approach

| Monthly Income from Handicraft(in Rs) | Before Cluster Approach | | After Cluster Approach | |
|---------------------------------------|-------------------------|--------------|------------------------|--------------|
| | No of artisans | % of artisan | No of artisan | % of artisan |
| UptoRs 1000 | 89 | 91 | 27 | 14.1 |
| >Rs 1000- Rs 3000 | 9 | 9 | 71 | 37.0 |
| >Rs 3000-Rs 5000 | NIL | Nil | 31 | 16.1 |
| >Rs 5000 | NIL | Nil | 63 | 32.8 |
| Total | 192 | 100 | 192 | 100.0 |

Source: Field Study

Chart -5.2



Source: Field Study

It is revealed from the above table 5.4 and chart that monthly income of artisans before cluster approach is found to be very much confined to the range of income within Rs1000. Out of 98 artisans, 89 artisans monthly income from handicraft is limited within the range of Rs 1000 per month and only 9 artisans' monthly

income exceeds Rs 1000 and limited within the range of Rs 1000 – Rs 3000. In the regime of clusters the 32.8% artisan’s monthly income exceeds Rs 5000 and about 49% of total sampled artisan’s monthly income exceeds Rs 3000. It is important to note here that according to Economic Review, Government of Tripura, 66.86% families is BPL in this state. Under such a scenario the income of artisans of handicraft sector is not to be said un-satisfactory.

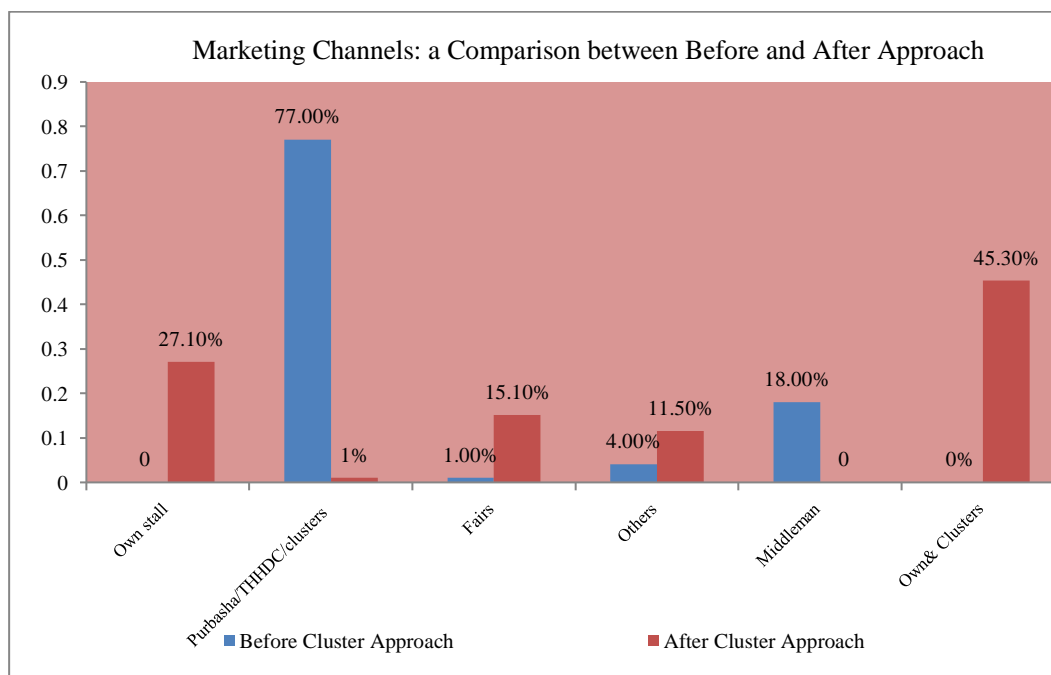
Table: 5.5

Channels of Marketing: a Comparison between Before and After Approach

| Marketing Channel | Before Cluster Approach | | After Cluster Approach | |
|---------------------|-------------------------|--------------|------------------------|--------------|
| | No of artisans | % of artisan | No of artisan | % of artisan |
| Own Stall | | Nil | 52 | 27.1 |
| THHDC | 75 | 77 | 2 | 1.0 |
| Own stall & Cluster | Nil | Nil | 89 | 45.3 |
| Others | 4 | 4 | 22 | 11.5 |
| Own Stall & Fair | 1 | 1 | 29 | 15.1 |
| Middleman | 18 | 18 | Nil | Nil |
| Total | 98 | 100 | 192 | 100 |

Source: Field Study

Chart -5.3



Source: Field Study

Chart -5.3 reveals that before the adoption of cluster approach there was a limited scope to artisans in regard to the marketing channel. About 77% artisans depended on Purbasha, a Government of Tripura sponsored sales counter, monitored by THHDC. There was no scope to 18% artisans to marketise their product but forced to sell it to the middleman and 1% artisans was was capable to use Fairs as marketing channel. But cluster approach opens up the door of different channel of marketing to the artisans. It is noticed from the chart that only 1% and 45.3% artisans used 'own and cluster' as marketing channel. The rest of 54% used marketing channel other than 'cluster'. 15.1% and 11.5% artisans used the 'fair' as marketing channel and 'others' which includes subcontractors as marketing channel. In this study, the artisans under the umbrella of cluster approach find the new market by using different marketing channel, the scope of which is expanded in the regime of cluster approach. Before the cluster approach, Artisans have been producing their handicraft products depending on the demand of local market. But as bamboo and cane handicraft products are artistic and decorative in nature, the demand of the said products is very limited in the state of Tripura where 66.86 families are BPL category; the only marketing channel then was 'Purbasha', the sales counter of THHDC, a Government of Tripura enterprise. In the regime of cluster approach, the *social networks of artisans* has been increased, and increasing social net works has opened –up the doors of new marketing channel to the artisans/ entrepreneurs which, in the word of Schumpeter is the basic feature of entrepreneurship. The prevailing phenomenon also fulfils the UNIDO prescribed indicators where it is said that reduction of dependency on single market implies the positive impact of cluster.

