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Achievements and Impact of The Livelihood Capacity Building Project for Fisherwomen undertaken by Indian Red Cross Society in 29 Coastal Villages in Nellore and Prakasam Districts of Andhra Pradesh between Feb 2011 To Jan 2013 - An Example of Addressing Social Determinants of Health

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Abstract

Indian Red Cross Society with the support of Spanish Red Cross implemented a livelihood project for the fisherwomen in the coastal districts of Nellore and Prakasam in Andhra Pradesh for a period of two years. The objective of the project was to improve the livelihood capacities of the fisherwomen by providing them locally viable livelihood tools and infrastructure as an example of addressing an important social determinants of health. A total of 1626 fisherwomen benefitted from the project. The project accomplished all the planned activities and was successful in fulfilling its objectives by improving fisherwomen's access to hygienic livelihood tools and infrastructure and by building their capacity through training programmes on hygienic post harvesting methods, use and maintenance of livelihood tools and marketing & negotiation skills. The project actively engaged the services and technical support of the fisheries department officials at every phase of the project and contributed to the department's effort of improving the livelihood of fisherwomen. An impact assessment study was conducted

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in January 2013 with 465 project beneficiaries from both the intervention districts. The impact of the intervention on the livelihood of the fisherwomen by comparing the results of both the baseline study, conducted before the commencement of the project and the impact assessment study conducted at the end of the project was clearly brought out by this study.

Key words: **Tsunami, livelihood capacity building, Nellore and Prakasam districts, Indian Red Cross Society.**

INTRODUCTION

The earthquake and resulting tsunami in the Indian Ocean on December 26th, 2004 had a devastating effect on India. According to the Indian government data almost 11000 people died in the tsunami and over 5000 went missing and feared dead. It was estimated that 380000 people had been displaced by the disaster. The areas hardest hit by the tsunami were the southeastern coast and the Andaman and Nicobar Islands. Perhaps the people most affected by the tsunami were the local fisherman. Eighty per cent of the people who were affected by the tsunami came from fishing communities and over 50000 fishing vessels were damaged by the waves.[1] Several fishing villages in Tamil Nadu were completely destroyed, nearly wiping out the whole population in some areas. Thousands of fishermen lost their boats and other fishing equipments in the disaster.

The fishermen further experienced problems when the price of fish in markets dropped substantially in the days and weeks after the tsunami. People were afraid of the eating the fish because they thought the fish may have fed off dead bodies in the water and became contaminated with disease. Although most of these fears were unrealistic, the demand for fish in the region declined by 30 percent after the tsunami, which only hurt the relief efforts further in the region. Most of the fishermen and people living in the fishing villages were relatively poor and came from low castes of the society. The primary issue then in the fishing villages was how to repair the fishing boats and equipment and rebuild the economy.[2]

Restoring the livelihoods of the fisherwomen lost in tsunami and or natural calamities turned out to be a major intervention for the governments and many humanitarian organizations. Although the development interventions for the fisher folk community were intensified in coastal Andhra Pradesh after tsunami by both the government and humanitarian organizations, the fisherwomen women still remained the most neglected section of the community. They playa critical role in fish processing and marketing but with limited facilities, knowledge and skills on hygienic post harvesting methods and access to fish markets. The fisherwomen lacked hygienic facilities to fish preservation and post harvesting such as curing of fish in sail fish drying and storing the dry fish in safer place and smoking of fish. In addition to the above, the fisherwomen lacked sufficient knowledge and skills related to post harvesting methods.

The poor economic conditions and unhygienic methods adopted by the fisher folk In their livelihood activities attracted the attention of Indian Red Cross Society to extend its support to improve their livelihoods in coastal districts with the support of Spanish Red Cross.

Profile of the affected state

Andhra Pradesh is a state situated on eastern coast of India. It is India's fourth largest state by area and fifth largest by population. The State has the second longest coastline (972 km) among all the States in India. Prakasam District is an administrative district in the state of Andhra Pradesh, India. The district headquarter is located at Ongole. The district occupies an area of 17,626 square kilometer. The impact of tsunami which struck tile coast on 26th December 2004 in the district was as follows: Human life lost-35, Population affected 92547, Cattle lost-176. Houses damaged-100, Salt tanks damaged-565 Crop damaged-442 hectares, Loss of fishing nets-38461, Boats lost/damaged : 10683.

