Manifest changes through self help groups among women entrepreneurs in Andhra Pradesh

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Abstract
The present investigation was carried out in three districts of Andhra Pradesh viz., Chittoor (from Rayalaseema region), East Godavari (from Coastal region) and Srikakulam (from North Coastal region) during 2016-18. Manifest changes through SHGs among the women entrepreneurs help to discover changes occurred among respondents after joining in SHGs. It will indicates the significant changes occurred among women entrepreneurs in the selected components viz., annual income, productive working days, monthly saving, monthly expenditure, debt status, employment generation, prevalence of bonded labour, dependency on local informal money lenders, social status, type of house, domestic assets, mode of transport, skills in paraprofessional work, awareness about institutional financial transactions, composition of diet, priority for children education, social recognition, communication network, access to credit and livestock assets after joining in SHG.

Keywords: Annual income, productive working days, monthly saving, monthly expenditure

Introduction
‘Woman’ is the key for success of any human being because of their excellent qualities such as hard-working nature, patience, cordial affiliation, convincing capacity, communication etc., in handling multifaceted activities. On the other hand women in rural areas are comparatively less educated, economically poor, confined to limited geographical boundaries and live under rigid structural constraints. Entrepreneurship is one of the prospective options to uplift rural women by generating self employment opportunities. The concept of Self Help Group (SHG) acts as a driving force for the rural women with the ultimate objective of converting household women as enterprising women and encouraging them to enter into entrepreneurial activities. Manifest changes through SHGs among the women entrepreneurs help to discover changes occurred among respondents after joining in SHGs.

Methodology
Andhra Pradesh state was purposively selected. One district each from three regions of the state viz., Chittoor (From Rayalaseema region), East Godavari (from Coastal region) and Srikakulam (From North Coastal region) were purposively selected based on the highest number of SHGs. Four mandals from each district, two villages from each mandal and one hamlet from each village were purposively selected based on the highest number of SHGs thus making a total of 12 mandals, 24 villages and 24 hamlets respectively. From each village ten women entrepreneurs were selected from all the existing SHGs in that hamlet, by using simple random sampling procedure thus making a total of 240 women entrepreneurs as the sample of the study.

A total of twenty components comprehensively covering all the aspects of measuring impact of SHGs were included in the schedule. The components include; annual income, productive working days, employment generation, prevalence of bonded labour, monthly savings, monthly expenditure, debt status, dependency on local informal money lenders, social status, type of house, domestic assets, mode of transport, communication network, social recognition, priority for children education, skills in paraprofessional work, access to credit, composition of diet, livestock assets and awareness about institutional financial transactions. Each component measured with the help of scores given in below. Paired t-test, Wilcoxon Signed Rank Test, Sign test were used to find out the significant difference before joining the SHGs and the current status of the women entrepreneurs.
Manifest (direct/visible) changes occurred among the women entrepreneurs through the intervention of SHGs in their life over a period of time were arrived to know the impact of SHGs on women entrepreneurs. The manifest changes were derived by calculating the differences in the selected components from date of joining in SHG to the current status.

The average period of involvement in SHG by the women entrepreneurs was arrived by dividing the total experience of all the respondents with the total number of respondents and was found to be 10.82 years. For all the components, the scores of before joining SHG and the current status were collected, analyzed and presented below.

| S. No | Direct changes | Before joining SHG | Current Status |
|-------|----------------|-------------------|----------------|
| 1.    | Annual Income (Rs.) | 28,850.83        | 1,280,39.20    |
| 2.    | Productive working days (Self/Family) |                      |                |
| 3.    | Employment generation |                      |                |
| 4.    | Prevalence of bonded labour | No (0) Low (1) Medium (2) High (3) | No (0) Low (1) Medium (2) High (3) |
| 5.    | Monthly savings (Rs.) |                      |                |
| 6.    | Monthly expenditure (Rs.) |                      |                |
| 7.    | Debt status (Rs.) |                      |                |
| 8.    | Dependency on local informal moneylenders | No (0) Low (1) Medium (2) High (3) | No (0) Low (1) Medium (2) High (3) |
| 9.    | Social Status | Lower (1) Middle (2) Middle (3) Middle Upper (4) Upper (5) | Lower (1) Middle (2) Middle (3) Middle Upper (4) Upper (5) |
| 10.   | Type of house | Shed thatched (1)/ Mudwell thatched (2)/ Brick wall and tiled (3)/ Concrete house (4)/ Concrete double storyed (5) | Shed thatched (1)/ Mudwell thatched (2)/ Brick wall and tiled (3)/ Concrete house (4)/ Concrete double storyed (5) |
| 11.   | Domestic assets | Utensils/Radio/T.V/Mixi/Grinder/Furniture/ Air cooler/CD players/Computer | Utensils/Radio/T.V/Mixi/Grinder/Furniture/ Air cooler/CD players/Computer |
| 12.   | Mode of transport | Bicycle (1)/Scooter (2)/Car (3) | Bicycle (1)/Scooter (2)/Car (3) |
| 13.   | Communication network | Mobile (1)/ Android (2)/i phone (3) | Mobile (1)/ Android (2)/i phone (3) |
| 14.   | Social recognition | No (0) Low (1) Medium (2) High (3) | No (0) Low (1) Medium (2) High (3) |
| 15.   | Priority for children education | No (0) Low (1) Medium (2) High (3) | No (0) Low (1) Medium (2) High (3) |
| 16.   | Skills in paraprofessional work | No (0) Low (1) Medium (2) High (3) | No (0) Low (1) Medium (2) High (3) |
| 17.   | Access to credit | Private money lenders (1)/ Commercial Banks (2)/ Primary Agricultural Cooperative Credit Societies (PACS) (3)/ Friends &neighbours (4)/ Self Help Groups (5) | Private money lenders (1)/ Commercial Banks (2)/ Primary Agricultural Cooperative Credit Societies (PACS) (3)/ Friends &neighbours (4)/ Self Help Groups (5) |
| 18.   | Composition of diet | No (0) Low (1) Medium (2) High (3) | No (0) Low (1) Medium (2) High (3) |
| 19.   | Livestock assets | Hen Sheep/goat Cow/buffalo |                      |
| 20.   | Awareness about the Institutional financial transactions | No (0) Yes (1) | No (0) Yes (1) |