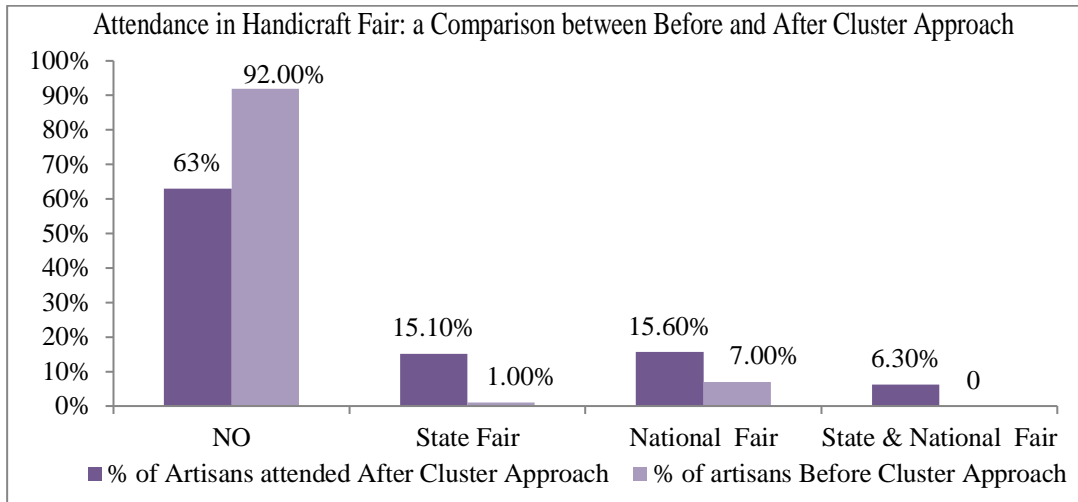
Table: 5.6

Attendance in Handicraft Fair: a Comparison between Before and After Cluster Approach

| Fairs | Before Cluster Approach | | After Cluster Approach | |
|------------------|-------------------------|---------------|------------------------|---------------|
| | No of artisans | % of artisans | No of artisans | % of artisans |
| NO | 90 | 92 | 121 | 63 |
| State | 1 | 1 | 29 | 15.1 |
| National | 7 | 7 | 30 | 15.6 |
| State & National | Nil | Nil | 12 | 6.3 |
| Total | 98 | 100.0 | 192 | 100 |

Source Field Study

Chart -5.4



Source Field Study

It is also observed from the chart 5.4 that 37% artisans attended the handicraft fair which implies the increasing rate of marketing connectivity. Before the inception of cluster approach there was no organised formal platform to the artisans but cluster approach provided a platform to the artisans to show their creativity in the national market as well as capitalise the national market as a fruitful channel of marketing. It is reported in the field study that artisans / entrepreneurs have attended national fair in the states like, Bangalore, Hyderabad, Gujarat, Delhi, Chennai, Mumbai, Jammu & Kashmir, and Kerala etc. The international and national fair as marketing channel not only helps in increasing the sales but to enhance the social networks. Cluster approach has opened-up the door of social networks to the artisans/ entrepreneurs. It is reported that before cluster approach only 7% artisans was in a position to avail the opportunity in attending handicraft fair in national level and 1% artisan attended state level fairs. The attendance in handicraft fairs is increased from 8% to 37% in the regime of cluster approach. The 15.1% and 15.6% artisans out of the above 37% artisans attended State and National level fair respectively and 6.3% artisans attended both State and National level fair. The improving technical and entrepreneurial skills of artisans are required to face the challenges of changing demand of national market. The increasing trend in attendance of handicraft fair thus clearly indicates the

improving level of entrepreneurial skill which in turn promotes the better entrepreneurial environment in handicraft sector in the regime of cluster approach.

Table-5.7
Sources of Raw Materials: a Comparison between Before and After Cluster Approach

| Sources of supply of Raw Materials | Before Cluster Approach | After Cluster Approach |
|------------------------------------|-------------------------|------------------------|
| | % of Artisans | % of Artisans |
| Own | 100 | 86.5 |
| Own & cluster | Nil | 10.9 |
| Others | Nil | 2.6 |
| Total | 100.0 | 100 |

Source Field Study

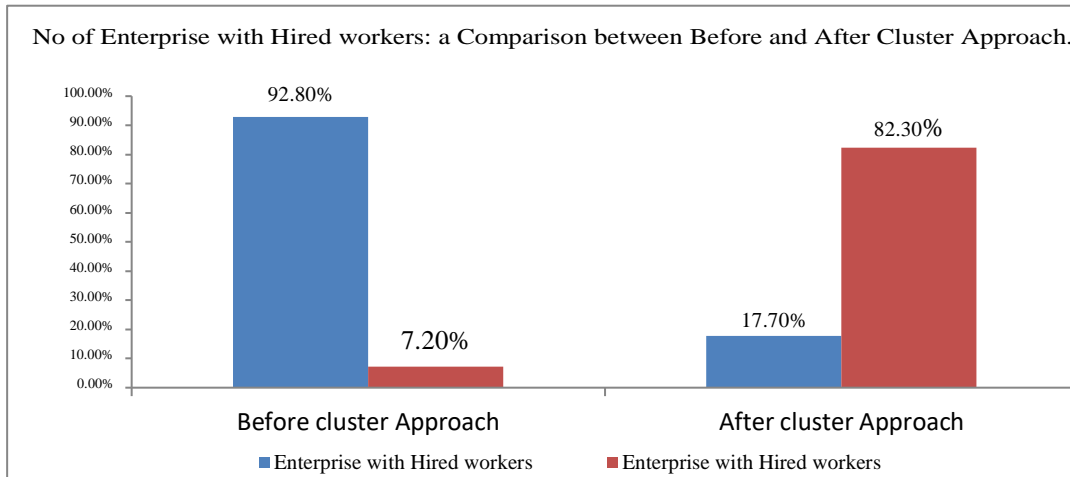
The table 5.7 mirrors the sources of supply of raw materials used by artisans in the period of before and after introduction of cluster approach. It is noticed that 86.5% artisans used raw materials from their own sources after introduction of cluster approach as compared to 100 % in before introduction of CDP. 10.9% used raw materials from the source of both own and cluster after introduction of cluster approach and the rest of 2.6% artisans used others sources namely from the middleman or sub-contractors. The scenario relating to sources of supply of raw materials indicates that besides own sources, artisans are in a position to avail the benefit of the sources of raw materials from the clusters and others also which may create positive effect in the direction of continuation of production activities.

Table-5.8
No of Enterprise with Hired workers: a Comparison between Before and After Cluster Approach.

| Enterprises | Before Cluster Approach | | After Cluster Approach | |
|----------------------|-------------------------|------------------|------------------------|------------------|
| | Enterprises | % of Enterprises | Enterprises | % of Enterprises |
| without Hired worker | 91 | 92.8 | 158 | 82.3 |
| with hired worker | 7 | 7.2 | 34 | 17.7 |
| Total | 98 | 100.0 | 192 | 100 |

Source: Field Study.

Chart: 5.5



Source: Field Study.

The chart-5.5 discloses the number of enterprises engaged their activities with hired workers has increased after introduction of cluster approach. The number of enterprises with hired workers is increased from 7.20 % in before cluster approach to 17.70% in after introduction of cluster approach. This is the positive notation towards the entrepreneurial activities in the sampled cluster area. The increasing trend of enterprises with hired workers indicates the expansion of business activities within the samplrd cluster area. It may be said to pertinent that the introduction of cluster approach has made the way of artisans more easy and viable in their journey of entrepreneurial activities in handicraft sector.