Nellore is a city located in the state of Andhra Pradesh, India. It is the headquarters of the Nellore district. The District has a coastal line of 169 Kms covering 12 mandals. There are 93 coastal fishermen habitations having 82500 populations out of which 16300 are active fishermen. The estimated marine landings in the District are 54941 mts. There is a Pulicat Lake which is the 2nd biggest Brackish Water Lake in the country with an area of 468 Sq. Kms. The lake accounts for annual production of 6500 Mts. of Fishery wealth providing livelihood to 11000 Fishermen covering 20 Kuppams around the lake. The impact of tsunami[3] which struck the coast on 26th December 2004 in the district was as follows, : Human life lost-20, population affected-16578, Cattle lost-34, Houses damaged-119, Salt tanks damaged: 3, Fish tanks damaged-2 Crop damaged-104 hectares, Loss of fishing nets : 2476 and Boats lost I damaged: 3323.

MATERIALS AND METHODS

Base line survey and the Participatory Rural Appraisal (PRA): A base line survey was conducted during the month of July 2010 to acquire factual and credible baseline data about the livelihood conditions of the target fisherwomen, and to understand perceptions and ideas of the fisherwomen regarding their livelihood and its management. The survey was cross sectional in nature employing both qualitative and quantitative methods of data collection. Additionally, observations, field reports and existing data were reviewed and used to validate collected information.

A quantitative survey was used to obtain information focused on socio-economic and livelihood related aspects of fisherwomen such as fish preservation, fish curing, fish drying storing dried fish and transporting fish. A qualitative method was used to obtain information regarding people's perceptions, experiences and behaviors that could increase the understanding of the findings of the survey and the social and cultural environment. In Focused Group Discusslons participants debated behaviors, explanations to problems and/or propose solutions to problems related to their livelihood.

To increase the quality of the data, IRCS volunteers were trained first hand on the data collection. Questionnaires and interviewer's guide were developed in order to improve quality and understanding of the questions. Data was analyzed using SPSS

version 16.00. It mainly consisted of frequency descriptions and preliminary exploration of relationships between variables.

Quantitative data was obtained through survey implementation. The used structured interview consisted on 16 items focused on socio-economic and livelihood related topics. IRCS and SRC staff tested the drafted English version of the questionnaire and made corrections on the basis of observations. Then, the final English version was translated into Telugu, to ensure that the questionnaire was conducted in a language used in the community to Improve the clarity of questions and reduce interviewer's variations. Random sampling of the respondents was adopted based on the total list of beneficiaries received from the Fisheries Department. A total of 1000 respondents (29%) out of 3442 identified project beneficiaries were selected for the survey.

Survey administration: The survey was conducted by 20 trained IRCS volunteers (10 in each district). Data collection was monitored by 2 IRCS District Coordinators (1 per District) and IRCS State Project Coordinator. 2 IRCS District Secretaries (1 per District) and IRCS Honorary Chairman along with SRC delegate. Program Manager and State Programme Coordinator assisted the process.

Respondents were selected randomly from the list provided by the Fisheries Department, the Volunteers visited that particular respondent in the village and interviewed. Each Volunteer had a fixed number of questionnaires to be filled daily, a the end IRCS District Coordinators and IRCS State Project Coordinator checked all questionnaires filled. It was mandatory for correct fulfillment at every page and uncompleted questionnaires were declined.

Data coding and process: Part of the data coding was automatically built In the questionnaire in order to ease data entry. The interviewer ticked the case corresponding to the right answer where and when applicable and wrote down on the questionnaires for further specifications. The IRCS District Coordinators reviewed the filled questionnaire in the field Data entry started during data collection phase and was completed a week after the end of the fieldwork. Data was analyzed using SPSS version 16.00.

The survey targeted 1000 fisherwomen involved in fish vending, between 19 and 70 years old. All represented from 2 Districts, 14 Mandals, 32 Panchayats and 48 Villages of Andhra Pradesh State in India.

