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Development of Aquaculture in India

Challenges and Opportunities

Published by

City Publication
1/9944, UG/Floor. Gali No. 3A, West Gorakh Park,
Shahdara, Delhi - 110032
Mob:- 8368465258
E-Mail: citypublication2001@gmail.com

Development of Aquaculture in India:
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First edition: 2019

ISBN: 978-93-8911-720-2

PRINTED IN INDIA

Printed : New Delhi

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CHAPTER 10

Women in Aqua Processing Industry - A Status Study in Andhra Pradesh

M. Koteswara Rao and K. Swarupa Rani

Introduction

Aquaculture is one of the focused sectors in India. Apart from its contribution through farming, the role of its linkages in boosting the economy is recognized everywhere. Seed hatcheries, Feed industry, Boat making industries, Aerators manufacturing, Net making units, Pharmaceutical industry are main backward linkages and Processing industry, Ice making units, Polymers industry are the main forward linkages to aquaculture. Apart from these, transportation, trading (wholesale and retail), marketing, testing laboratories, knowledge extension are the services which create livelihood opportunities in aquaculture. Hirschman, the influential economist, said in his Unbalanced growth theory is that, the development should aim at discovering projects with the largest total linkage (Backward plus Forward linkages) and called the industries with greatest number of linkages as the 'leading sectors' (Jhingan, 2005:192).

Among the forward linkages, the aqua processing industry offers great employment opportunities for the rural women, besides men. Large scale units offer employment to around 500 to 1000 employees, whereas smaller units employ 200 to 500 employees. On the whole, this industry provides employment to lakhs of people in the country. The major portion of these employees comprises semi-skilled women working in the core operations of segregating, grading, counting, weighing, peeling, deveining, de-heading and icing. The women are trained in the concerned work before they are entrusted with it. Thus, these women who were once engaged in season-wise agricultural operations, get employment throughout the year today. As concerns the district, Bhimavaram is the center of activities in the processing industry sector. According to the data from MPEDA website, there are 18 fish handling centers, 44 pre-processing plants, and 43 processing plants registered in the district.

In the light of its contribution to women in terms of employment, it was felt relevant to study the status of the female workers in the processing industry. As a part of the study, the primary data was collected from the female workers on aspects like educational status, work timings, experience in the field, pay details, health problems, provision of other benefits, and involvement in Government welfare schemes.

Review of Literature

A review of the related studies provides great insights into the issue under study. Hence, a few of the previous studies were reviewed in this section. Dhanya (2013) studied the status of women workers in preprocessing aqua units of Alapuzha, Kerala. He involved 100 women workers in the study. He collected inputs through structured questionnaires. The study found out that the work places in the aqua industry have no industrial hygiene or surveillance programs to evaluate the effects of exposure to seafood and work in a cold environment. Women workers are facing a number of problems which remain unaddressed for various social and economic considerations. It was recommended through the study that epidemiological studies need to focus on quantifying the disease burden attributed to seafood exposure and identify specific risk factors for allergic sensitization to occupational seafood allergens.

On the same lines, Nishchith also made a study on the role and status of women workers in seafood processing units by taking a sample of 240 workers from Orissa, Andhra Pradesh, and Tamil Nadu.The findings showed that women dominate the industry with a male to female ratio of 3:10, and women were over-worked and under-paid. Further, the study observed a conspicuous disparity between men and women in terms of wages and benefits.

AshikurRehman et. al. (2010) conducted a study on the socio economic status of women in five sea food industries of Khulna region, Bangladesh, employing a survey method. The study found that 66 per cent of female workers were recruited by contractors and 78 per cent of the female workers had to work for eight to twelve hours a day. The paying system was very irregular, and 94 per cent of the female workers did not get payment regularly. Eighty-one per cent of the female workers were unsatisfied with their jobs, and job mobility among the workers was high. All the respondents claimed that the management and co-male workers of the industry behaved very roughly with them.

Mohammad Nuruzzaman et. al. (2014) undertook a study on the status of women workers engaged in the shrimp processing industries of Bangladesh in terms of rights, benefits and social justice by taking a sample of 1098 female workers belonging to 28 selected shrimp processing factories located in five coastal districts of Bangladesh. The study revealed a number of disparities

existing between men and women in the industry, though more than 70 per cent workers are women. The permanent employees are mainly men, while 80 per cent of the casual contract workers are women, who are not supported directly by the factory or the contractors and are kept outside the purview of labor rules.