Table-5.9

Financial support for Product Development in Sampled clusters: a comparison between 'Before' and 'After' Cluster Approach

| Financial support | Before Cluster Approach | | After Cluster Approach | |
|-------------------|-------------------------|---------------|------------------------|---------------|
| | No of Artisans | % of Artisans | No of Artisans | % of Artisans |
| NO | 98 | 100 | 168 | 87.5 |
| Bank | -- | -- | 10 | 5.2 |
| THHDC | -- | -- | 1 | .5 |
| Middle Man | -- | -- | 2 | 1.0 |
| Others | -- | -- | 11 | 5.7 |
| Total | 98 | 100.0 | 192 | 100.0 |

Source: Field study

This table-5.9 highlights the low level of financial support to the artisans in the regime of cluster approach and no financial support to the artisan at all before the introduction of cluster approach. The scenario in terms of financial support is increased but only 12.4 % sampled artisans are allowed financial support after cluster approach. In the field study it is observed that there is a little or no scope to the artisans/entrepreneurs in availing the loan facilities from the nationalized/ cooperative banks even NEDFI due to the inability of artisans in regard to provide security money / mortgage or a government employee as guarantor.

Table-5.10
Benefit Derived from Backward Linkage in Sampled Clusters: a comparison between 'Before' and 'After' Cluster Approach

| Benefit Derived | Before Cluster Approach | | After Cluster Approach | |
|--------------------------------|-------------------------|---------------|------------------------|---------------|
| | No of Artisans | % of Artisans | No of Artisans | % of Artisans |
| Credit purchase | -- | --- | 10 | 5.2 |
| Minimisation of Transport Cost | --- | ---- | 133 | 69.3 |
| Extension of payment period | --- | ---- | 4 | 2.1 |
| No | 98 | 100 | 45 | 23.4 |
| Total | 98 | 100 | 192 | 100.0 |

Source: Field study

It is found in table 5.10 that no benefit is derived to the artisans before the introduction of cluster approach. Cluster approach promotes some benefit as backward linkages in the sampled clusters. There are 23% artisans without availing any benefit from backward linkage run their business and the benefit of minimization of transport cost, derived from clusters area as backward linkage is availed by 69.3% artisans of sampled clusters. The different literatures argued in favour of the benefits of clusters, for which the concentration of industrial units take place within this area, and performing well. The one of major benefit derived from cluster is minimization of cost of transportation. The observation of this study is similar to this line. In this context is appropriate to say that clusters do provide benefits to the sampled clusters operational areas.

Table-5.11
Benefit Derived from Forward Linkage in Sampled Clusters a comparison between
‘Before’ and ‘After’ Cluster Approach

| Benefit Derived | Before Cluster Approach | | After Cluster Approach | |
|----------------------------------|-------------------------|---------------|------------------------|---------------|
| | No of Artisans | % of Artisans | No of Artisans | % of Artisans |
| Credit Sales | -- | --- | 10 | 5.2 |
| Minimisation of Transport Cost | --- | ---- | 151 | 78.6 |
| Reduction of Collection Period | --- | ---- | 16 | 8.3 |
| Price Negotiation with Customers | | | 01 | 0.5 |
| No | 98 | 100 | 14 | 7.3 |
| Total | 98 | 100 | 192 | 100.0 |

Source: Field study

The table 5.11 reveals that no benefit is derived as Forward Linkage in Sampled Clusters to the artisans before the introduction of cluster approach. The artisans in sampled cluster areas find the opportunity as Forward Linkage in the regime of cluster. 78.6% artisans of sampled clusters run their business in cluster area availing the benefit of minimization of transport cost, derived from clusters area as forward linkage. It is found in the field study that there is minimum number of artisans who produced the complete finished product but part of the finished product and this part product is sold to other artisans to make it a complete product. This type of phenomenon not only make the artisans specialized in a particular product but to make it convenient for marketing the said semi finished product within the cluster area without bearing any cost .

Table-5.12
Marketing Connectivity: a comparison between
‘Before’ and ‘After’ Cluster Approach

| Marketing Connectivity | Before Cluster Approach | | After Cluster Approach | |
|------------------------|-------------------------|--------------|------------------------|--------------|
| | No of artisan | % of artisan | No of artisan | % of artisan |
| Improved | ----- | -- | 135 | 70.3 |
| Stagnant | 98 | 100 | 57 | 29.7 |
| Total | 98 | 100 | 192 | 100.0 |

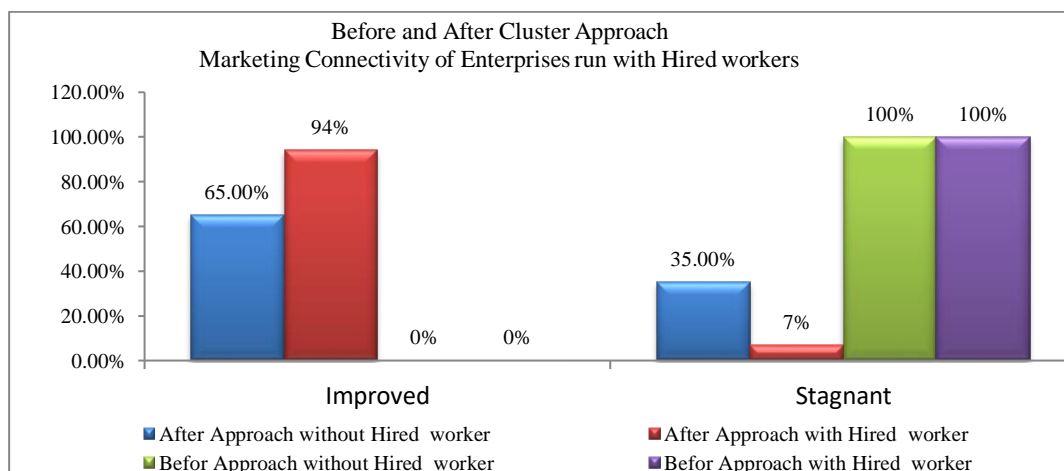
Source: Field study.

The table 5.12 mirrors that there was no scope to the artisans before the introduction of cluster approach in regard to marketing connectivity, 100% artisans forced to sell their product to the THHDC but after the cluster approach artisans find the scope to improve the marketing connectivity through participating the national fair, interaction with the traders available in clusters area.

Table-5.13
Marketing Connectivity in enterprises with hired workers: a comparison between 'Before' and 'After' Cluster Approach.

| Marketing Connectivity | Before Cluster Approach | | After Cluster Approach | |
|------------------------|--|-------------------------------------|--|-------------------------------------|
| | % of Enterprises Without hired Workers | % of Enterprises With hired workers | % of Enterprises Without hired Workers | % of Enterprises With hired workers |
| Improved | --- | -- | 65 | 94 |
| Stagnant | 100% | 100 | 35 | 6 |

Chart -5.6



The chart 5.6 discloses that there is no connectivity in respect of enterprises run with the hired workers and enterprises run without hired workers before introduction of cluster approach. The scenario is improved in the regime of cluster. The enterprises run with the hired workers are in better position in respect of availing marketing connectivity as per chart 5.6. 94% of the enterprises run with the hired workers are capable in improving marketing connectivity. The marketing connectivity in the regime of cluster is improved but improvement of marketing connectivity rates found to 65% for enterprises without hired workers. This rate is

lower than the enterprises with hired workers. It is also observed in the chart 5.6 that number of enterprises with hired workers is increased in the regime of clusters. In this context it may be appropriate to say that cluster approach enhances the marketing connectivity.