RESULTS

Findings of base line survey: The salient findings were as under. The survey targeted 1000 fisherwomen between age group from 19 to 70 years in 2 Districts, 14 Mandals, 32 Panchayats and 48 Villages Average family size of the fisherwomen was 3.68 out of which 2.17 were working family members, in fish vending, 72% of the fisherwomen were involved in fresh fish vending and only 17% involved in vending dried fish for human consumption. Fisherwomen lived in good houses, 74% of the fisherwomen lived in concrete houses, 15% lived in houses having tiled roofs and 10% were still living in houses with thatched roofs. Illiteracy rate was very high, 73% of fisherwomen involved in fish vending were illiterate and 21% of fisherwomen were educated only up to 5th standard 64% of ice box and 18% of fish curing

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Livelihood Information

Fisherwomen spent 5.71 hours per day, 4.47 days per week and 7.16 months in a year for fish vending related activities 4% of the fisherwomen paid a tax amount of Rs 21-50 per day to he fisheries union who were he local decision makers for fish vending related activities, 8% of the fisherwomen paid a commission amount of Rs 50 per day to their occupational partners who were associated with them for fish vending related activities. Fisherwomen spent Rs 62 or travel and Rs 913 for buying fish daily to preserve/ process and vend fish 85% of fisherwomen spent Rs 59 to buy Ice daily for preserving and vending fish Fisherwomen mainly spent Rs 1033 daily for direct occupation expendi-tures like for travel purchasing fish and ice. 33% of fisherwomen spent daily Rs 21 for other direct occupation expenditures like for purchasing salt, polythene covers, buying meals, paying for labor, purchasing thermo-col boxes, aluminum vessels and bamboo baskets. Per day the fisherwomen bought 38 kilo grams of fish for preserving/ processing and vending related activities and sold 33 kilo grams Fisherwomen daily got a gross amount of Rs 1187 and a profit of Rs 190 through vending fish. 97% of fisherwomen saved Rs 155 monthly from the profit earned through their vending fish in banks, SHGs, post offices, local chit fund agencies and lending money to neighbors with interest rates 52% of fisherwomen felt they had good skills on hygienic post harvesting of fish. 53% were satisfactory of their skills on village income generation programmes. 54% were satisfactory of their skills on functioning of Community Based Organizations (CBO) and 45% felt hey have bad knowledge on fisheries department schemes. 85% of fisherwomen were members of the CBO in their respective villages like fisheries cooperative societies, SHGs, Development of Women and Children in Rural Areas (DWCRA), women welfare societies and Mathsya Mithras (a cooperative society). 57% of fisherwomen fell their local CBOs had good capacities in organizing/ conducting regular meetings, 53% believed there was good participation by all members,

43% were satisfied on decision making/ facilitating village activities and 34% were satisfied of the relationship with local government organizations. 74% of fisherwomen felt the local community should take responsibility in maintaining the livelihood resources in the village. 4% of fisherwomen migrated to neighboring villages 1.20 weeks In a year for fish vending related activities. 24% of fisherwomen were indebted Rs 4050 annually to the local money lenders and banks for carrying out fish vending related activities.

Post Harvesting of Fish

Preserving Fish: (Only ice box respondents) 48% of fisherwomen used aluminum vessels to preserve fish with ice; 31% used thermocol boxes and only 15% used ice boxes Fisherwomen could preserve 26.84 kilograms of fish In their containers with ice for 1.57 days. 35% felt the condition of the container was satisfactory and its life was for 1.96 years. Daily fisherwomen wasted 1.55 kilograms of fish due to poor capacity to preserve hem for long using their containers.

Fish Curing: (Only fish curing tub respondents) 85% of fisherwomen used cement tubs to cure fish with salt and water, 13% cured in used plastic containers available at their home. Fisherwomen could cure 45. 10 kilograms of fish In their containers with salt and water. The time taken to cure fish by fisherwomen using their containers was 2.02 days 35% felt the condition of the container vas bad and its life was for 2.73 years.

Drying Fish: (Only fish drying platform respondents) 65% of fisherwomen dried fish on nets/leaves and 26% dried on sand/soil in the open sunlight for 2.78 days. 1 kilogram of dried fish processed by the fisherwomen costed Rs 51.15 in the local market.