The study found that the average wage paid per month for women workers is 59 per cent of her male counterpart. The variation in wages was due to the patriarchal attitude of employers and better skill and education of male workers. Moreover, the wage rate is below the minimum wage declared by the government, and the women workers often reported verbal abuse, physical harassment and sexual abuse at their work place.

Jeyanthi(2015) carried out a study on the status of women in the seafood processing sector of Gujarat by taking inputs from 148 women respondents working in five EU approved seafood processing plants of Gujarat during 2011. The study revealed that the male to female ratio in the industry was 1:1.74 and 1:1.66 in the contractual and permanent employment categories respectively. About 63 per cent of the respondents were under 30 years of age and unmarried. The monthly wages of women workers at the floor level was 2594/- which is much lower than the minimum wage prescribed by the Gujarat state for unskilled workers which is 214.90 a day. It was observed that major determinants of women's employment in the sector were their educational status and wages. The wages of the workers in the processing sector showed significant positive relationship with age, education and work experience.

Objectives

The study was conducted with the following objectives.

- To know the socio- economic conditions of the sample female workers
- To study the working conditions of female workers in aqua processing industry;
- To find out the problems faced by the respondents at work place; and
- To suggest measures for improving their working conditions.

Methodology

The primary data was collected from a sample of 200 women workers who are employed on regular basis in four processing industries namely:Anand, Liberty, Khadar, and Jagadish Marines. The tool for the collection of the primary data is a structured questionnaire with twenty-five statements.The respondents were selected through a random sampling method. By residence, they all belong to four villages from four mandals in West Godavari District. The villages are: Kesavaram, Yandagandi, Garagaparru, and Rayalam. Brief profiles of these villages is provided hereunder.

Table 1: Profile of KesavaramVillage

Census Parameter	Census Data
Total Population	4875
Total No of Houses	1544
Female Population %	50.3 % (2454)
Total Literacy rate %	64.1 % (3124)
Female Literacy rate	30.0 % (1463)
Scheduled Tribes Population %	1.6 % (78)
Scheduled Caste Population %	16.1 % (785)
Working Population %	51.9 %
Child(0 -6) Population by 2011	412
Girl Child(0 -6) Population % by 2011	49.0 % (202)

Table 2: Profile of Yandagandi Village

Census Parameter	Census Data
Total Population	5892
Total No of Houses	1726
Female Population %	50.4 % (2968)
Total Literacy rate %	64.7 % (3814)
Female Literacy rate	31.1 % (1833)
Scheduled Tribes Population %	0.6 % (35)
Scheduled Caste Population %	19.0 % (1117)
Working Population %	47.9 %
Child(0 -6) Population by 2011	505
Girl Child(0 -6) Population % by 2011	49.9 % (252)

Table 3: Profile of Garagaparru Village

Census Parameter	Census Data
Total Population	5092
Total No of Houses	1477
Female Population %	50.1 % (2549)
Total Literacy rate %	66.9 % (3406)
Female Literacy rate	32.1 % (1637)
Scheduled Tribes Population %	0.8 % (42)
Scheduled Caste Population %	16.7 % (852)
Working Population %	49.8 %
Child(0 -6) Population by 2011	462
Girl Child(0 -6) Population % by 2011	49.8 % (230)

Table 4: Profile of Rayalam Village

Particulars	Total	Male	Female
Population	5,863	2,956	2,907
Child (0-6)	569	292	277
Schedule Caste	794	414	380
Schedule Tribe	14	7	7
Literacy	80.77 %	83.41 %	78.10 %
Total Workers	2,485	1,838	647
Main Workers	2,331	-	-
Marginal Workers	154	26	128

Data Analysis and Interpretation

The data collected for the study are quantified, tabulated, analyzed with the help of graphs, and discussed in relation to the specified objectives. The status of women workers in the processing industry with regard to age, religion, community, education, marriage, distance from work place, experience in the field, and nature of work. Their commonest problems are also discussed in detail.

Age Distribution

Age distribution of the respondents is an essential element to be considered for studying the status of the workers in the processing industries. Therefore, in Table 5, the distribution of the respondents' age is provided in five groups.