**Results and Discussion**

**Manifest changes through SHGs among women entrepreneurs**

**Change in the ‘Annual Income’ of the women entrepreneurs of SHGs**

It is clear from table 1 that before joining SHG the average annual income of the women entrepreneurs was Rs. 28,850, whereas the current status was found to be Rs. 1,280,039. The ‘t’-value for ‘Annual income’ was 16.49, which was significant at 1 per cent level since ‘p’ value was less than 0.01 (p<0.01) for 239 degrees of freedom. Hence, we reject the null hypothesis and there was significant improvement in ‘Annual income’ of the women entrepreneurs after joining SHG.

**Table 1:** Change in the ‘Annual income’ of the women entrepreneurs of SHGs n=240

| Aspect            | Stage                      | Mean     | N         | Std. Deviation | ‘t’-value | DF  | ‘p’-value |
|-------------------|----------------------------|----------|-----------|----------------|-----------|-----|-----------|
| Annual income     | Before joining SHG         | 28,850.83| 240       | 38860.44       | 16.491**  | 239 | 0.0000    |
|                   | Current status             | 1,280,39.20| 240       | 104776.40      |           |     |           |

Statistical test: Paired sample t-test

****: Significant at 0.01 level of probability
This trend was also noticed by Singh et al. (2010), Subramanian (2010), Amuthan (2012), Sahoo (2013), Geethanjali and Prabhakar (2013), Kondal (2014), Fernando and Azhagaiya (2015), Gautam and Chettri (2016), Kavitasuri and Rasmeekaur (2015), Lagare et al. (2016), Kumar and Joshi (2016), Sain and Mandal (2017) and Umadevi and Lakshminarasaiaiah (2017) [16, 17, 1, 14, 5, 7, 3, 4, 6, 9, 8, 15, 18].

Change in the ‘Productive working days’ of the Women Entrepreneurs of SHGs

The data presented in table 2 portrayed that before joining SHG the average productive working days of the women entrepreneurs was 15 whereas the current status was stated to be 29. The ‘t’-value for ‘Productive working days’ was 15.35, which was significant at the 1 per cent level since ‘p’ value was less than 0.01 (p<0.01) for 239 degrees of freedom. Hence, we reject the null hypothesis and there was a significant increase in ‘Productive working days’ of the women entrepreneurs after joining SHG. This finding of the study was in agreement with the findings of Subramanian (2010) and Lagare et al. (2016) [17, 19].

| Aspect                          | Stage                        | Mean  | N   | Std. Deviation | ‘t’-value  | Df   | ‘p’-value |
|--------------------------------|------------------------------|-------|-----|----------------|------------|------|-----------|
| Change in the ‘Productive working days’ of the women entrepreneurs of SHGs n = 240 |
| Productive working days        | Before joining SHG           | 15.375 | 240 | 14.63          | 15.35**    | 239  | 0.0000    |
|                                | Current status               | 29.875 | 240 | 1.93           |            |      |           |
| Statistical test: Paired sample t-test |

**: Significant at 0.01 level of probability

Change in the ‘Monthly Saving’ of the Women Entrepreneurs of SHGs

The information in table 3 gives a clear picture that before joining SHG the average monthly saving of the women entrepreneurs was Rs. 88, whereas the current status reports that Rs. 1,216. The ‘t’-value for ‘Monthly saving’ was 11.93, which was significant at the 1 per cent level since ‘p’ value was less than 0.01 (p<0.01) for 239 degrees of freedom. Hence, we reject the null hypothesis and there was significant improvement in ‘Monthly saving’ of the women entrepreneurs after joining SHG.