Storing Dried Fish: (Only dried fish storage shed respondents) 85% of fisherwomen safety stored the dried fish at their houses for 6.41 days. Fisherwomen reported they had lost 54.16 kilograms of dried fish during he last rainy season.

Transportation of Fish: (Only truck auto rickshaw respondents) Fisherwomen travelled 23.45 kilometers and spent Rs 48.75 dally for their travel to lend fish. 50% of fisherwomen transported fish by auto & bus. 38% transported only by auto and 12% transported by auto & walk daily. 98% of fisherwomen used aluminum vessels with fish for transporting from their village to the fish markets, 2% used thermocol boxes. 100% of fisherwomen hired autos for transporting fish from the village, out of which 4.05 fisherwomen share the same auto and transported 96.38 kilograms of fish each daily traveling a distance of 29.70 kilometers which took about 1.88 hours costing Rs 54.63 each for the travel. Fisherwomen travelled 1.33 times daily using auto, 1.15 times by bus and 1 time by walk. Fisherwomen transported 39.50 kilograms of fish daily by bus traveling a distance of 26.73 kilometers which took about 2.75 hours costing Rs 30.88 for the travel. Fisherwomen transported 10 kilograms of fish daily by walk traveling a distance of 5 kilometers which took about 1 hour for the travel.

Key Interventions instituted based on base line survey and Participatory Appraisal : A total of 1527 ice boxes were supplied by the end of October 2011. All, ice boxes, were distributed to the beneficiaries in both the districts through public meetings

presided over by he higher officials of the district administration 99 fish curbing tubs (68 in Nellore and 31 in Prakasam) were supplied. One truck each of auto rickshaw for each of the district was procured and provided. In order to provide hygienic Infrastructure to the fisherwomen in the form of fish drying platform and dry fish storage sheds, 13 fish drying platforms and 13 dry fish storage sheds were constructed in the month of July 2011. Sensitizing the fisherwomen, particularly the project beneficiaries, and the village elders, the project beneficiaries had been formed into Village Maintenance Committees with the objective of increasing he participation and responsibility of the community in use and maintenance of the livelihood infrastructure built in their villages. A training manual was developed to build the capacity of VMCs on community organization management. The volunteers were trained as trainers for using this manual.

The Volunteers too have been trained by the State Institute of Fisheries Technology (SIFT) on hygienic post harvesting methods, use and maintenance of livelihood tools: marketing and negotiation skills. A total of 43 such trainings were conducted in the two districts. After consultations with the officials at the Commissionerate of fisheries, Hyderabad and National Fisheries Development Board (NFDB) and focus group discussions with fisherwomen a training manual was developed. 43 trainings were conducted in the districts using this manual.

Mid-term Evaluation and Impact Assessment Study: A three days mid-term evaluation of this livelihood project was carried out by an internal team composing at representatives from IRCS Andhra Pradesh State Branch (APSB), SRC, volunteers and project beneficiaries to assess the progress of project is relevance and approaches adopted. A well-structured impact assessment study was conducted in January 2013 with 465 project beneficiaries from both the intervention districts.

KEY ACHIEVEMENTS

1. Increased livelihood capacities of fisherwomen in terms of knowledge, skill, materials and infrastructures contributing to a sustainable livelihood: The project has enhanced the livelihood capacities of 1626 project beneficiaries by way of a) Improved fish preservation facilities by providing 1527 ice boxes. b) Improved hygienic facilities for curing of fish by providing 99 fish curing tubs c) Improved hygienic fish drying facilities by constructing of 13 fish drying platforms d) Improved facility for storing of dry fish by constructing 13 dry fish storage sheds e) Improved transportation facilities in remote villages by providing 2 truck auto rickshaws f) Improved knowledge & skills of project beneficiaries on hygienic pos harvesting of fish by 49.40% (from 61.11% to 91.30%) and g) Improved knowledge and skills of project beneficiaries on marketing & negotiation by 37% (from 65% to 89%).

Increased profit through their livelihood: By the end of the project, the average profit earned by the project beneficiaries had increased by 16.26% (Average profit earned after the intervention profit was Rs 221.00, while it was only Rs 190.00 before the Intervention).