Table-5.14
Constraint Faced in Product Development After Cluster Approach

| Constraints | No of artisans | % of artisan |
|---------------------------------------|----------------|--------------|
| Competition | 6 | 3.1 |
| Low Return | 53 | 27.6 |
| Scarcity of Raw Material | 59 | 30.7 |
| Machine made Product | 2 | 1.0 |
| Low Return & Scarcity of Raw Material | 67 | 34.9 |
| others | 5 | 2.6 |
| Total | 192 | 100.0 |

Source: Field Study.

The table 5.14 reveals that scarcity of raw material and low return create hindrances to the artisans for the development of product. Most of the artisans are financially weak and not in a position to buy bulk of raw materials but depend on the local market and has to pay more for purchasing of the raw materials but the price of the items in local market has been remained same as was before ten years back. Such a position results low return to the artisans.

Table-5.15
Constraint in Handicraft Promotion: a comparison between
Before' and 'After' Cluster Approach

| Constraints | Before Cluster Approach | | After Cluster Approach | |
|----------------------------------|-------------------------|--------------|------------------------|--------------|
| | No of artisans | % of artisan | No of artisans | % of artisan |
| No Market | ---- | ---- | 1 | 0.5 |
| Lack of finance & Loan Facility | 50 | 51 | 167 | 87 |
| Lack of technical development | | | 3 | 1.6 |
| Lack of New technology & Finance | --- | ---- | 14 | 7.3 |
| Transportation | 3 | 3 | --- | --- |
| Finance & Transportation | 39 | 40 | ----- | --- |
| Others | 6 | 6 | 7 | 3.6 |
| Total | 98 | 100 | 192 | 100 |

Source: Field Study.

It is reported from the table 5.15 that constraint of finance is emerged as major problems to the artisans both in before the approach and after the approach. Before the cluster approach 91% artisans faced the finance as constraint and 40% artisans faced transportation constraint. In the regime of cluster, the scenario of removal of transportation constraint is observed but finance is emerged as major constraint which is slightly improved and stands to 87 %.Artisans opined in favour of technology constraint are found to be only 2.1 %. 7.3% artisans faced both technology and finance constraint. The finance constraint occurs due to complexity in bank finance. In this context it is pertinent to say that clusters facilitating supply of labour and providing ready market in the concerned area promotes entrepreneurship in the concerned cluster area.

5.2. Impact study based ‘With or Without Approach’:

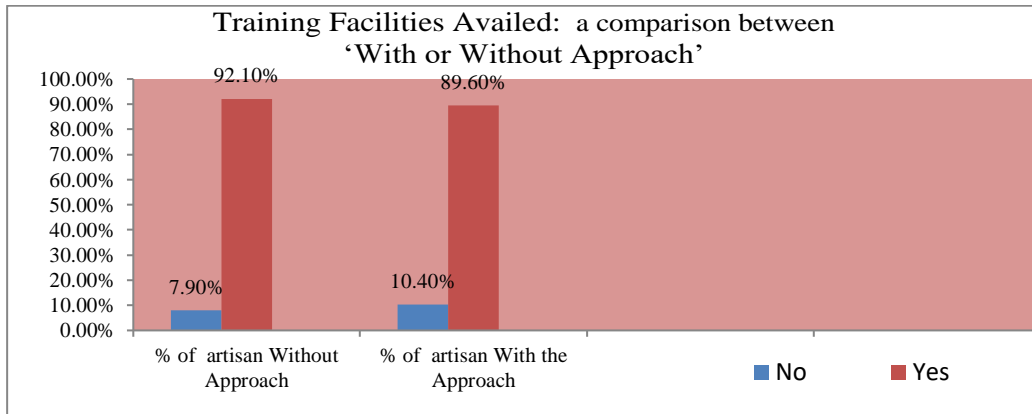
In the present study “With or Without Approach” is followed to assess the impact of cluster approach. Out of 192 sampled artisans as cluster participant, 154 female artisans are registered member of cluster and male artisans, who are not registered member of cluster and not directly get benefit from clusters but benefit accrue from clusters are availed by them, such members are 38 in number who are treated as nonregistered cluster participant of concerned cluster area. Effort is taken to make comparison between ‘female’ as registered cluster participant, who are considered as the constituent of ‘with the approach’ and ‘male’ as non-registered cluster participant considered as the constituent of ‘without the approach’ in respect of level of education, Training, use of different marketing channels, income and enterprise run with hired workers under the method of ‘With or Without Approach’

Table: 5.16
Training Facilities Availed: a comparison between
‘With or Without Approach’

| Trained | Without Approach | | With the Approach | |
|---------|--------------------|-------------------|----------------------|---------------------|
| | No of Male artisan | % of Male artisan | No of Female artisan | % of Female artisan |
| No | 3 | 7.9 | 16 | 10.40 |
| Yes | 35 | 92.1 | 138 | 89.6 |
| Total | 38 | | 154 | |

Source: Field survey

Chart -5.7



Source: Field survey

In the table 5.16 and chart it is highlighted that out of 38 male artisans 35 are trained which is 92.1% of total male artisans and only 7.9 %male artisans are found to be untrained. Out of 154 female artisans 138 are trained which is 89% of total female artisans and 10.4%female artisans are found to be untrained. It is clearly indicates that male artisans are in better position in their female counterpart in terms of training aailed. Though male artisans are not getting benefit from clusters directly in terms of training but they are trained from Bamboo and Cane Development Institute, Agartala, which has been organising training to the artisans since the inception of its office at Agartala.

Table: 5.17
Use of Marketing Channels: a comparison between
'With or Without Approach'

| Channel of Marketing | Without Approach | | With the Approach | | Total |
|----------------------|--------------------|-------------------|----------------------|-------------------|-------|
| | No of Male artisan | % of Male artisan | No of Female artisan | % of Male artisan | |
| Own Stall | 11 | 29 | 41 | 26.6 | 52 |
| Cluster | 0 | 0 | 2 | 1.2 | 2 |
| Others | 3 | 7.9 | 19 | 12.3 | 22 |
| Own stall & Cluster | 1 | 2.6 | 86 | 56.0 | 87 |
| Own Stall & Fair | 23 | 60.5 | 6 | 3.9 | 29 |
| Total | 38 | 100 | 154 | 100 | 192 |

Source: Field study.

