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IMPACT OF VOCATIONAL EDUCATION AND TRAINING OF FISHER YOUTH IN GULF OF MANNAR REGION, TAMIL NADU

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Introduction

India, the second largest populated country in the world, has the advantage of having very high number of workforce in productive age category but our industries are still facing a crucial shortage of "skilled and "qualified" man power. There is a huge supply-demand gap of skilled and trained workforce since our current educational system is non-responsive to the skill demands of our existing industries, let alone the future ones. The alarming issue is whether the skills and qualification of our unemployed youth match the needs of the employer.

We have been focusing on expanding university study and in improving human capital through increased duration of study, conveniently forgetting that knowledge and skill are altogether different. It can be certainly stated that not all knowledgeable persons are skillful in transforming knowledge into skills. We have been expanding higher education with relatively little attention being paid to vocational education and training in the way firms demand and use skills in the work place.

Outside the school system, we have restricted number of institutions that offer vocational education and training, and that too to a restricted population of students who have passed at least level 10 or 10+. Skill training in the unorganized sector, which forms 92 per cent of our workforce, is non-existent who are only basically trained by local skilled persons or family elders. It is estimated that over 57 million school drop outs / illiterates are unskilled and as per our recent industry analysis, nearly 75 to 80 million jobs will be created in the country over the next five years, which will entail that our workforce are trained in skill development / up gradation, since 90 per cent of the jobs are skill based. As at present, it has been estimated that only about two per cent of our youth have been vocationally trained.

According to a survey conducted by "Times of India" (May, 2013), only about seven per cent of the whole working age population have received vocational training. In this context, vocational education and training assumes great significance for a developing economy like ours.

Importance of Vocational Education

Vocational education and training (VET) is an important element of the nation's education initiative and nation building. Vocational education prepares people for a specific trade. It directly develops expertise in techniques related to technology, skill and

scientific technique to span all aspects of the trades. Vocational education is hence, classified as using procedural knowledge.

Generally known as Career and Technical Education (CTE) or Technical and Vocational Education and Training (TVET), it prepares people for specific trades, crafts and careers at various levels. Craft vocations are usually based on manual or practical activities and are traditionally non-academic but related to specific trade / occupation. Vocational training has diversified over the 20th century and now exists in industries such as retail, tourism, information technology, funeral services and cosmetics as well as in the traditional crafts and cottage industries.

Hence today, TVET is a sine qua non for empowering youth to engage in productive and sustainable livelihoods. Today's knowledge - based economy demands a new generation of highly educated and skilled people. The economy's performance will be gauged by people's ability to create, share and use knowledge successfully. Innovation and growth is possible only with the aid of knowledge workers / technicians with analytical and flexible brain power.

UNDP-GEF initiative on VET

Gulf of Mannar, situated in East coast of Tamil Nadu, South India, stretching from Pamban in Ramanathapuram district till Kanniyakumari is a rich repository of invaluable marine and coastal biodiversity. It has been estimated that over 4200 species of flora and fauna inhabit Gulf of Mannar region. It is the richest biodiversity hot spot in South East Asia. This rich biodiversity is getting fast depleted due to pernicious fishing practices and over exploitation of marine resources by the local fisher community. This caused a "particular concern" to the UNDP-GEF, which funded a project to conserve and sustainably manage the marine resources of the region, with a project cycle of 10 years (2002 - 2012). The project envisaged imparting of capacity building training and creation of alternate livelihood options in non-fishery sector for the fisher youth. It was thus, aimed to reduce the pressure on marine resources of the local community.

It is worth mentioning that the children of the fisher community, especially boys, generally drop out of school and join the band of bottom travelling fishery labour force. This has led to increasing number of people depending on marine resources for their livelihood, which has, not only rendered fishery unsustainable but also led to depletion of invaluable marine resources and degradation of the habitat of the biodiversity.