Increased material resources and infrastructures of fisherwomen: Fisherwomen's capacity to buy fish (in quantity) increased by 25% compared to their capacity before project

intervention. The capacity to buy fish (financially) increased by 39.71% compared to their capacity before the intervention Fisherwomen's capacity to sell fish (in quantity) increased by 30.78% compared to their capacity before the intervention. Average days of fish preservation in the containers increased by 67% (from 1.57 days during pre-intervention to 2.62 days after the intervention). 98% of fisherwomen dried fish on platforms by the end of project, while only 2% dried on platform before intervention. 96.83% of fisherwomen used dry fish storage shed to preserve dry fish, while none had access to them before he intervention. Due to improved access to truck auto rickshaw 29% sold fish fresh in time, 31% sold fish for good market value and 16% bought fish from neighboring villages.

Improved capacities of fisherwomen in post harvesting methods, community organization management, and marketing & negotiation skills: Overall 91.37% of project beneficiaries had improved knowledge and skills about preservation, personal hygiene and hygienic handling of fish. 91.42% of project beneficiaries had improved knowledge levels on use and maintenance of ice boxes, curing tubs, dry fish infrastructure and truck auto rickshaw. 97.60% of VMC members had improved knowledge and skills In functioning and management of community organization 90.60% of project beneficiaries had improved awareness and information on existing fisheries schemes while 89% of project beneficiaries had improved knowledge and skills on marketing & negotiation skills.

DISCUSSION

Health equity gaps are growing today, despite unprecedented global health and technological progress. Health inequities are avoidable inequalities in health between groups of people within countries and between countries. These inequities arise from inequalities within and between societies. Social and economic conditions and their effects on people's lives determine their risk of illness and the actions taken to prevent them becoming ill or treat illness when it occurs. The poorest of the poor, around the world, have the worst health. Within countries, the evidence shows that in general the lower an individual's socioeconomic position the worse their health. There is a social gradient in health that runs from top to bottom of the socioeconomic spec rum. This is a global phenomenon, seen in low, middle and high income countries. The social gradient in health means that health inequities affect everyone. Health equity depends vitally on the empowerment of Individuals to challenge and change the unfair and steeply graded distribution of social resources to which everyone has equal claims and rights In rural India, women are three times more likely than men to go without treatment for long-term ailments a trend that persists even amongst the 'non-poor. When treatment is sought significantly smaller sums of money are spent on treatment of women than on men.

In terms of relevance, interventions were appropriate and relevant from all stakeholders point of view. The project provided a unique support to women fisher folks which to the best of our knowledge no organization has done before. Given the higher vulnerability of women fisher folks compared to men, in terms of low Income as well as poor

hygienic practices the intervention appeared as very appropriate. The intervention allowed not only the increase of the economic contribution of the women to the household incomes but also raised their self-confidence and confidence in the quality of the product they sold. The intervention supported not only the economy of the family but also Initiated behavioral change awards more hygienic practices leading to better quality fish (fresh and dry). A wider knowledge about marketing financial and negotiation skills that of course had contributed to the improvement of the family income as well as of the position of women in the family and their decision making capacity.

Regarding the sustainability of the interventions, in general some women and in general, all the village authorities consulted, reported that they have no intention of reverting to previous traditional practices (very unhealthy and in some cases dangerous. There was a question mark on what will beneficiaries do when the ice boxes, curing tub, were spoiled and could not be used anymore. The curing tubs were of new designs and technology introduced specifically through the interventions. Smoking bins and curing tubs were not commonly available In the market but they had to be specifically manufactured on order basis in principle. Most of the beneficiaries felt they will never return to what they were doing be ore since they had seen the benefits of the new tools and practices. It is very important that the assets had been given together with training and awareness; the combination of both was who has allowed the startup of the behavioral change, in post - harvesting methods and market approaches. The interventions were going beyond the simple asset distribution. There is a very important component of awareness that leads to behavior changes.