In this table 5.17 it is found that male artisans are using different channel as marketing other than clusters. There is none in respect of male artisan who uses the cluster as only marketing channel in case of female 1.2% artisans depends to clusters to sell their product and 56% female artisans use clusters as channel beside their own stall. Only 2.6% artisans in case of male uses cluster as marketing channel besides their own stall. Other than clusters as marketing channel used by man is found 97.4%, in case of female it is observed that they are in a position to use 49.6% marketing channel other than clusters.

Table: 5.18
Monthly Income from Handicraft (in Rs): a comparison between
'With or Without Approach'

| Monthly income of artisans | Without Approach | | With the Approach | | Total artisan |
|----------------------------|--------------------|-------------------|----------------------|---------------------|---------------|
| | No of Male artisan | % of Male artisan | No of female artisan | % of Female artisan | |
| UptoRs 1000 | 0 | 0 | 27 | 17.5 | 27 |
| >Rs1000 – Rs 3000 | 3 | 8 | 68 | 44 | 71 |
| >Rs 3000-- Rs5000 | 2 | 5 | 29 | 19 | 31 |
| >Rs 5000 | 33 | 87 | 30 | 19.5 | 63 |
| Total | 38 | | 154 | | 192 |

Source: Field study.

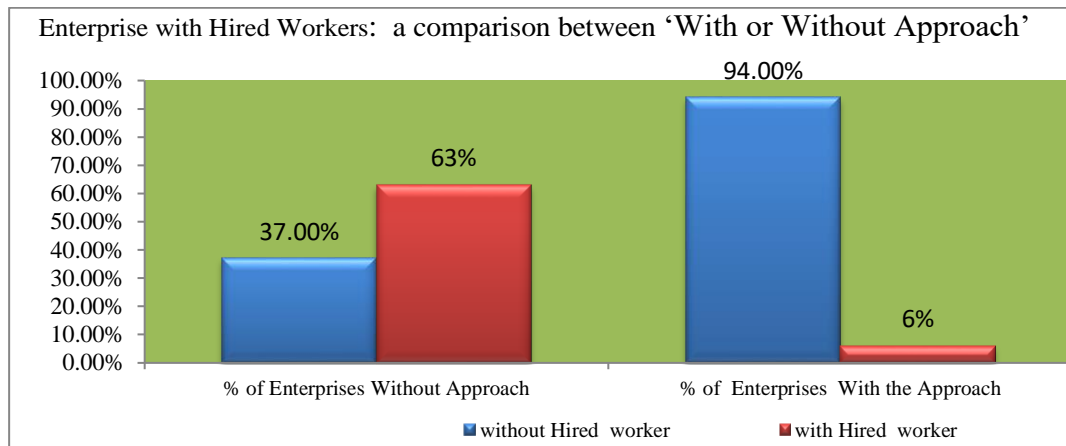
This table 5.18 depicts the distribution of monthly income of the sampled clusters by gender. It is observed that about 87% male artisans' monthly income exceeds Rs 5000 but in case of female artisans the said range of income earned by only 19.5% artisans. In case of male artisans only 8% and 5% artisans monthly income found to be in the range of >Rs1000 – Rs 3000 and >Rs 3000-- Rs5000 respectively. Female artisans income is very much confined within the range of >Rs1000 – Rs 3000. 44% female artisans monthly income found to be within the range of > Rs1000 – Rs 3000. It is to be noticed here that there is no male artisans whose income is within the range of up to Rs 1000 but 17.5% artisans belong to such range of income category. It may be allowed to say under such circumstances that in terms of income majority of male artisans belong to higher income range than their female counter part.

Table: 5.19
Enterprise with Hired Workers: a comparison between ‘With or Without Approach’

| Enterprises | Without Approach | | With the Approach | |
|-----------------------------------|---------------------------------------|--------------------------------------|---|--|
| | No of Enterprises run by male artisan | % of Enterprises run by male artisan | No of Enterprises run by Female artisan | % of Enterprises run by Female artisan |
| Enterprises with Hired Workers | 24 | 63 | 10 | 6 |
| Enterprises without Hired Workers | 14 | 37 | 144 | 94 |
| Total | 38 | 100 | 154 | 100 |

Source: Field study

Chart -5.8



Source: Field Study.

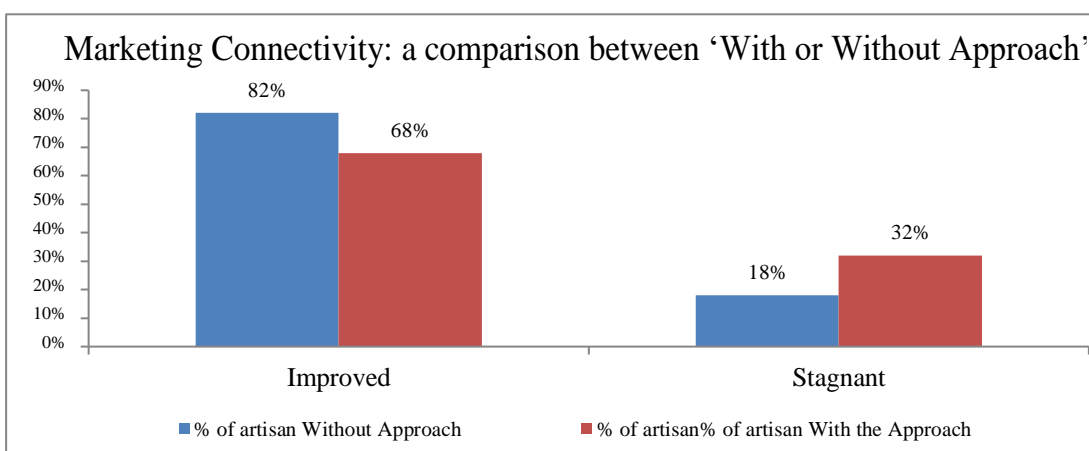
This chart 5.8 finds that the handicraft units managed by the male artisans are in better position to run the enterprises with hired workers. About 63% enterprises managed by men run with the hired workers and this type of enterprises in case of female is only 6%. It is to be pertinent to say that male artisans are not directly getting benefit from cluster but as an entrepreneur of a participant of cluster area, they are in a position to use the benefit accrued from clusters properly. It is also to be said that clusters create the entrepreneurial environment in the concerned area and male artisans capitalize this environment in doing their entrepreneurial activities in the handicraft sector of concerned cluster area.

Table: 5.20
Marketing Connectivity: a comparison between ‘With or Without Approach’

| Marketing Connectivity | Without Approach | | With the Approach | |
|------------------------|--------------------|-------------------|----------------------|---------------------|
| | No of Male artisan | % of Male artisan | No of Female artisan | % of female artisan |
| Improved | 31 | 82 | 104 | 68 |
| Stagnant | 7 | 18 | 50 | 32 |
| Total | 38 | 100 | 154 | 100 |

Source: Field study

Chart -5.9



Source: Field Study.