| Aspect                 | Stage                        | Mean         | N   | Std. Deviation | ‘t’-value  | Df   | ‘p’-value |
|------------------------|------------------------------|--------------|-----|----------------|------------|------|-----------|
| Change in the ‘Monthly saving’ of the women entrepreneurs of SHGs n = 240 |
| Monthly saving         | Before joining SHG           | 88.75        | 240 | 390.4703       | 11.93**    | 239  | 0.0000    |
|                        | Current status               | 1216.25      | 240 | 1571.033       |            |      |           |
| Statistical test: Paired sample t-test |

**: Significant at 0.01 level of probability

This finding was in conformity with the findings of Subramanian (2010), Melesekassa (2015), Rasnapathak and Singla (2015), Lagare (2016), Kumar and Joshi (2016), Sain and Mondal (2017) and Umadevi and Lakshminarasaiaiah (2017) [17, 14, 10, 12, 3, 9, 8, 15, 18].

Change in the ‘Monthly Expenditure’ of the Women Entrepreneurs of SHGs

It is evident from the table 4 that before joining SHG the average monthly expenditure of the women entrepreneurs was Rs. 4,240 whereas the current status was indicated that Rs. 8,177. The ‘t’-value for ‘Monthly expenditure’ was 24.82, which was significant at 1 per cent level since ‘p’ value was less than 0.01 (p<0.01) for 239 degrees of freedom. Hence we reject the null hypothesis and there was significant improvement in ‘Monthly expenditure’ of the women entrepreneurs after joining SHG.

| Aspect                     | Stage                        | Mean          | N   | Std. Deviation | ‘t’-value  | Df   | ‘p’-value |
|----------------------------|------------------------------|---------------|-----|----------------|------------|------|-----------|
| Change in the ‘Monthly expenditure’ of the women entrepreneurs of SHGs n = 240 |
| Monthly expenditure        | Before joining SHG           | 4240.000      | 240 | 1954.563       | 24.82**    | 239  | 0.0000    |
|                            | Current status               | 8177.083      | 240 | 3740.105       |            |      |           |
| Statistical test: Paired sample t-test |

**: Significant at 0.01 level of probability

This finding was in line with the findings of Subramanian (2010), Sahoo (2013), Geethanjali and Prabhakar (2013), Brindashree and Jayakumar (2015a), Rasnapathak and Singla (2015) and Fernando and Azhagaiya (2015) [17, 14, 5, 2, 12, 3].

Change in the ‘Debt Status’ of the Women Entrepreneurs of SHGs

From the above table 5 it is inferred that before joining SHG the average debt status of the women entrepreneurs was Rs. 1,74,750 whereas the current status was stated that Rs. 1,47,145. The ‘t’-value for ‘Debt status’ was 2.39, which was significant at the 5 per cent level since ‘p’ value was less than 0.05 (p<0.017) for 239 degrees of freedom. Hence, we reject the null hypothesis and there was significant reduction in ‘Debt status’ of the women entrepreneurs after joining SHG. This finding was in line with the finding of Singh et al. (2010) [16].

| Aspect                | Stage                        | Mean         | N   | Std. Deviation | ‘t’-value  | Df   | ‘p’-value |
|-----------------------|------------------------------|--------------|-----|----------------|------------|------|-----------|
| Change in the ‘Debt status’ of the women entrepreneurs of SHGs n = 240 |
| Debt status           | Before joining SHG           | 1,74,750     | 240 | 242336.8       | 2.39**     | 239  | 0.0171    |
|                        | Current status               | 1,47,145.8   | 240 | 190670.1       |            |      |           |
| Statistical test: Paired sample t-test |

**: Significant at 0.01 level of probability
Change in the ‘Employment Generation’ of the Women Entrepreneurs of SHGs

It is obvious from the data presented in table 6 that before joining SHG the average employment generation of the women entrepreneurs was zero, whereas the current status was found to be 1. The ‘t’-value for ‘Employment generation’ was 2.30, which was significant at 5 per cent level since ‘p’ value was less than 0.05 (p=0.022) for 239 degrees of freedom. Hence, we reject the null hypothesis and there was significant improvement in ‘Employment generation’ of the women entrepreneurs after joining SHG. This finding was in line with the finding of Rao (2011) [11].

| Aspect: Change in the ‘Employment generation’ of the women entrepreneurs of SHGs n = 240 |
| Stage | Mean | N | Std. Deviation | ‘t’-value | Df | ‘p’-value |
|-------|------|---|----------------|------------|----|-----------|
| Employment generation | Before joining SHG | 0 | 240 | 0 | 2.30* | 239 | 0.0222 |
| Current status | 1.63 | 240 | 10.99329 | | |