Vocational Education and Training

The project identified and selected fisher community children who have passed level 10 of schooling and imparted them vocational education in polytechnic colleges and community colleges that are regularly conducting skill education programmes. The students selected hailed from fisher community, who inhabited 248 numbers of villages / village

hamlets in the project area spread over Ramanathapuram and Thoothukudi districts in Tamil Nadu. The duration of the training varied between 6 months to one year depending on the nature of the course. Capacity building and skill imparting training was offered to the students in the following disciplines as per their choice and aptitude, based on an interview conducted. The entire cost of education, including hostel fees, was borne by the UNDP-GEF. The average cost of education incurred per student varied between Rs. 10000 to Rs. 15000, depending upon the course and duration of study. On completion of training, trainees are awarded diploma certificates.

1. Computer Application / CAD / Computer Hardware
2. Health Assistant / Nursing Assistance
3. JCB operation
4. Basic electrical engineering and plumbing (Home appliances repair)
5. Four wheeler driving
6. Refrigeration and AC mechanism
7. Welding Technology
8. Automobile Engineering
9. Catering Technology
10. Primary Teacher Training / Early childhood care and education
11. Laboratory Technician
12. Fashion designing / Beautician / Beauty care
13. Printing Technology
14. Tailoring
15. Operation Theatre Technology

Fisher community children are selected and nominated to undergo anyone of the above diploma courses at reputed academic institutions free of cost. On completion of the course, students are recruited by private industries / employers in the campus interview.

Statement of the problem

This study aims to analyze the impact of vocational education and training on fisher community children in the coastal, semi-coastal and inland villages in Gulf of Mannar region of Ramanathapuram and Thoothukudi districts in the state of Tamil Nadu. Fishery is the primary sector in the region. Agriculture is technically not feasible and hence economically unviable due to edaphic factors. Manufacturing and services sectors have not developed significantly in this region. Hence, communities depend either fully or partially on fishery sector for their livelihood, which has led to faster depletion of the rich biodiversity of the region. By weaning away the future generation of fisher youth from dependence on marine resources, it is contemplated that the marine and coastal biodiversity will be sustainably managed and conserved for posterity in the long run.

Objective of the Study

1. To analyze the impart of vocational education and training on fisher youth in getting alternate livelihood options in non-fishery sector, and
2. Through this, to study if the precarious marine biodiversity can be sustainably managed and conserved for posterity.

Hypotheses of the Study

In consonance with the above objectives, the following hypotheses have been framed and tested with suitable tools.

1. Majority of the trained youth have been gainfully employed in non-fishery sectors after undergoing the training, and
2. Sustainable management and conservation of marine and coastal biodiversity is ensured in the long run.

Methodology

1594 fisher youth have been imparted with vocational education and training between 2007-08 and 2011-12 (five years). A structured interview schedule was used for conducting the survey. For convenience, the entire project area was divided into four zones and 12 sub-zones as indicated in the table to follow. The entire population of 1594 numbers of trainees was taken as the sample and with the help of field workers, survey was conducted during June 2011 and July 2012. Details of the trainee's present employment, place of employment, sector of employment and salary received were collected. Wherever the trainee could not be personally interviewed the trainee's parents / senior most member of the family was interviewed and accuracy of data thus collected cross-checked with neighbours.

Results and Discussion

Table 1 reveals the number of fisher youths sponsored for vocation education and training between 2007 and 2011.

Table 1: Details of Trainees

S. No	Year	No. of candidates sponsored for training
1.	2007-08	360
2.	2008-09	546
3.	2009-10	320
4.	2010-11	259
5.	2011-12	109
	Total	1594

Table 1 is self explanatory and it is revealed that, in total, 1594 numbers of fisher youth, who have completed 10th school level, have been sponsored by the Gulf of Mannar Biosphere Reserve Trust (GOMBRT), which implemented the project with UNDP-GEF funding,

Table 2 details the Course-wise and Zone-wise abstract of trainees sent for Vocational training.