The positive impact of cluster approach in regard to improve the marketing connectivity is highlighted from the above table 5.20 and chart but important point is that though the male, who as participant of cluster area are not directly getting the benefit of clusters but by using the entrepreneurial environment resulting from cluster approach, are in better position to improve their marketing connectivity than their female counterpart. Improved marketing connectivity is found 82% in case of male artisan and 68% in case of female artisans. Marketing connectivity promotes better entrepreneurial activities by enhancing the sales, so in this respect it is pertinent to say that the yearly turnover of male artisans will be much better than their female counterpart.

5.3. Statistical Analysis:

The IBM SPSS Statistical Version 20 is used to analyze the collected data. Accordingly the proper entry of collected data were made and tabulated. With the

help of the Chi Square test and Descriptive statistics, using the SPSS Tools the data are analyzed.

As the IBM SPSS Statistical Version 20 is used, the details of the test performed are not furnished here because SPSS gives only the result of the test in the form of Chi Square value, Degree of freedom and p value. These are provided inside the tables relating to each of the concerned socioeconomic characteristic.

The interpretation of calculated Chi Square value is based on p values given inside the table under the SPSS tools.

- * If p value is less than 0.01, then considered significant at 1% level of significance
- * If p value is more than 0.01, then considered insignificant at 1% level of significance
- * If p value is less than 0.05, then it is considered significant at 5% level of significance.
- * If p value is more than 0.05, then it is considered insignificant at 5% level of significance.

In the present study it is clear from the observation of 'Before and After Approach' method that in the regime of clusters the benefits in terms of training, using marketing channels, attendance in handicraft fair, enterprises with hired workers are increased. It is important to make statistically significant relation between these variable and income to examine the impact of clusters. In addition to this under the method of 'With or Without Approach' it is clear that male artisans who are constituent of 'Without Approach' are in better position than their female counter part who are constituent of 'With the Approach'. Under the present statistical analysis an attempt is made to look into the statistically significance relation between the concerned variables to examine the impact of clusters.

H₀₁: There is no significant relation between the attended fair and income generated from Handicraft.

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|--------|----|-----------------------|
| Pearson Chi-Square | 42.315 | 9 | .000 |
| Likelihood Ratio | 43.232 | 9 | .000 |
| Linear-by-Linear Association | 27.399 | 1 | .000 |
| N of Valid Cases | 192 | | |

Source: statistical analysis through SPSS VERSION 20 based on Field survey

Here H₀ (null hypothesis) is rejected at 1% level of significance and statistically significant relation between attended fair and income generated from Handicraft exists here. As $p < 0.01$ and $\chi(9) = 42.315$. The statistically significant relation between attended fair and income generated from Handicraft supports the phenomenon that handicraft fairs opens up the door of business connectivity to the artisans which led to increasing the volume of sales as well as income. The scope of artisan's participation in handicraft fairs has increased after introduction of cluster approach. The observation of the study reveals that 37% sampled artisans attended the handicraft fair. Before the inception of cluster approach the artisans were dispersed and working under the unorganised plat form and the scope in attendance in fair limited to 4.1% artisans only. Cluster approach makes it easy to the artisan to attend such fairs and now in a position to show their skill and creativity to capture new market. The study finds that most of the artisans attended fairs visited Karnataka, Tamil Nadu, Jammu & Kashmir, Maharashtra, Gujarat, Delhi, Andhra Pradesh and Kerala

H₀₂: There is no significant relation between the gender and choice of marketing channel other than cluster.

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|--------|----|-----------------------|
| Pearson Chi-Square | 84.840 | 4 | .000 |
| Likelihood Ratio | 79.362 | 4 | .000 |
| Linear-by-Linear Association | 2.662 | 1 | .103 |
| N of Valid Cases | 192 | | |

Source: statistical analysis through SPSS VERSION 20 based on Field survey

Value of Chi square at 1% level of significance, with 4 d.f. $\chi^2(4)$ is 84.840 and p value = 0.000. The p value < 0.01 which implies that H_0 is rejected at 1% level of significance. About 98% male artisans and 43% female artisans are used marketing channel other than cluster. An entrepreneur always search new market and to capitalise it. As the Male artisans are not the society member of cluster, they are not getting all the financial opportunities as the cluster provides, but as the participant of cluster operational area they had make themselves a good entrepreneur who were able to capitalise the opportunities of a cluster area. Before introduction of cluster approach artisans/ entrepreneurs exclusively depended on the kindness of the government to sell their product but now, 43% of female artisans exclusively depending on the marketing channel other than cluster are also an encouraging point towards the promotion of entrepreneurship. The use of various marketing channel promotes sales as well as income by improving connectivity.

It is observed from the field study that 88 women out of 154 are depending on cluster for marketing their products and 66 women are in a position to make their choice other than cluster to marketwise their products. On the other side only one artisan is depending on cluster besides his own stall and 37 male artisans avail the marketing opportunity other than cluster. The one of the objective of cluster lies with the socio-economic empowerment of the artisans and the cluster level support to the artisans will be provided to make entrepreneurial mind among the artisans. It is also viewed by the Schumpeter that entrepreneurs always are searching new market and to reach the new market a vibrant entrepreneurs not only depends on only one channel but different marketing channel. In our study it is found that male artisans are in better position in availing the different channel for marketing their products. It is also observed from the Chi-Square Test that there is a significant relation between the gender and choice of marketing channel other than cluster.

H_{03} : There is no significant relation between the gender and income

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|--------|----|-----------------------|
| Pearson Chi-Square | 63.124 | 3 | .000 |
| Likelihood Ratio | 64.159 | 3 | .000 |
| Linear-by-Linear Association | 50.443 | 1 | .000 |
| N of Valid Cases | 192 | | |

Source: statistical analysis through SPSS VERSION 20 based on Field survey

Here it is found from the result of Chi-Square Test that $\chi(3) = 63.124$ and $p=0.000$ so p value < 0.01 which implies that H_0 (null hypothesis) is rejected at 1% level of significance and there lies statistically significant relation between the income and gender which implies that male artisans who are not registered members of clusters or directly associated with society members but operating their business in the operational area of clusters and enjoying benefit of the supply of labour and raw materials which cluster promotes, their income is more than the female i.e. the society members. As income is a major parameter to measure the effectiveness of entrepreneurial activities so it may be allowed to say that clusters facilitates the entrepreneurial activities to the artisans of its operational areas and performances of male artisans are found to be higher than their female counterparts.

H₀₄: There is no significant relation between the channel of marketing and income.