Statistical test: Paired sample t-test

**. Significant at 0.01 level of probability

Change in the ‘Prevalence of Bonded Labour’ of the Women Entrepreneurs of SHGs

It is seen from table 7 that before joining SHG nearly half (46.70%) and two-fifth (40.80%) of the women entrepreneurs under the ‘medium’ and ‘high’ prevalence of bonded labour, whereas the current status was revealed that 2.9 percent and 2.1 respectively. Before joining SHG 3.3 percent and 9.2 percent of the women entrepreneurs under the ‘no’ and ‘low’ prevalence of bonded labour, whereas the current status was found to be 84.2 percent and 10.8 percent respectively. Thus, there was a significant shift in the ‘Level of the prevalence of bonded labour’, which might be due to the association with the SHGs. The ‘z’-value for ‘Prevalence of bonded labour’ was 12.65, which was significant at 1 per cent level since ‘p’ value was less than 0.01 (p<0.000). Hence, we reject the null hypothesis and there was significant decline in ‘Prevalence of bonded labour’ of the women entrepreneurs after joining SHG. This finding was in line with the finding of Rao (2011) [11].

| Prevalence of bonded labour | Before joining SHG | Current status | ‘z’-value | ‘p’-value |
|---------------------------|------------------|----------------|------------|-----------|
|                           | N    | P   | N    | P   |        |          |
| No                        | 8    | 3.30| 202  | 84.20| 12.65**| 0.000    |
| Low                      | 22   | 9.20| 26   | 10.80|          |          |
| Medium                   | 112  | 46.70| 7    | 2.90 |          |          |
| High                     | 98   | 40.80| 5    | 2.10 |          |          |
| Total                    | 240  | 100.00| 240  | 100.00|          |          |

Statistical test: Wilcoxon signed rank test

**. Significant at 0.01 level of probability

Change in the ‘Dependency on Local Informal Money Lenders’ of the Women Entrepreneurs of SHGs

It is seen from table 8 that before joining SHG two-third (70.40%) and 13.7 percent of the women entrepreneurs have ‘high’ and ‘medium’ dependency on local informal money lenders, whereas the current status was found to be 2.9 percent and 10 percent respectively. Before joining SHG 11.7 percent and 4.2 percent of the women entrepreneurs have ‘no’ and ‘low’ dependency on local informal money lenders, whereas the current status was stated that 44.2 percent and 42.9 percent respectively. Thus, there was a significant shift in the ‘Dependency on local informal money lenders’, which might be due to the association with the SHGs. The ‘z’-value for ‘Dependency on local informal money lenders’ was 12.65, which was significant at 1 per cent level since ‘p’ value was less than 0.01 (p<0.000). Hence, we reject the null hypothesis and there was significant decrease in the ‘Dependency on local informal money lenders’ by the women entrepreneurs after joining SHG. This finding was in line with the finding of Subramanian (2010) [17].

| Dependency on local informal money lenders | Before joining SHG | Current status | ‘z’-value | p-value |
|-------------------------------------------|------------------|----------------|------------|--------|
|                                           | N    | P   | N    | P   |        |        |
| No                                        | 28   | 11.70| 106  | 44.20| 12.652**| 0.000 |
| Low                                       | 10   | 4.20 | 103  | 42.90|          |        |
| Medium                                    | 33   | 13.70| 24   | 10.00|          |        |
| High                                      | 169  | 70.40| 7    | 2.90 |          |        |
| Total                                     | 240  | 100.00| 240  | 100.00|          |        |

Statistical test: Wilcoxon signed rank test

**. Significant at 0.01 level of probability

Change in the ‘Social Status’ of the Women Entrepreneurs of SHGs

The data presented in table 9 indicated that before joining SHG 45 per cent of the women entrepreneurs under the ‘lower class’, whereas the current status was revealed that 10.41 percent. Before joining SHG, 34.18 percent, 20.41 percent and 0.41 percent of the women entrepreneurs were under the ‘lower middle class’, ‘middle class’ and ‘middle upper class’ respectively. While the current status was found to be 42.5 per cent, 40.83 per cent and 6.26 per cent respectively. This indicates that the association with the SHGs improves the ‘Social status’ of the members. The ‘z’-value for social status was 12.57, which was significant at 1 per cent level since ‘p’ value was less than 0.01 (p<0.000). Hence, we reject the null hypothesis and there was significant increase in the ‘Social status’ of the women entrepreneurs after joining SHG.

Table 9: Change in the ‘Social Status’ of the women entrepreneurs of SHGs

| Stage | ‘z’-value | ‘p’-value |
|-------|------------|-----------|
|       |            |           |
| No    | 12.57      | 0.000     |
| Low   | 12.65      | 0.000     |
| Medium| 12.65      | 0.000     |
| High  | 12.65      | 0.000     |

Statistical test: Wilcoxon signed rank test

**. Significant at 0.01 level of probability
Hence, we reject the null hypothesis and there was significant improvement in the ‘Social status’ of the women entrepreneurs after joining SHG.