Table 5: Distribution of Sample Respondents by Age

Age	No. of Respondents	Percentage
Below 20	12	6
20-30	98	49
30-40	55	27.5
40-60	29	14.5
Above 60	6	3
Total	200	100

The data in Table 5 shows that, 49 per cent of the sample respondents belongs to the age group of 20-30 which is more productive followed by 30-40 age group (27.5%). The sample respondents who is below 20 years' age is 6 per cent and only 3 per cent are above sixty years. As the nature of works done by women in the aqua processing industry is physically tough compared to other agricultural and non-agricultural works, 20-40 age-group women are found more in number.

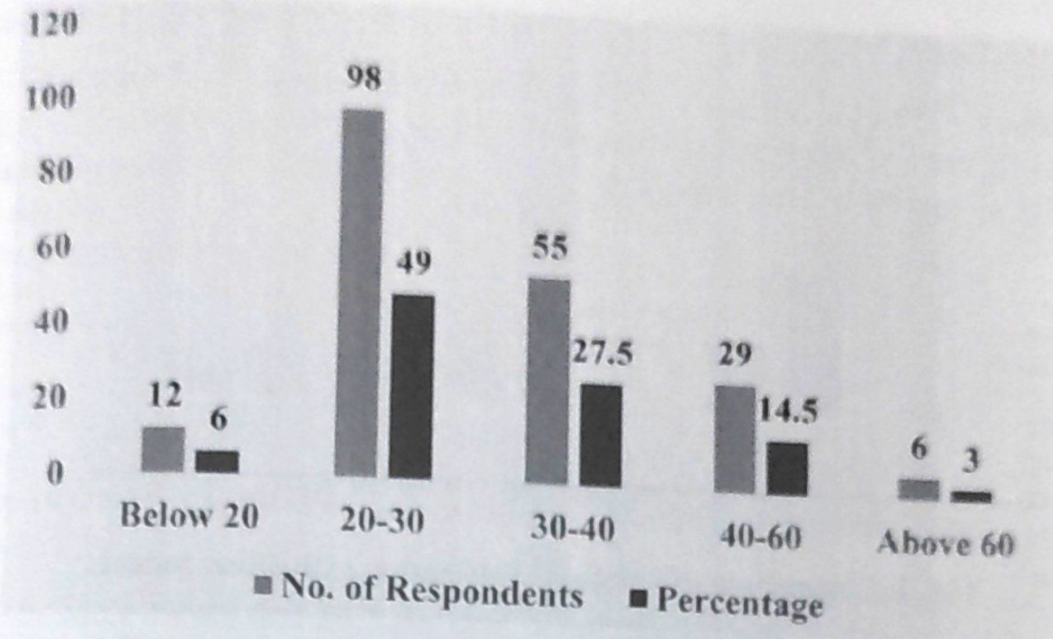


Fig. 1: Comparison of Age Distribution of the Respondents

Religion Distribution

Religion is one of the key factors that help in the understanding of the status of the women workers in the industry. Hence, the data with regard to the religious affinities of the respondents was collected and presented in Table 6. The major religions such as Hindu, Christian, and Muslim religions are considered in the present context.

Table 6: Distribution of Sample Respondents by Religion

Religion	No. of Respondents	Percentage
Hindu	54	27
Christian	127	63.5
Muslim	19	9.5
Total	200	100

The data shows that 63.5 per cent of the sample respondents are Christians followed by Hindu religion (27%). Only 9.5 per cent respondents belong to Muslim community.