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|--------|----|-----------------------|
| Pearson Chi-Square | 62.291 | 12 | .000 |
| Likelihood Ratio | 56.099 | 12 | .000 |
| Linear-by-Linear Association | 10.548 | 1 | .001 |
| N of Valid Cases | 192 | | |

Source: statistical analysis through SPSS VERSION 20 based on Field survey

The Pearson Chi-Square test highlights that there is a significant relation between channel of marketing and income. The value of in Chi -Square test at 1% level of significance with 12 d.f. is 62.291 and $p=0.000$. p value < 0.01 implies that H_0 (null hypothesis) is rejected at 1% level of significance and statistically significant relation between the channel of marketing and income is found. It is observed that in the regime of clusters artisans are capable to use more channels than before the introduction of clusters. So it may be allowed to say on the basis of the outcome of the chi square test. Clusters do provide positive impact on entrepreneurship. The artisans in cluster area enjoy the benefit of social networks which in turn, expedite the source of different marketing channel and enhance their productivity, sales proceeds as well as income. “Innovation” which is the “Hallmark” of entrepreneurship according to Schumpeter, occurs through opening-up of new

market, introduction of new product etc in the field of handicraft sector in the sampled cluster area after introduction of cluster approach. Entrepreneurs find various channel of marketing in the regime of cluster, which stimulate in opening up of new market and in the changing scenario of channel of marketing, the changing demand of product (in respect of the quality as well as design) also take place. To meet up the changing demand, the process of introduction of new product as per demand of the global market instead of traditional product has come forward. The opening up of new channels led to increase the volume of sales as well as income which not only promote the existing entrepreneurship but attracts the new entrants.

H₀₅: There is no significant relation between the nature of activities and income.

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|--------|----|-----------------------|
| Pearson Chi-Square | 29.583 | 3 | .000 |
| Likelihood Ratio | 38.382 | 3 | .000 |
| Linear-by-Linear Association | 26.599 | 1 | .000 |
| N of Valid Cases | 192 | | |

Source: statistical analysis through SPSS VERSION 20 based on Field survey

The value of $\chi (3) = 29.583$ and $p=0.000$. The p value < 0.01 which implies that H_0 (null hypothesis) is rejected at 1% level of significance with 3 d.f. and there lies statistically significant relation between the nature of activities and income. About 86% sampled artisans activities in the regime of clusters found to be full time activities which mirrors that cluster facilitate in increasing the income of artisans.

H₀₆: There is no significant relation between the level of education and income.

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|--------|----|-----------------------|
| Pearson Chi-Square | 33.304 | 15 | .004 |
| Likelihood Ratio | 35.513 | 15 | .002 |
| Linear-by-Linear Association | 16.156 | 1 | .000 |
| N of Valid Cases | 192 | | |

Source: statistical analysis through SPSS VERSION 20 based on Field survey

The value of $\chi (3) = 33.304$ and $p=0.000$. p value < 0.01 implies that H_0 (null hypothesis) is rejected at 1% level of significance with 15 d.f. and there lies statistically significant relation between the level of education and income. The level of education of artisans is quite low which creates barrier to artisans in enhancing income level in the sampled clusters.

H₀₇: There is no significant relation between the enterprises with hired worker and income.

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|---------------------|----|-----------------------|
| Pearson Chi-Square | 71.108 ^a | 3 | .000 |
| Likelihood Ratio | 77.154 | 3 | .000 |
| Linear-by-Linear Association | 56.807 | 1 | .000 |
| N of Valid Cases | 192 | | |

Source: statistical analysis through SPSS VERSION 20 based on Field survey

The value of $\chi (3) = 71.108$ and $p=0.000$. P value < 0.01 implies that H_0 (null hypothesis) is rejected at 1% level of significance the implication offers the significant relation between the enterprises with hired worker and income. After the introduction of cluster, numbers of enterprises with hired workers have been increased Enterprise with hired workers is better in position in earning more than the Enterprise without hired workers. Before the introduction of cluster approach there were only seven enterprises with hired labour but the positive entrepreneurial environment as derived from cluster approach as enterprises with hired worker is increased to 34.

H₀₈: There is no significant relation between the training and gender.

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) |
|------------------------------------|-------|----|-----------------------|----------------------|
| Pearson Chi-Square | .213 | 1 | .645 | |
| Continuity Correction ^b | .025 | 1 | .874 | |
| Likelihood Ratio | .224 | 1 | .636 | |
| Fisher's Exact Test | | | | .770 |
| Linear-by-Linear Association | .212 | 1 | .645 | |
| N of Valid Cases | 192 | | | |

Source: statistical analysis through SPSS VERSION 20 based on Field survey

$p > 0.05$ indicates the statistically insignificant relation between the training and gender. This insignificant relation reveals that in regard to the training facilities, male as well as female artisans both are availed the training facilities. Clusters ensuring the training facilities to the artisans without making any gender discrimination enhanced the skill of artisans in the sampled clusters area which fulfils the UNIDO prescribed requirement in regard to the positive impact of clusters.

H₀₉: There is no significant relation between the level of education and gender.

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|--------|----|-----------------------|
| Pearson Chi-Square | 39.240 | 5 | .000 |
| Likelihood Ratio | 38.469 | 5 | .000 |
| Linear-by-Linear Association | 25.864 | 1 | .000 |
| N of Valid Cases | 192 | | |

Source: statistical analysis through SPSS VERSION 20 based on Field survey

The value of $\chi^2(5) = 39.240$ and $p = 0.000$. The significant relation between the 'level of education and gender at 1% level of significance with 5 d.f. clearly indicates the lower educational level of female than the male in sampled cluster area. The significant relation between the 'level of education' and 'gender' and significant relation between the 'level of education' and 'income' mirrors that female with low level of education as a registered member are not able to keep pace with their male counterpart, who supposed to be non registered member of cluster, in terms of earnings.

H₀₁₀: There is no significant relation between the enterprises with hired worker and gender.

Chi-Square Test

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------------|--------|----|-----------------------|
| Pearson Chi-Square | 67.157 | 1 | .000 |
| Continuity Correction ^b | 63.325 | 1 | .000 |
| Likelihood Ratio | 55.266 | 1 | .000 |
| Fisher's Exact Test | | | |
| Linear-by-Linear Association | 66.807 | 1 | .000 |
| N of Valid Cases | 192 | | |

Source: statistical analysis through SPSS VERSION 20 based on Field survey

Statistically significant relation between the enterprises with hired worker and gender at 1% level of significance with 1 d.f. is found where the value of $\chi (1) = 67.157$ and $p=0.000$. This study finds that the handicraft units managed by the male artisans are in better position as such enterprises hired workers found to be maximum. About 63% enterprises managed by men run with the hired workers and this type of enterprises in case of female is only 6% which implies the better entrepreneurial activities in the enterprises managed by man.