**Table 9:** Change in the ‘Social Status’ of the Women Entrepreneurs of SHGs n = 240

| Social status  | Before joining SHG N | Before joining SHG P | Current status N | Current status P | ‘z’-value | ‘p’-value |
|----------------|---------------------|---------------------|------------------|------------------|-----------|-----------|
| Lower class    | 108                 | 45.00               | 25               | 10.41            |           |           |
| Lower middle class | 82               | 34.18               | 102              | 42.50            |           |           |
| Middle class   | 49                  | 20.41               | 98               | 40.83            |           |           |
| Middle upper class | 1               | 0.41                | 15               | 6.26             |           |           |
| Upper class    | -                   | -                   | -                | -                |           |           |
| **Total**      | 240                 | 100.00              | 240              | 100.00           | 12.570** | 0.0000    |

Statistical test: Wilcoxon signed rank test.

**: Significant at 0.01 level of probability

Change in the ‘Type of House’ of the Women Entrepreneurs of SHGs

It is seen from table 10 that before joining SHG 47.9 per cent, 15 per cent and 14.6 per cent of the women entrepreneurs have ‘Brick wall and tiled house’, ‘Mud well thatched’ and ‘Shed thatched’, whereas the current status was found to be 16.6 per cent, 12.1 per cent and 1.7 percent respectively. Before joining SHG 22.5 percent of the women entrepreneurs had ‘Concrete house’, whereas the current status was revealed that 65.4 percent. There was nobody have ‘Concrete double storied houses’ before joining SHG, the current status was found to be 4.2 per cent.

The ‘z’-value for ‘Social status’ was 13.04, which was significant at 1 per cent level since ‘p’ value was less than 0.01 (p<0.000). Hence, there was significant improvement in the ‘Type of house’ possessed by the women entrepreneurs after joining SHG.

**Table 10:** Change in the ‘Type of house’ of the women entrepreneurs of SHGs n = 240

| Type Of House                  | Before joining SHG N | Before joining SHG P | Current status N | Current status P | ‘z’-value | ‘p’-value |
|--------------------------------|---------------------|---------------------|------------------|------------------|-----------|-----------|
| Shed thatched                  | 35                  | 14.60               | 4                | 1.70             |           |           |
| Mud well thatched              | 36                  | 15.00               | 29               | 12.10            |           |           |
| Brick wall and tiled           | 115                 | 47.90               | 40               | 16.60            |           |           |
| Concrete house                 | 54                  | 22.50               | 157              | 65.40            |           |           |
| Concrete double storied        | -                   | -                   | 10               | 4.20             |           |           |
| **Total**                      | 240                 | 100.00              | 240              | 100.00           | 13.043** | 0.000    |

Statistical test: Wilcoxon signed rank test.

**: Significant at 0.01 level of probability

Change in the ‘Domestic Assets’ of the Women Entrepreneurs of SHGs

It was observed from the table 11 that before joining SHG majority (73.75%) of the women entrepreneurs possessed only 2 domestic assets, whereas the current status was revealed that 39.58 per cent, 27.5 per cent and 14.58 per cent of the women entrepreneurs coming to a total of 81.66 per cent of them possessed 4, 3 and 5 domestic assets respectively.

The ‘z’-value for ‘Domestic assets’ was 13.56, which was significant at the 1 per cent level since ‘p’ value was less than 0.01 (p<0.000). Hence, there was significant improvement in the possession of ‘Domestic assets’ by the women entrepreneurs after joining SHG. The finding was in conformity with the findings reported by Subramanian (2010), Amuthan (2012) and Fernando and Azhagaiah (2015) [17, 1, 3].

**Table 11:** Change in the ‘Domestic assets’ of the women entrepreneurs of SHGs n = 240

| Number of domestic assets | Before joining SHG N | Before joining SHG P | Current status N | Current status P | ‘z’-value | ‘p’-value |
|--------------------------|---------------------|---------------------|------------------|------------------|-----------|-----------|
| 1                        | 36                  | 15.00               | 6                | 2.50             |           |           |
| 2                        | 177                 | 73.75               | 21               | 8.75             |           |           |
| 3                        | 24                  | 10.00               | 66               | 27.50            |           |           |
| 4                        | 2                   | 0.83                | 95               | 39.58            |           |           |
| 5                        | 1                   | 0.42                | 35               | 14.58            |           |           |
| 6                        | -                   | -                   | 9                | 3.75             |           |           |
| 7                        | -                   | -                   | 5                | 2.08             |           |           |
| 8                        | -                   | -                   | 2                | 0.83             |           |           |
| 9                        | -                   | -                   | 1                | 0.42             |           |           |
| **Total**                | 240                 | 100.00              | 240              | 100.00           | 13.560** | 0.000    |

Statistical test: Wilcoxon signed rank test.