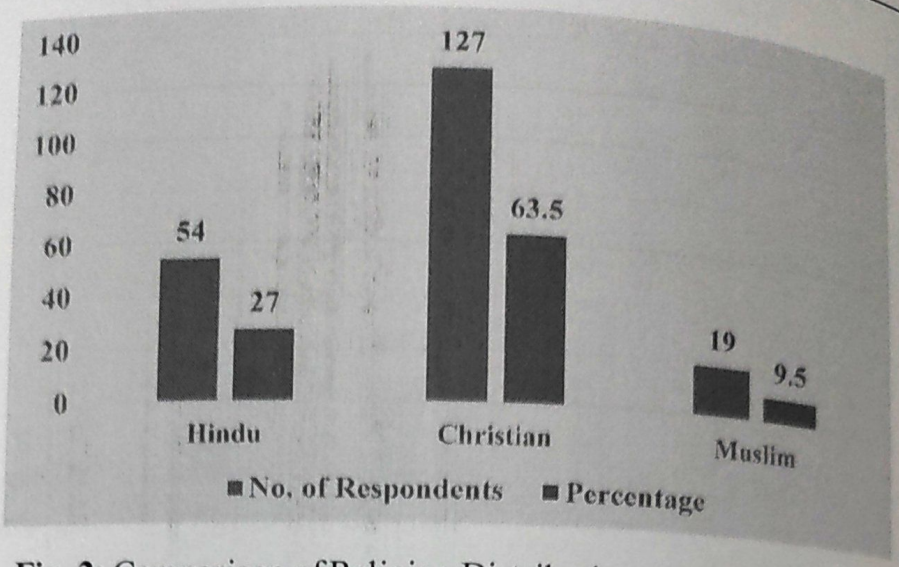


Fig. 2: Comparison of Religion Distribution of the Respondents

Community Distribution

Community is an inseparable element in the lives of the people in the Indian context. Therefore, the data with regard to the community of the respondents was collected and given in Table 7 for analysis and interpretation.

Table 7: Distribution of Sample Respondents by Social Category

Social Category	No. of Respondents	Percentage
OC	06	3
BC	69	34.5
SC	118	59
ST	07	3.5
Total	200	100

The table shows that three fifth of the sample respondents (62.5%) belongs to scheduled caste, 34.5 per cent belongs to backward castes and only 3 per cent respondents belongs to forward community. No one belongs to scheduled tribe in the respondents.

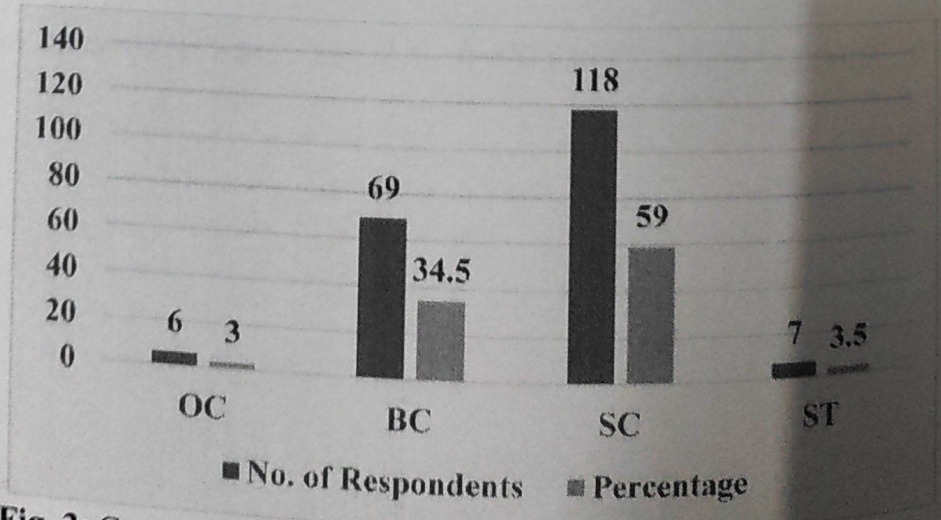


Fig. 3: Comparison of Community Distribution of the Respondents

Level of Education

Education is an important factor that establishes the social and economic status of the individuals in the society. Therefore, the education details of the sample respondents were collected in four categories and presented in Table 8 for analysis.

Table 8: Distribution of Sample Respondents by Level of Education

Schooling Years	No. of Respondents	Percentage
Illiterates	53	26.5
Below 5	49	24.5
5-10	77	38.5
Above 10	21	10.5
Total	200	100

The table shows that 26.5 per cent of sample women workers are illiterates. The schooling years of 24. 5 per cent respondents are below 5 and 38.5 per cent 5 to 10 years. Only seven members of the respondents are graduates. As the works in aqua processing industry are semi-skilled and unskilled, workers do not need to have specific educational qualification. Then it is clear that, aqua processing industries are contributing to rural, under educated, semi and unskilled labor in terms of employment.