Regarding the sustainability and use of the constructions, recommendation about constructing shed and store next to each other was well taken for this project losses due to storms heavy rains are minimized. Regarding tile Impact, the intervention had increased families' incomes as well as had changed people's mindset, capacities and skills. This was possible mostly through he trainings. The trainings they received were on use & maintenance and marketing & negotiation skills. Most of the stakeholders found both very useful and there was diversion of opinions on which training was more useful. Use & maintenance was very relevant in those areas having poorest hygiene practices (e.g. Snkakulam) but marketing was something totally new for all the women so it opened a new window for them especially with financial management module.

The intervention had also contributed to improve the position of women within the family. The fact that they could contribute financially more than before had empowered them to decide or to have a say on what/how the money will be spent. Women reported that they used the extra money to invest in the business, pay for some health/education, repay loans. This is considered a very positive and relevant impact towards gender equality. However, the interventions were not planned considering any gender perspective or approach this is an unplanned impact. Regarding the participation, in general, there was an acceptable level of involvement of all stakeholders although the project was not

planned and designed in a participatory way VMCs structure seemed to be working so far. Regarding the involvement of beneficiaries; they were consulted on the training of Marketing & Negotiation skills but not in the use & maintenance. Local authorities had been very involved and supported a lot the VMCs and had supported as well he constructions and involvement of village men in the project Partnership model in general was very good. All the partners were very satisfied with the relation and there were only positive comments about partnership: smooth relation. good cooperation and support Social impact and women empowerment through mussel farming in Kerala India, has been reported.[4] Factors influencing the livelihood Index and level of aspiration of fisherwomen have also been documented in other studies.[5,6]

Globally, women in fishing communities play multidimensional roles. Their involvement in fisheries value chains are often considered as invisible in spite of being active in a wide range of harvest and post-harvest activities both in capture and culture fisheries. It is estimated that out of the total population depending on capture fisheries, 47 per cert were women (World Bank, 2012).

Nearly 20 per cent of the catch is processed, 65 per cent of the fish is marketed as fresh fish, with women dominating in the retail fresh fish trade in all maritime states of India. Nearly 20 per cent of the catch is processed using traditional methods like salting and drying, which is the main livelihood activity for a significant number of women in coastal areas. Women ale important from the livelihood, food and nutritional security point of view at the household (micro level) and the resource use, sustainability and value addition point of view at the regional and national levels (meso and macro levels). Besides the actual Jobs they are engaged in, the larger environmental, socio-cultural and policy framework within which hey are employed also have an impact on their contributions to households and communities.

Fisheries sec or plays an important role in the Indian economy by way of contributing to the national income, employment and foreign exchange. It has a vas potential for fish resources both from inland and marine environment. India has about 1.6 million hectares of freshwater lakes, ponds, and swamps and nearly 64,000 kilometers of rivers and streams. The production has Increased from 0.6 million tones of fish five decades ago to nearly 6.0 million tones out of which inland fisheries contributes 45.4%. Andhra Pradesh ranks second In Inland fisheries with 8.93 lakh fishermen population, contributing 2.30% to Gross State Domestic Product.

The Government has undertaken various schemes to meet the requirements of fishermen. However, benefits of the schemes have not reached to the vulnerable groups. A study indicates that 82 per cent of marginal fishermen have not received any kind of support/benefits from the government sponsored schemes. Thus it is necessary that he policies be framed towards weaker sections/marginal fishermen in order to improve their livelihood and quality of life. Access to markets is a major problem. For instance, the distance from the village/town to the nearest market centers sometimes 20 kms and that fish would decompose while

being transported. Lack of storage facilities and poor networking also force them to sell at low prices.

If better infrastructure facilities are provided, fish could be preserved for longer periods and sold at bigger market centres a higher prices. The small-scale fishers are very poor and hence have to depend on middlemen for credit cutting down their profit margins. Dependency on the middle men not only makes it impossible for the fishermen to come out of the vicious cycle of deb but also to sell the fish at low prices. Fisheries have definitely proved to be an important sector supporting livelihoods of a large population directly and indirectly. However, it has been observed that this sector largely support the fishermen at the subsistence level but has a large scope for improvement by building capacities through skill up gradation and empowerment. Small interventions can have a larger impact on their quality of life besides securing their livelihoods. Establishing market linkages to ensure that the benefits accrue to the fishermen directly, is important as the fishermen are generally at the mercy of middlemen. This project Implementation has given answers to these problems.

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