**: Significant at 0.01 level of probability

Change in the ‘Mode of Transport’ of the Women entrepreneurs of SHGs

A glance at table 12 shows that before joining SHG 97.9 per cent of the women entrepreneurs did not have any vehicle for transport, whereas the current status was found to be only 46.7 per cent without a vehicle. Before joining SHG only 1.7 per cent and 0.4 per cent of the women entrepreneurs have bicycle and scooter for transport, whereas current status raised
to 11.7 per cent and 40 per cent respectively. Before joining SHG nobody have car, whereas the current status was found to be 1.6 per cent.

The ‘z’-value for ‘Mode of transport’ was 10.32, which was significant at 1 the per cent level since ‘p’ value was less than 0.01 (p<0.000). Hence, there was significant improvement in the purchase of vehicles by the women entrepreneurs after joining SHG. The finding was in conformity with the findings reported by Shanthi and Ganapathi (2012).

| Mode of transport | Before joining SHG | Current status |
|-------------------|--------------------|----------------|
|                   | N      | P    | N      | P    | ‘z’-value | ‘p’-value |
| Zero              | 235    | 97.90| 112    | 46.70|           | 10.325** |
| Bicycle           | 4      | 1.70 | 28     | 11.70|           | 0.000    |
| Scooter           | 1      | 0.40 | 96     | 40.00|           |          |
| Car               | -      | -    | 4      | 1.60 |           |          |
| Total             | 240    | 100.00 | 240    | 100.00|           |          |

Statistical test: Wilcoxon signed rank test

**: Significant at 0.01 level of probability

Change in the ‘Skills in Paraprofessional Work’ of the Women Entrepreneurs of SHGs

It could be understood from table 13 that before joining SHG 55.83 per cent and 37.09 per cent of the women entrepreneurs have ‘no’ and ‘low’ skills in paraprofessional work, whereas the current status was found to be 0.42 percent and 6.67 percent respectively. Before joining SHG only 7.08 per cent of the women entrepreneurs had ‘medium’ skills in paraprofessional work, whereas the current status was revealed that 79.58 per cent. Before joining SHG nobody have ‘high’ skills in paraprofessional work whereas the current status was indicated that 13.33 per cent. Thus, there was a significant shift in the ‘Skills in paraprofessional work’ which might be due to the association with the SHGs.

The ‘z’-value for ‘Skills in paraprofessional work’ 13.57, which was significant at the 1 per cent level since ‘p’ value was less than 0.01 (p<0.000). Hence, we reject the null hypothesis and there was significant improvement in ‘Skills in paraprofessional work’ of the women entrepreneurs after joining SHG. The above finding is in conformity with the findings of Rao (2011) [11].

| Skills in paraprofessional work | Before joining SHG | Current status |
|---------------------------------|--------------------|----------------|
|                                 | N      | P      | N      | P      | ‘z’-value | ‘p’-value |
| No                              | 134    | 55.83  | 1      | 0.42   |           | 13.574** |
| Low                             | 89     | 37.09  | 16     | 6.67   |           | 0.000    |
| Medium                          | 17     | 7.08   | 191    | 79.58  |           |          |
| High                            | -      | -      | 32     | 13.33  |           |          |
| Total                           | 240    | 100.00 | 240    | 100.00|           |          |

Statistical test: Wilcoxon signed rank test

**: Significant at 0.01 level of probability

Change in the ‘Awareness about institutional financial transactions’ of the women entrepreneurs of SHGs

An analytical look at the table 14 made it clear that, about most (94.60%) of the members said that they didn’t aware about institutional financial transactions before joining the SHGs, whereas the current status revealed that all members were aware about institutional financial transactions.

| Awareness about institutional financial transactions | Before joining SHG | Current status |
|------------------------------------------------------|--------------------|----------------|
|                                                      | N      | P      | N      | P      | ‘z’-value | ‘p’-value |
| No                                                   | 227    | 94.60  | 0      | 0.00   |           | 15.000** |
| Yes                                                  | 13     | 5.40   | 240    | 100.00 |           | 0.000    |
| Total                                                | 240    | 100.00 | 240    | 100.00|           |          |

Statistical test: Sign. test

**: Significant at 0.01 level of probability

Change in the ‘Composition of Diet’ of the Women Entrepreneurs of SHGs

It could be understood from table 15 that before joining SHG nobody under ‘high’ composition of diet, whereas the current status was found to be 16.67 per cent and 67.5 per cent. The ‘z’-value for ‘Composition of diet’ was 13.701, which was significant at the 1 per cent level since ‘p’ value was less than 0.01 (p<0.000). Hence, we reject the null hypothesis and there was significant improvement in the ‘Composition of diet’ of the women entrepreneurs after joining SHG. The findings were in accordance with the studies conducted by Subramanian (2010) and Rao (2011) [17,11].
Table 15: Change in the ‘Composition of diet’ of the women entrepreneurs of SHGs n = 240

| Composition of diet | Before joining SHG | Current status | ‘z’-value | p-value |
|---------------------|-------------------|----------------|----------|---------|
|                     | N     | P   |     | N     | P   |     |          |          |
| No                  | 52    | 21.67 | -   | -     | -   | -   | 13.701** | 0.000   |
| Low                 | 125   | 52.08 | 40  | 16.67 |     |     |          |          |
| Medium              | 63    | 26.25 | 162 | 67.50 |     |     |          |          |
| High                | -     | -    | 38  | 15.83 |     |     |          |          |
| Total               | 240   | 100.00 |     | 240   | 100.00 |     |          |          |