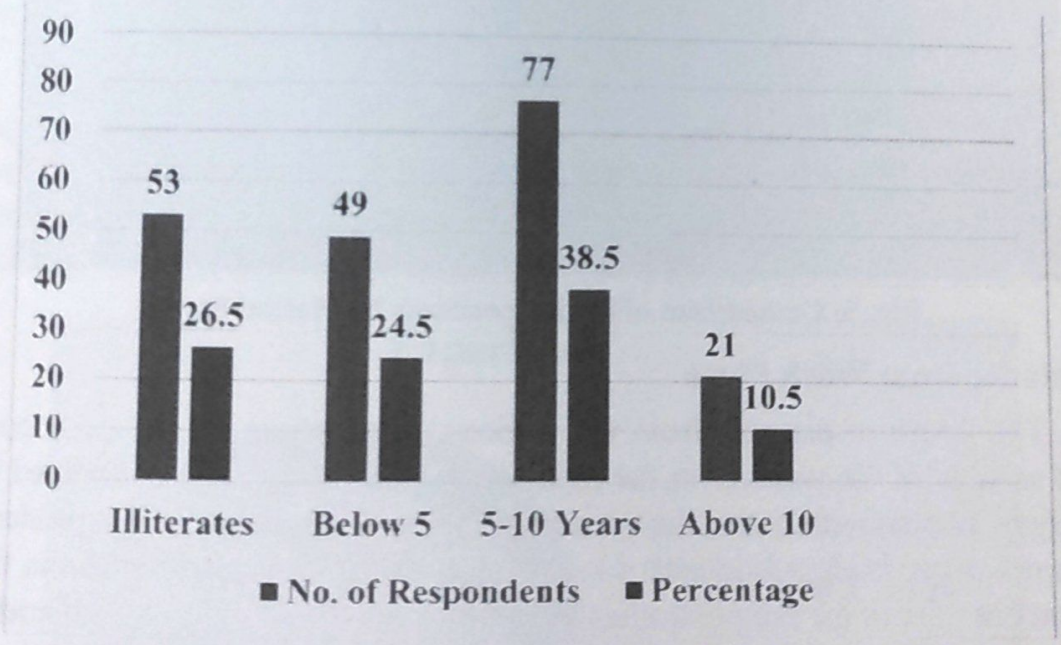


Fig. 4: Comparison of Education Level of the Respondents

Marital Status

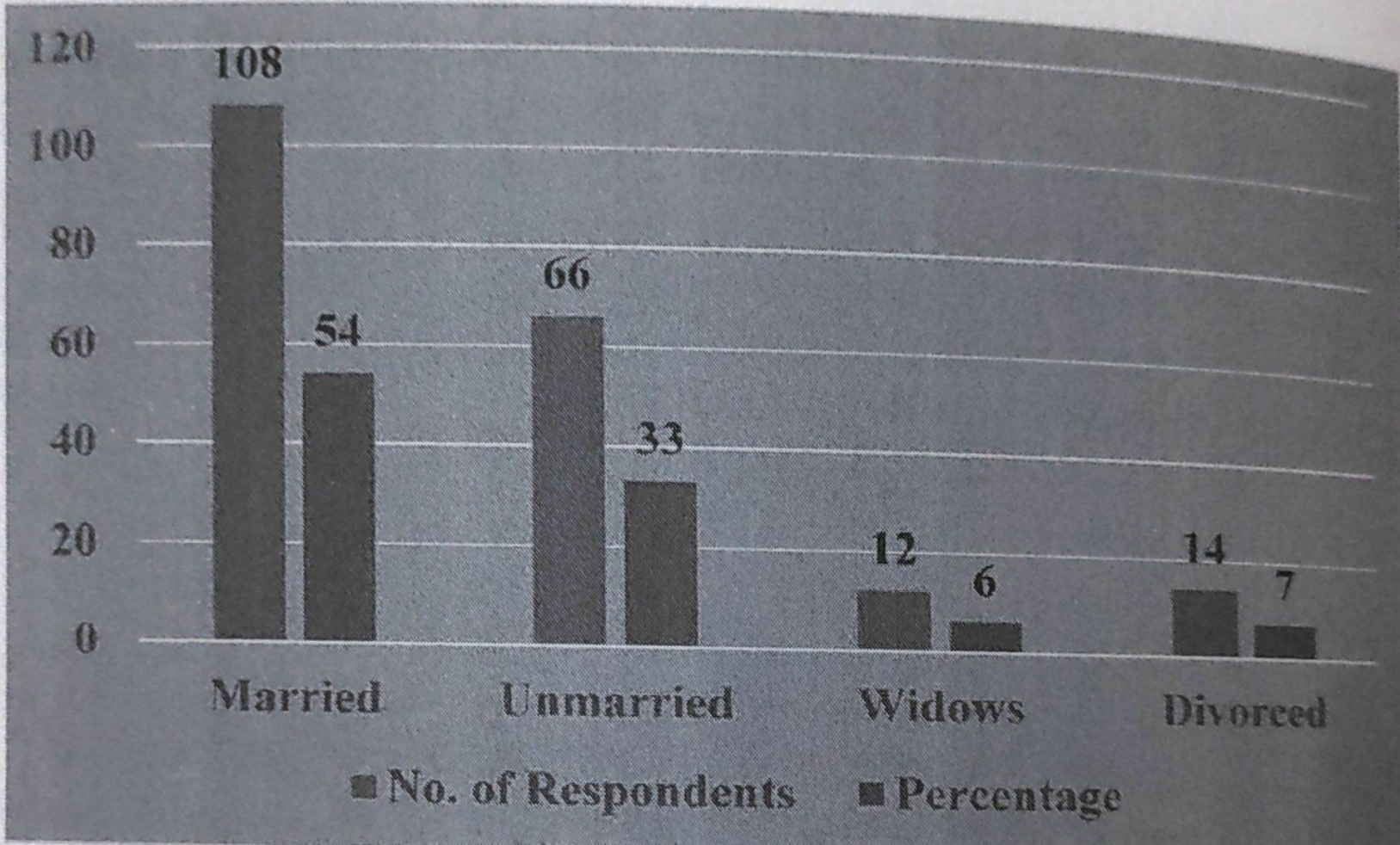
Marital status is also a significant factor that speaks about the social status of the individuals. Hence, the data pertaining to the marital status of the sample respondents was gathered in four categories and provided in Table 9 for analysis