Table 2: Vocational Training – Course Wise / Zone Wise Abstract

Sl. No	Course	Zone				Grand Total
		Mandapam	Keelakarai	Erwadi	Tuticorin	
1	Computer application / CAD / Computer Hardware	34	20	153	137	344
2	Health / Nursing Assistant	130	36	42	66	274
3	JCB Operation	30	17	54	107	208
4	Basic Electrical and Plumbing (Home Application Repair)	33	8	44	77	162
5	Four wheeler Driving	12	7	152	0	171
6	Refrigeration and AC Mechanism	79	20	52	8	159
7	Welding Technology	3	6	13	44	66
8	Automobile Engineering	25	2	5	17	49
9	Catering Technology	20	20	3	0	43
10	Primary Teacher Training / Early Childhood care ft Education	22	11	5	17	55
11	Lab technician	6	2	1	6	15
12	Fashion Designing/Beautician/ Beauty care	0	0	0	18	18
13	Printing technology	5	0	2	0	7
14	Tailoring	22	0	0	0	22
15	Operation Theatre Technology	1	0	0	0	1
	Total	422	149	526	497	1594

From the Table, It is seen that Computer application attracted maximum number of fisher youth (344 children), followed by health nursing assistants (274 numbers) and JCB operation (208 candidates),

Table 3 indicates the course wise abstract and zone / sub zone wise number of students who have undergone the skill / craft training,

Table 3: Vocational Training – Zone / Sub Zone Wise / Course Wise Abstract

ZONE / SUB ZONE		COMPUTER APPLICATION / CAD / COMPUTER HARDWARE	HEALTH ASSISTANT / NURSING ASSISTANT	JCB OPERATION	BASIC ELECTRICAL ENGINEERING AND PLUBMING (HOME APPLIANCES REPAIR)	FOUR WHEELER DRIVING	REFRIGERATION & AC MECHANISM	WELDING TECHNOLOGY	AUTOMOBILE ENGINEERING	CATERING TECHNOLOGY	PRIMARY TEACHER TRAINING / EARLY CHILDHOOD CARE & EDUCATION	LAB TECHNICIAN	FASHION DESIGNING / BEAUTICIAN / BEAUTY CARE	PRINTING TECHNOLOGY	TAILORING	OPERATION THEATRE TECHNOLOGY	Grand Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
I	Dhanuskodi	3	29	13	5	1	5	0	0	4	5	0	0	0	0	0	65
IB	Thangachimadam	9	19	0	5	1	18	2	1	0	3	2	0	0	0	0	60
IC	Mandapam	6	48	11	4	0	35	0	15	5	8	0	0	5	22	0	159
ID	Uchipuli	16	34	6	19	10	21	1	9	11	6	4	0	0	0	1	138
I	**Mandapam Zone**	**34**	**130**	**30**	**33**	**12**	**79**	**3**	**25**	**20**	**22**	**6**	**0**	**5**	**22**	**1**	**422**
IIA	Periapattinam	6	17	8	5	2	10	4	0	20	7	0	0	0	0	0	79
IIB	Keelakkarai	14	19	9	3	5	10	2	2	0	4	2	0	0	0	0	70
II	**Keelakkarai Zone**	**20**	**36**	**17**	**8**	**7**	**20**	**6**	**2**	**20**	**11**	**2**	**0**	**0**	**0**	**0**	**149**
IIIA	Erwadi	90	22	11	17	96	11	0	2	3	3	1	0	0	0	0	256

IIIB	Mariyur	55	10	39	19	50	35	13	3	0	2	0	0	2	0	0	228
IIIC	Kamarajapuram	8	10	4	8	6	6	0	0	0	0	0	0	0	0	0	42
III	**Erwadi Zone**	**153**	**42**	**54**	**44**	**152**	**52**	**13**	**5**	**3**	**5**	**1**	**0**	**2**	**0**	**0**	**526**
IVA	Vembar	41	18	26	54	0	2	7	2	0	3	0	0	0	0	0	153
IVB	Tuticorin	92	26	75	22	0	5	28	6	0	10	5	18	0	0	0	287
IVC	Ratchanyapuram	4	22	6	1	0	1	9	9	0	4	1	0	0	0	0	57
IV	**Tuticorin Zone**	**137**	**66**	**107**	**77**	**0**	**8**	**44**	**17**	**0**	**17**	**6**	**18**	**0**	**0**	**0**	**497**
	Grand Total	**344**	**274**	**208**	**162**	**171**	**159**	**66**	**49**	**43**	**55**	**15**	**18**	**7**	**22**	**1**	**1594**

In total, vocational training was imparted in 15 disciplines, which had a study duration of 6 to 12 months. Totally 1594 numbers of fisher community youth have been imparted with vocational training of their choice and the table is self - explanatory.