Statistical test: Wilcoxon signed rank test

**: Significant at 0.01 level of probability

Change in the ‘Priority for Children Education’ of the Women Entrepreneurs of SHGs

It could be understood from table 16 that before joining SHG 59.5 per cent and 12.5 per cent of the women entrepreneurs have given ‘low’ and ‘no’ priority for children education, whereas the current status was indicated that 33.8 per cent and 2.5 per cent respectively. Before joining SHG 28 percent of the women entrepreneurs have given medium priority for children education, whereas the current status was stated that 57.9 percent. Before joining SHG nobody have given high priority for children education, whereas the current status was revealed that 33.8 per cent. Thus, there was significant shift in the ‘Priority for children education’. The ‘z’-value for ‘Priority for children education’ was 13.30, which was significant at the 1 per cent level since ‘p’ value was less than 0.01(p<0.000). Hence we reject the null hypothesis and there was significant improvement in the giving ‘Priority for children education’ of the women entrepreneurs after joining SHG. The results were in congruence with the findings of Rao (2011) [1] and Ravindra (2011).

Table 16: Change in the ‘Priority for children education’ of the women entrepreneurs of SHGs n = 240

| Priority for children education | Before joining SHG | Current status | ‘z’-value | p-value |
|-------------------------------|-------------------|----------------|----------|---------|
|                               | N     | P   |     | N     | P   |     |          |          |
| No                            | 30    | 12.50 | 6   | 2.50  |     |     | 13.305** | 0.000   |
| Low                           | 143   | 59.50 | 14  | 5.80  |     |     |          |          |
| Medium                        | 67    | 28.00 | 139 | 57.90 |     |     |          |          |
| High                          | -     | -    | 81  | 33.80 |     |     |          |          |
| Total                         | 240   | 100.00 | 240 | 100.00 |     |     |          |          |

Statistical test: Wilcoxon signed rank test

**: Significant at 0.01 level of probability

Change in the ‘Social Recognition’ of the Women Entrepreneurs of SHGs

It could be understood from table 17 that before joining the SHG 70 per cent and 25.4 per cent of the women entrepreneurs have ‘no’ and ‘low’ social recognition, whereas the current status revealed that only 0.80 percent and 4.6 per cent respectively. Before joining SHG 4.6 per cent of the women entrepreneurs have medium social recognition, whereas the current status revealed that 83.3 per cent. Before joining SHG nobody have high social recognition, whereas the current status was found to be 11.3 per cent. The ‘z’-value for ‘Social recognition’ was 13.34, which was significant at 1 per cent level since ‘p’ value was less than 0.01(p<0.000). Hence we reject the null hypothesis and there was significant improvement in the ‘Social recognition’ of the women entrepreneurs after joining SHG. These results are in accordance with the findings of Amuthan (2012) [1].

Table 17: Change in the ‘Social recognition’ of the women entrepreneurs of SHG n = 240

| Social Recognition | Before joining SHG | Current status | ‘z’-value | p-value |
|--------------------|-------------------|----------------|----------|---------|
|                    | N     | P   |     | N     | P   |     |          |          |
| No                 | 168   | 70.00 | 2   | 0.80  |     |     | 13.340** | 0.000   |
| Low                | 61    | 25.40 | 11  | 4.60  |     |     |          |          |
| Medium             | 11    | 4.60  | 200 | 83.30 |     |     |          |          |
| High               | -     | -    | 27  | 11.30 |     |     |          |          |
| Total              | 240   | 100.00 | 240 | 100.00 |     |     |          |          |