Chart- 5.10

Result of Chi-square Test: - A Summary

| H ₀ | P Value | Significance level |
|---|----------------|---|
| H ₀₁ : There is no significant relation between the attended fair and income generated from Handicraft. | p value < 0.01 | Significant at 1% level of significance with 9 d.f. |
| H ₀₂ : There is no significant relation between the gender and choice of marketing channel other than cluster. | p value < 0.01 | Significant at 1% level of significance with 4 d.f.. |
| H ₀₃ : There is no significant relation between the gender and income. | p value < 0.01 | Significant at 1% level of significance with 3 d.f. |
| H ₀₄ : There is no significant relation between the channel of marketing and income. | p value < 0.01 | Significant at 1% level of significance with 12 d.f.. |
| H ₀₅ : There is no significant relation between the nature of activities and income. | p value < 0.01 | Significant at 1% level of significance with 3 d.f. |
| H ₀₆ : There is no significant relation between the level of education and income. | p value < 0.01 | Significant at 1% level of significance with 15 d.f. |
| H ₀₇ : There is no significant relation between the enterprises with hired worker and income | p value < 0.01 | Significant at 1% level of significance with 3 d.f. |
| H ₀₈ : There is no significant relation between the training and gender | p value > 0.01 | in significant |
| H ₀₉ : There is no significant relation between the level of education and gender. | p value < 0.01 | significant at 1% level of significance with 5 d.f. |
| H ₀₁₀ : There is no significant relation between the enterprises with hired worker and gender. | p value < 0.01 | Significant at 1% level of significance with 1d.f. |

The above discussion under before and after approach method clearly indicates the positive impact of clusters on the development of entrepreneurial activities in the handicraft sector of Tripura. After introduction of cluster approach 49% of total number of sampled artisans has come forward in the entrepreneurial activities in handicraft sector to manage their livelihood. It is the positive notation of cluster approach towards in attracting the new entrants in the field of handicraft sector under the umbrella of cluster approach. Another important observation is that clusters promote the entrepreneurial activities among the weaker section of the society in sampled clusters. Most of the artisans in sampled clusters found to be SC and OBC category. SC and OBC artisans constitute 45.8% and 43.8 % respectively of total sampled artisans in the regime of cluster approach. 80% artisans in sampled clusters are women. SC category artisans have increased from 29.6 % in before cluster approach to 45.8% in after cluster approach. The increasing rate of SC artisans implies that cluster facilitates to encourage financially and socially backward people towards entrepreneurship which is the notation of promoting the inclusive entrepreneurship.

The increasing formal training/skill is one of the indicators of positive impact of cluster on entrepreneurship as prescribed by UNIDO. The cluster approach extending the scope of training facilities through the soft intervention to the sampled artisans fulfils this indicator. The trained artisans have increased to 90.1% in the regime of cluster approach from 15.30% in before cluster approach.

Another indicator of positive impact of cluster on entrepreneurship as prescribed by UNIDO is increasing revenues which is observed in the present study. The monthly income of artisans before cluster approach was confined to the range of income within Rs1000. Out of 98 artisans, 89 artisans monthly income from handicraft is limited within the range of Rs 1000 per month and only 9 artisans' monthly income exceeds Rs 1000 and limited within the range of Rs 1000 – Rs 3000. In the regime of clusters the 32.8% artisan's monthly income exceeds Rs 5000 and about 49% of total sampled artisan's monthly income exceeds Rs 3000.

After cluster approach dependency on single market is reduced. Before the cluster approach, About 77% artisans depended on Purbasha, a Government of Tripura

sponsored sales counter, monitored by THHDC. There was no scope to 18% artisans to marketise their product but forced to sell it to the middleman and 1% artisans was capable to use Fairs as marketing channel but cluster approach opens up the door of different channel of marketing to the artisans. It is noticed that only 1% and 45.3% artisans used 'own and cluster' as marketing channel. The rest of 54% used marketing channel other than 'cluster'. 15.1% and 11.5% artisans used the 'fair' as marketing channel and 'others' which includes subcontractors as marketing channel. The prevailing phenomenon also fulfils the UNIDO prescribed indicators where it is said that reduction of dependency on single market implies the positive impact of cluster. Before the inception of cluster approach there was no organised formal platform to the artisans but cluster approach provided a platform to the artisans to show their creativity in the national market as well as capitalise the national market as a fruitful channel of marketing.

The number of enterprises with hired workers is increased from 7.20 % in before cluster approach to 17.70% in after introduction of cluster approach. This is the positive notation towards the entrepreneurial activities in the sampled cluster area. The increasing trend of enterprises with hired workers indicates the expansion of business activities within the sampled cluster area. The introduction of cluster approach has made the way of artisans more easy and viable in their journey of entrepreneurial activities in handicraft sector.

The cluster approach promotes the entrepreneurial activities in general and to the male artisans in particular, the constituent of without approach. Male artisans are in better position than the female, the constituent of with the approach, in terms of training, income, using marketing channel, attendance in handicraft fair, enterprise run with hired workers etc. clusters creates the positive entrepreneurial environment in the concerned area. Male artisans, the constituent of without approach, capitalize the benefit accrued from clusters in doing their entrepreneurial activities in the handicraft sector of concerned cluster area. In this respect it is pertinent to refer the concept of Marshall's 'Industrial District' where it is opined that industries are located considering the enormous supply of labour and economies of scale.

It is to be mentioned that cluster promotes in enhancing the income. The significant relation between income and training, income and channel of marketing, attendance in fair and income observed from the statistical analysis. In the regime of clusters, increasing level of training, channel of marketing, attendance in fair indicates that the artisans are economically better position than the before cluster approach. The statistically significant relation between attended fair and income generated from Handicraft supports the phenomenon that handicraft fairs opens up the door of business connectivity to the artisans which led to increasing the volume of sales as well as income. statistically significant relation between the income and gender implies that male artisans, the constituent of without approach, who are not registered members of clusters or directly associated with society members but operating their business in the operational area of clusters and enjoying benefit of the supply of labour and raw materials which cluster promotes, their income is more than the female i.e. the society members. As income is a major parameter to measure the effectiveness of entrepreneurial activities so it may be allowed to say that clusters facilitates the entrepreneurial activities to the artisans of its operational areas and performances of male artisans are found to be higher than their female counterparts. The statistically significant relation between the enterprises with hired worker and income also notation of positive impact of clusters as enterprises with hired workers has increased in the regime of clusters.

Statistically insignificant relation between the training and gender reveals that in regard to the training facilities, male as well as female artisans both are availed the training facilities.. Clusters ensures the training facilities to the artisans without making any gender discrimination and enhanced the skill of artisans in the sampled clusters area which fulfils the UNIDO prescribed requirement in regard to the positive impact of clusters. The significant relation between the level of education and income is observed. There is also significant relation between the level of education and gender which indicates that male artisans, the constituent of without approach are better position that the constituent of with the approach.

The insignificant relation between the training and gender Clusters ensuring the training facilities to the artisans without making any gender discrimination

enhanced the skill of artisans in the sampled clusters area which fulfils the UNIDO prescribed requirement in regard to the positive impact of clusters.

In a nutshell it may be said that clusters facilitating entrepreneurial environment attracts the constituent of without approach for capitalizing such benefit in one side, and providing organised platform to the unprivileged segment of the society in entrepreneurial activities promotes the inclusive entrepreneurship which makes the way easy to achieve inclusive growth of the nation.