Table 4 to 6 reveal the employment details of trainees sponsored by the Trust, Zone-wise and Course-wise. For easy understanding, the following explanation is given for abbreviations used in the tables.

1. M: Male students
2. W: Female students
3. Place of employment
   - 3.1 PA : Project area (Ramanathapuram and Thoothukudi districts
   - 3.2 OPA : Outside project area in Tamil Nadu
   - 3.3 OS : Outside state (Tamil Nadu)
   - 3.4 Abroad : Working abroad
   - 3.5 Other : Unemployed, pursuing, further education, earlier employed and presently unemployed
4. Salary per month : < 3000 = Rs. 3000 & Less
   Rs. 3000 - Rs.6000
   Rs. 6000 - Rs. 10000
   Rs. 10000 - Rs. 15000
   Above Rs. 15000
5. Employment details
   - 5.1 E - Employed
   - 5.2 SE - Self-employed
   - 5.3 UE - Unemployed
   - 5.4 IE - Initially employed; now unemployed
   - 5.5 Students
6. Status of employment
   - 6.1 ElF - Employed in Fishers sector
   - 6.2 E/FR - Employed in Fishery related sector
   - 6.3 E/NF - Employed in Non-fishery sector
   - 6.4 SElF - Self employed in Fishery sector
   - 6.5 SE/FR - Self employed in Fishery related sector
   - 6.6 SE/NF - Self employed in non-fishery sector
   - 6.7 Others - Unemployed, initially employed but now unemployed and pursuing further education (students)
7. TSS: Total Sample Size

Table 4: Vocational Training – Employment Details (Zonewise)

Zone			Gender		Year of Study					Total	Place of Employment					Total
		TSS	M	W	2007-08	2008-09	2009-10	2010-11	2011-12		PA	OPA	OS	ABROAD	OTHERS	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
I	Mandapam	422	236	186	55	124	103	90	50	422	163	62	3	35	159	422
II	Keelakkar	149	93	56	28	36	44	26	15	149	51	22	4	18	54	149
III	Erwadi	526	376	150	155	197	96	64	14	526	217	104	8	49	148	526
IV	Tuticorin	497	340	157	122	189	77	19	30	497	330	21	4	15	127	497
	ZONAL TOTAL	**1594**	**1045**	**549**	**360**	**546**	**320**	**259**	**109**	**1594**	**761**	**209**	**19**	**117**	**488**	**1594**

ZONE		TSS	<3000	3000-6000	6000-10000	10000-15000	>15000	Others	Total	E	SE	UE	IE	Students	Total
		(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
I	Mandapam	422	50	129	48	23	13	159	422	226	37	75	58	26	422

II	Keelakkar	149	31	34	13	15	2	54	149	88	7	44	6	4	149
III	Erwadi	526	29	178	109	33	29	148	526	310	68	73	43	32	526
IV	Tuticorin	497	64	156	118	20	12	127	497	307	63	65	21	41	497
	ZONAL TOTAL	**1594**	**174**	**497**	**288**	**91**	**56**	**488**	**1594**	**931**	**175**	**257**	**128**	**103**	**1594**

ZONE		**TSS**	**E/F**	**E/FR**	**E/NF**	**SE/F**	**SE/FR**	**SE/NF**	**Others**	**Total**
		(30)	**(31)**	**(32)**	**(33)**	**(34)**	**(35)**	**(36)**	**(37)**	**(38)**
I	Mandapam	422	14	3	209	2	0	35	159	422
II	Keelakkar	149	9	0	79	1	1	5	54	149
III	Erwadi	526	28	4	278	17	1	50	148	526
IV	Tuticorin	497	52	14	241	6	1	56	127	497
	ZONAL TOTAL	**1594**	**103**	**21**	**807**	**26**	**3**	**146**	**488**	**1594**