Statistical test: Wilcoxon signed rank test

**: Significant at 0.01 level of probability

Change in the ‘Communication Net work’ of the Women Entrepreneurs of SHGs

It could be understood from table 18 that before joining SHG majority (89.20%) of the members don’t have mobile phones for communication, whereas the current status indicated that only 4.2 per cent of women entrepreneurs didn’t mobile phones. Before joining SHG 10.4 per cent and 0.4 per cent of the members have a mobile and android phone, whereas the current status was found to be 86.7 per cent and 9.2 per cent respectively. The ‘z’-value for ‘Communication network’ was 14.73, which was significant at 1 per cent level since ‘p’ value was less than 0.01(p<0.000). Hence, we reject the null hypothesis and there was significant improvement in the ‘Communication network’ of the women entrepreneurs after joining SHG. This result was in agreement with Amuthan (2012) [1].
Table 18: Change in the ‘Communication network’ of the women entrepreneurs of SHGs n = 240

| Communication network | Before joining SHG | Current status | ‘z’-value | ‘p’-value |
|-----------------------|-------------------|----------------|-----------|-----------|
|                       | N | P | N | P |                  |          |
| No phone              | 214 | 89.20 | 10 | 4.20 | 14.739** | 0.000  |
| Mobile                | 25 | 10.40 | 208 | 86.60 | 0.01     | 0.02   |
| Android               | 1 | 0.40 | 22 | 9.20 | 0.232    | 0.05   |
| Total                 | 240 | 100.00 | 240 | 100.00 |          |        |

Statistical test: Wilcoxon signed rank test

**: Significant at 0.01 level of probability

Change in the ‘Access to Credit’ of the Women Entrepreneurs of SHGs

A bird eye view at table 19 bring to notice that before joining SHG majority (80.83%) of the women entrepreneurs depended on private money lenders for credit, whereas the current status shows that there dependency on money lenders was decreased to 41.25 per cent.

Table 19: Change in the ‘Access to credit’ of the women entrepreneurs of SHGs n = 240

| Access to credit | Before joining SHG | Current status | ‘z’-value | ‘p’-value |
|------------------|-------------------|----------------|-----------|-----------|
|                  | N | P | N | P |                  |          |
| Self Help Groups | 0 | 0.00 | 240 | 100.00 | 13.427** | 0.00   |
| Friends & neighbours | 62 | 25.83 | 45 | 18.75 | 0.01     | 0.02   |
| Primary Agricultural Cooperative Credit Societies (PACS) | 13 | 5.41 | 21 | 8.75 | 0.04     | 0.05   |
| Commercial Banks | 4 | 1.66 | 15 | 6.25 | 0.03     | 0.07   |
| Private money lenders | 194 | 80.83 | 99 | 41.25 | 0.01     | 0.02   |

Statistical test: Wilcoxon signed rank test

**: Significant at 0.01 level of probability

The ‘z’-value for ‘Access to credit’ was 13.42, which was significant at the 1 per cent level since ‘p’ value was less than 0.01 (p<0.000). Hence, there was significant improvement in the ‘Access to credit’ of the women entrepreneurs after joining SHG. This result was in agreement with Rao (2011) [11].

Change in the ‘Livestock Assets’ of the Women Entrepreneurs of SHGs

From the table 20 it was recognized that after joining SHG the average of livestock assets i.e. hen, sheep/goat and cow/buffalo of the women entrepreneurs was 0.84, 0.07 and 0.36 whereas the current status was found to be 0.02, 0.01 and 0.02 respectively. The ‘t’-values and ‘p’-values were 6.235 and 0.000 (p<0.01) for hen and 4.313 and 0.000(p<0.01) for cow/buffalo, which were significant at the 1 per cent level since ‘p’ value was less than 0.01, whereas for sheep/goat with ‘t’-value 1.730 and ‘p’-value 0.084 (p>0.05) which was non significant at the 5 per cent level since p value was more than 0.05. The finding draws support with the studies of Fernando and Azhagaiah (2015) [3].

Table 20: Change in the ‘Livestock assets’ of the women entrepreneurs of SHGs n = 240

| Aspect         | Stage                     | Mean  | Std. Deviation | ‘t’-value | ‘p’-value |
|----------------|---------------------------|-------|----------------|-----------|-----------|
|                | Before joining SHG        |       |                |           |           |
| Hen            | 0.02                      | 240   | 0.232          | 6.235**   | 0.000     |
| Current status | 0.84                      | 240   | 2.939          |           |           |
| Sheep/Goat     | 0.01                      | 240   | 0.129          | 1.730**   | 0.084     |
| Current status | 0.07                      | 240   | 0.535          |           |           |
| Cow/Buffalo    | 0.02                      | 240   | 0.182          | 4.313**   | 0.00      |
| Current status | 0.36                      | 240   | 1.230          |           |           |

Statistical test: Paired sample t-test

*: Significant at 0.05 level of probability

**: Significant at 0.01 level of probability

Conclusion

An overview of the manifest changes of all the components of women entrepreneurs of SHGs clearly indicated that, there were significant changes from their date of joining in SHGs to the current status among the women entrepreneurs. Hence, we can conclude that, there was significant impact of SHGs on the women entrepreneurs through their entrepreneurial activities. Still there is every scope to improve all the selected components for overall development of SHG women. On the other side, the entrepreneurial behaviour is highly contributing for manifest changes among women entrepreneurs. Hence, there is every need to focus more on enhancing the entrepreneurial behaviour of the women entrepreneurs of SHGs through different capacity building activities.

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