d interpretation.

ble 9: Distribution of Sample Respondents by Marital Status

arital Status	No. of Respondents	Percenta
arried	108	54
married	66	33
dows	12	6
vorced	14	7
tal	200	100

The data revealed that 54 per cent of the respondents are married, 33 nt of the respondents are unmarried, 6 per cent are widows and 7 per cent e respondents are divorced.



women have more responsibility for day-to-day household tasks, such as childcare and domestic chores.All the sample respondents depend on auto for their daily travel to work place which involves high risk of accidents. Time constraints, access to public transport, travel with colleagues are the major reasons to this.

Experience in the Work

Experience in the concerned field too affects the earnings of the workers as it is a considerable criterion for fixing the wages. Therefore, it was considered for the analysis. Shifting land from agriculture to aquaculture in vigorous in the study area recent times than before. It causes the reduction in common agricultural works on which rural uneducated depend upon for their livelihood. Then, unskilled and under educated women in the study area gradually shifting to non-farm employment particularly aqua processing industry which attracts with job outlook in place of daily wage earner.

Table 10: Distribution of Respondents by Experience

Experience	No. of Respondents	Percentage
Below One Year	80	40
1-3 Years	62	31
3-5 Years	32	16
Above 5 Years	26	13
Total	200	100

The data revealed that 31 per cent of the sample respondents have the experience 1 to 3 years, 16 per cent having 3 to 5 years of experience,12.5 per cent having above five years of experience and 40 per cent of the sample respondents having experience of below one year shows new joining in the industry.