Table 5: Vocational Training Course: Employment Details (Course Wise)

S. No	Course	TSS	Place of Employment						Salary						
			PA	OPA	OS	ABROAD	Total	Percentage	<3000	3000-6000	6000-10000	10000-15000	>15000	Total	Percentage
1	Computer application / CAD / Computer Hardware	344	120	48	2	11	181	53	16	89	56	15	5	181	53
2	Health / Nursing Assistant	274	129	14	0	0	143	52	98	39	4	2	0	143	52
3	JCB Operation	208	132	14	5	43	194	93	6	73	62	27	26	194	93
4	Basic Electrical and Plumbing (Home Application Repair)	162	84	30	0	13	127	78	5	71	37	12	2	127	78
5	Four Wheeler Driving	171	113	14	2	24	153	89	1	70	53	19	10	153	89
6	Refrigeration and AC Mechanism	159	52	50	2	14	118	74	8	64	31	7	8	118	74
7	Welding Technology	66	44	8	1	4	57	86	3	32	16	5	1	57	86
8	Automobile Engineering	49	21	8	4	7	40	82	1	18	14	3	4	40	82
9	Catering Technology	43	8	21	3	1	33	77	5	18	10	0	0	33	77
10	Primary Teacher Training / Early Childhood Card & Education	55	26	0	0	0	26	47	22	3	1	0	0	26	47
11	Lab Technician	15	11	0	0	0	11	73	4	7	0	0	0	11	73
12	Fashion Designing / Beautician / Beauty Care	18	7	0	0	0	7	39	2	2	3	0	0	7	39
13	Printing Technology	7	6	1	0	0	7	100	1	3	2	1	0	7	100
14	Tailoring	22	7	1	0	0	8	36	2	6	0	0	0	8	36
15	Operation Theatre Technology	1	1	0	0	0	1	100	0	1	0	0	0	1	100
	Total	1594	761	209	19	117	1106	69	174	496	289	91	56	1106	69

S. No	Course	TSS	Present Status				Sector							
			E	SE	Total	Percentage	E/F	E/FR	E/NF	SE/F	SE/FR	SE/NF	Total	Percentage
1	Computer application / CAD / Computer Hardware	344	154	27	181	53	7	10	137	4	0	23	181	53
2	Health / Nursing Assistant	274	142	1	143	52	0	0	142	0	0	1	143	52
3	JCB Operation	208	169	25	194	93	30	3	136	5	1	19	194	93
4	Basic Electrical and Plumbing (Home Application Repair)	162	98	19	127	78	15	4	78	2	0	28	127	78
5	Four Wheeler Driving	171	110	43	153	89	20	1	89	12	1	30	153	89
6	Refrigeration and AC Mechanism	159	103	15	118	74	8	2	93	2	1	12	118	74
7	Welding Technology	66	47	10	57	86	16	0	31	1	0	9	57	86
8	Automobile Engineering	49	33	7	40	82	7	0	26	0	0	7	40	82
9	Catering Technology	43	31	2	33	77	0	0	31	0	0	2	33	77
10	Primary Teacher Training / Early Childhood Card & Education	55	24	2	26	47	0	0	24	0	0	2	26	47
11	Lab Technician	15	11	0	11	73	0	1	10	0	0	0	11	73
12	Fashion Designing / Beautician / Beauty Care	18	4	3	7	39	0	0	4	0	0	3	7	39
13	Printing Technology	7	2	5	7	100	0	0	2	0	0	5	7	100
14	Tailoring	22	2	6	8	36	0	0	2	0	0	6	8	36
15	Operation Theatre Technology	1	1	0	1	100	0	0	1	0	0	0	1	100
	Total	**1594**	**931**	**175**	**1106**	**69**	**103**	**21**	**806**	**26**	**3**	**147**	**1106**	**69**

Table 6: Abstract of Employment

S. No	Course	TSS	Present Status							
			Employed	Percentage	Self-Employed	Percentage	Total Employed	Percentage	Unemployed / Others	Percentage
1	Computer application / CAD / Computer Hardware	344	154	45	27	8	181	53	163	47
2	Health / Nursing Assistant	274	142	52	1	0	143	52	131	48
3	JCB Operation	208	169	81	25	12	194	93	14	7
4	Basic Electrical and Plumbing (Home Application Repair)	162	98	60	29	18	127	78	35	22
5	Four wheeler Driving	171	110	64	43	25	153	89	18	11
6	Refrigeration and AC Mechanism	159	103	65	15	9	118	74	41	26
7	Welding Technology	66	47	71	10	15	57	86	9	14
8	Automobile Engineering	49	33	67	7	14	40	82	9	18
9	Catering Technology	43	31	72	2	5	33	77	10	23
10	Primary Teacher Training / Early Childhood care & Education	55	24	44	2	4	26	47	29	53
11	Lab technician	15	11	73	0	0	11	73	4	27
12	Fashion Designing / Beautician/Beauty care	18	4	22	3	17	7	39	11	61
13	Printing technology	7	2	29	5	71	7	100	0	0
14	Tailoring	22	2	9	6	27	8	36	14	64
15	Operation Theatre Technology	1	1	100	0	0	1	100	0	0
	Total	1594	931	58	175	11	1106	69	488	31

Table 4 reveals that out of 1594 students, male were 1045 (66%) and female were 549 (34%) in numbers. 60 numbers of students were imparted with training during 2007-08, 546 numbers during 2008-09,320 in 2009-10,259 in 2010-11 and 109 students during 2011-12. Out of this 1594 trainees, 1106 are currently gainfully employed or self employed (69

per cent) and the rest 488 trainees (31 per cent) are presently unemployed (either initially employed but now unemployed, or pursuing further studies or unemployed).

Out of the 1106 trainees employed *J* self employees, only 153 (14%) are still dependent on fisheries *J* fishery related sectors for their livelihood; while 953 persons (86%) are employed *J* self employed outside the fisheries sector which is a redeeming factor as majority of the employed trainees have moved out of fishery for eking out their livelihood, 172 persons, out of the employed 1106 persons (16 per cent) are self employed, which implies that these trainees, who would have otherwise slogged in unsustainable fishery sector, are currently economically independent and self-reliant on themselves. This validates our first hypotheses. Lesser dependence of future generations of fisher youth on fishery is certainly an indicator for better conservation of marine biodiversity in future.

Table 5 illustrates employment details of trainees vocational course-wise. While over 69 per cent of the 1594 trainees are presently gainfully employed, maximum employment opportunities are available for students who have been given skill */* craft training in JCB operation, four wheeler driving, basic electrical engineering and plumbing (Home appliances repair), refrigeration and AC mechanism, welding technology, automobile engineering and catering technology. It is thus, evident that the skills imparted to the fisher youth meet the current industry's demand. The table clearly reveals the employment potential available in the market.

Out of the 1106 trainees employed, 931 are employed in private sector (84%) and the balance 175 (16%) self-employed. Nearly 11 per cent of those employed work abroad, which fact highlights the value of vocational education imparted. The salary received per month has been tabulated, which is self explanatory.

It is clearly evident that sizeable proportions of youth have moved out of dependence in fishery sector, which is becoming un remunerative owing to low productivity and seasonality. One question arises on the fate of unemployed trainees (488 out of 1594 trained). Most of those currently unemployed trainees are

a) women, who have resigned their jobs on marriage due to re-location or due to family problems, and
b) trainees, who are currently pursuing further studies in Arts colleges */* Polytechnic colleges after undergoing vocational training.

Hence, the fact that 488 of the trainees are unemployed need not attract any concern or questionability on the usefulness of vocational training imparted.

Table 6 summaries findings revealed in table 4 and 5 and hence interpretation of the figures tabulated has not been undertaken.

Summary of findings

It has been amply demonstrated that vocational education and training has not only opened up new avenues of employment to the hitherto unemployed / under employed, but also created alternate livelihood options for the fisher community youth who are presently employed in the unsustainable and unproductive primary sector of fishery. With longer years of continued inclusion of the youth into VET programmes, sustainable management and conservation of marine biodiversity as also improvement in standard of living of fisher community members are sure to become a reality.