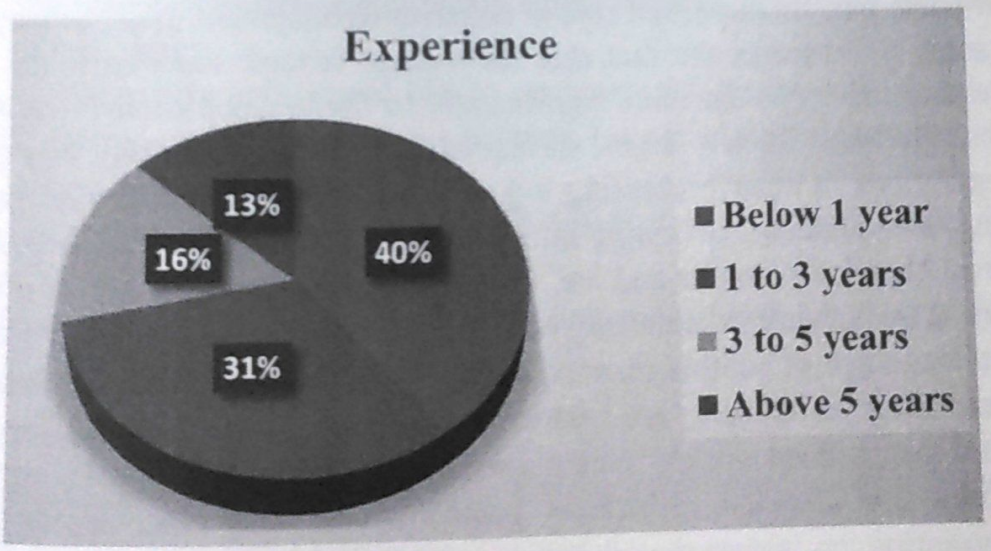
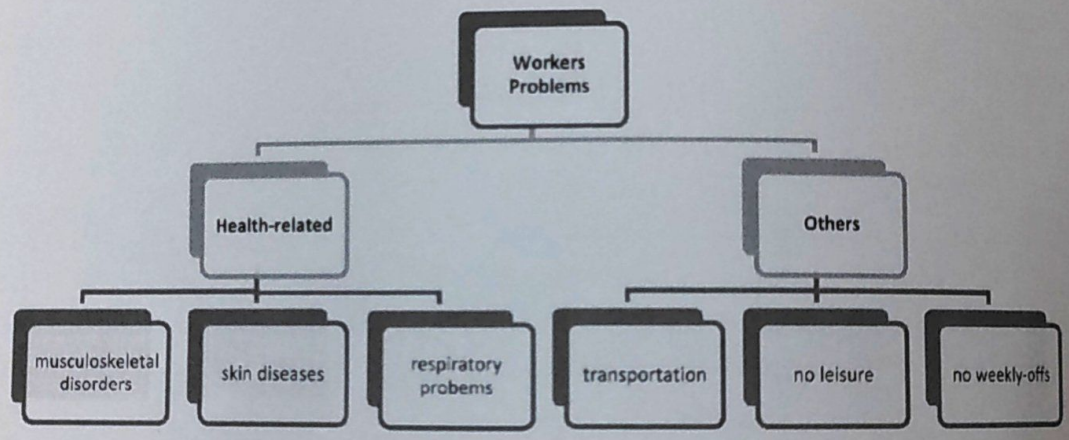


Fig. 6: Comparison of the Respondents by Experience

Nature of Work

The nature of the work that the workers are entrusted with decides their health position and affects their lives in many aspects.Therefore, the data with regard to this aspect was collected and analyzed. The usual works done by female workers in aqua processing industries are grading, peeling, de-heading, deveining, icing and packing. In this study sample, 70 per cent respondents are involved in peeling work, 17 per cent involved in de-heading, 10 per cent involved in grading and 2.5 per cent respondents are involved in deveining. Peeling off the shell is basic work in aqua processing particularly in case of prawn and shrimp processing. The work needs more time than other works. This is the reason for the greatest number of workers (70 % of the sample respondents) involved in peeling than grading, de-heading and deveining. Grading is an easy task and needs few time, de-heading done by demand basis and deveining done for exports only.

Common Problems Faced by Workers at Work Place



Women play an important role in fisheries development in the country and this study underscores the fact that the women laborer working in the aqua processing industry contribute significantly to the seafood export industry in Andhra Pradesh, which is largest shrimp exporter in India. Usually, majority of the operations in aqua processing industry are done by women like grading, peeling, De- heading, deveining etc. in which worker has to be exposed to different chemicals, smells and ice. Like other labor-intensive export-oriented sectors, there is a distinct preference for young, unmarried women in this industry. The average age of sample respondents is 36 in the processing firms and 70 per cent of the respondents are below 40 years' age. In this juncture, the study revealed that, women workers facing some health problems like musculoskeletal disorders, skin diseases, respiratory problems and some other problems like transportation, no leisure time in between working hours, no weekly offs etc.

Major Findings

- Three fourth of the respondents (76.5%) belongs to the age group of 20-40 as the nature of work is very tough in physical terms which is not easy for the aged people.
- Majority of the respondents have low education (Illiterates 26.5%& up to SSC 63%) and only 6.4 per cent of the respondents are educated above SSC as the nature of work is semi-skilled and unskilled in the aqua processing industry which needs no specific educational qualification. Hence, it is clear that aqua processing industry provides livelihood opportunities for uneducated and unskilled women.
- All the sample workers are using auto for daily travel to work place.
- All the sample respondents are working in regular shifts that is usually from 9AM to 6 PM. Some of the respondents said that they will do overtime sometimes on excess payment.
- Majority of the respondents go for other works like usual agricultural works, the works provided by the Government through Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) etc. when they find time.
- All the respondents are registered in MGNREGS scheme.
- The wage for women workers in aqua processing industry ranges from Rs.260 to 300 per day which is based on work performance.
- All the respondents are satisfied with their wage, and they are not aware of the concept of minimum wage.
- Above 81 per cent respondents are registered for Chandranna Bheema Yojana which is aimed at providing minimum insurance for those who are working in the unorganized sector.
- Above 78 per cent of the respondents are members in Self-Help Groups.
- The respondents get yearly bonus which depends upon their experience and regularity.
- All the respondents would like to continue with the present job because of unemployment and nearness to home. Low education status also makes them continue in the current job.
- The respondents have no job security even after putting in several years of service in the same processing firm.
- It is worth mentioning that the wage has no correlation with experience, age or period of service.

Suggestions

- Aqua processing firms need to provide transportation facility to the workers.

- The industry should think of giving an afternoon break to the workers for an hour or so.
- They need to organize the employment in terms of wage fixation, weekly off, basic insurance facility, regularization of work etc. as the industry has a very good scope to sustain for the long run in the study area.
- They need to follow the government guidelines in the fixation of wage (Recently the Andhra Pradesh State Government fixed the minimum wage at 380 rupees per day)
- They are advised to provide facilities like health care center, rest room for women, separate place for food, toilets with hand wash etc.

Conclusion

The study concludes that though the processing industries provide better employment to the unskilled and uneducated women in the rural areas of the district, the women workers in the industry are in need of further help and encouragement from the managements. All the problems they face in the industry may be redressed with sincere efforts from both the Governments and the managements. Since the industry is prospering day by day, it is their responsibility to address the issues of the women workers whose contribution to the progress of the industry cannot be gainsaid.

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At a Global Level aquaculture is one of the fastest growing food production sectors. The spread of aquaculture as a dynamic economic activity is witnessed across the world. Aquaculture is one of the major foreign exchange earners for India. Andhra Pradesh is the leading state in the country in production as well as exports of aqua products. The aquaculture sector, though acclaimed for its profits and protein-rich food supply, has its own problems which need to be addressed for achieving sustainability in the business.

The present book manifested itself with a repository of many chapters of different scholars focuses on the development of fisheries and aquaculture in India as well as in Andhra Pradesh and the challenges and opportunities in this field. A comprehensive range of articles on important issues in this areas of research such as growth of fisheries, status of fishermen in the country, problems of aqua farmers, production and exports trends of aqua products, linkages to aqua industry, women in the processing industry, employment opportunities, sustainability of the sector, environmental issues, processing and marketing of fish products etc. This book is produced specifically for the benefit of students of aquaculture, zoology, agricultural economics, applied economics, researchers, academicians, aqua farmers and policy makers. Every chapter in this book is reviewed and updated with reference to new developments and initiatives.

Prof. M. Koteswara Rao is a Professor of Economics having put up three and half decades teaching and research experience published very widely in National and International Journals of repute and presented papers in National and International Conferences. Guided 28 Ph.D's and 26 M.Phil's so far for the award of Research Degrees. Specialized in the areas of Urban Development and Labour Economics. Carried out 6 Research Projects sponsored by UGC and other Agencies. Prof. Rao is currently the Dean of Faculty of Social Sciences, Dean, College Development Council and Vice-Principal, University College of Arts, Commerce & Law, Acharya Nagarjuna University, Nagarjuna Nagar, Guntur District.

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CITY PUBLICATION

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West Gorakh Park, Shahdara,
Delhi- 110032, Mob: 8368465258
E-mail: citypublication2001@gmail.com

₹950.00

ISBN : 978-93-8911-720-2

9 789389 117202