Seafarer Supply and Rural Development in China

A Report on Survey Findings and Policy Implications

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Abstract

In recent years, the Chinese government has made a serious effort to develop its seafarer supply industry. Such a strategy, described as the Seafarer Supply Initiatives (SSI) in this report, is driven by two interwoven aims: to increase the supply of high quality seafarers to both the Chinese national fleet and international shipping; and to promote local economic development and poverty alleviation in the sending communities. With a focus in our research on the second aim, a questionnaire survey was conducted in ten maritime education and training (MET) institutes in the summer of 2009. A total of 2500 trainees from 27 of China's 31 provinces participated. This report provides an analysis of the findings. It also introduces the background and approach of the SSI and provides a framework and indicators for measuring its impact on rural development. Finally, it highlights the policy implications of the findings for the healthy development of its seafarer supply industry.

Key Words: high quality seafarers, Seafarer Supply Initiatives (SSI), rural development, maritime education and training (MET), degree and vocational education, China.

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Foreword

Globalisation has resulted in the emergence of global labour markets in a number of sectors. Such occupations as information technology, nursing, ethnic catering and seafaring are prime examples. How to adapt to, develop, and regulate these globalising employment markets is a new subject for research. The international supply of contract labour is big business in some of these sectors, and particularly important for the low-wage economies, of which China is the largest.

China has rich human resources and a generally strong educational and training infrastructure. Traditionally, migration has been the only way out for many families in poor rural areas, while overseas there are many areas of unfulfilled labour demand. This phenomenon has been occurring for many generations. However over the past 30 years, as China has opened its doors to the outside world, it has become a major source of legal and illegal migration worldwide.

The Chinese seafaring industry is a particularly good case for study not only because international shipping is the first globalised industry with an established global regulatory system, but also because there is a strong demand for Chinese seafarers to replace senior officers from traditional maritime countries in international merchant fleets. Indeed China has set itself the policy goal of becoming a leading supplier country of high-quality seafarers.

The industry requires a large number of relatively well-educated and hard-working people, operating to high professional standards, with a global and multi-cultural perspective. This has offered a major opportunity for poor young people from rural areas of inland China to develop a career at sea.

This international labour market has however posed a challenge for Chinese vocational education and contract worker management systems which have not yet fully opened and interfaced with it.

This important field of migration studies has not been adequately researched in the past, if only because it requires a rare combination of expertise. Dr Bin Wu, Senior Research Fellow at the China Policy Institute of the School of Contemporary Chinese Studies at the University of Nottingham, is uniquely qualified to undertake this work, having spent seven years at the Seafarers International Research Centre at Cardiff University. He has conducted many surveys on Chinese seafarers in the global labour market including three months of on-board observation and interviews with Chinese crew members working on foreign owned ships. He has also conducted in-depth research on Chinese migrant communities in Italy and the UK, and recently completed a survey in Britain for the International Labour Organisation. In addition, his research also focuses on rural sustainability, migration and farmer innovation in poor areas of China.

The findings in this report are not limited to the maritime sector, as it examines seafarer recruitment and training issues within the broader context of rural development and poverty alleviation. This report offers insights into the Chinese government's strategy and policies to promote the supply of seafarers, and the importance of vocational education in China after a decade of expansion of higher education. The findings could be of particular help to international ship owners and managers who are considering participating and investing in seafarer education and training in China.

Bin Wu's work is particularly notable for his commitment to improving the lot of China's rural poor, as well for his desire to improve the working conditions of regular and irregular Chinese migrants, so often the victims of human trafficking, bonded labour practices and exploitation around the world.

This study will help further the understanding of how international labour supply, when properly controlled, regulated, supported and monitored, can be of universal benefit, helping both the sending and the receiving communities. The organised supply of Chinese contract labour to the international shipping sector, while it has much room for improvement, offers an interesting example for employers, labour brokers, education and training providers and regulators in other sectors to consider, in China and worldwide.

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Director

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The fieldwork was conducted in China, involving ten maritime education and training institutes in six cities across the country. I am grateful to the following maritime institutes for their support and participation: Dalian Maritime University, Shanghai Maritime University, Jimei University and Wuhan Science-Technology University, Shanghai Maritime College, COSCO Shanghai Training Centre, Hubei Transport Vocational College, Xiamen Maritime Training Centre, Quanzhou Maritime Training School, and Zhangzhou Maritime Training School. The research would have been impossible without the collective efforts of many Chinese institutes and scholars. I would like to take this opportunity to express my sincere thanks in particular to Professor CHEN Aijuan from Xi'an University of Technology who participated in the survey design and then took charge of the seafarer supply-base observation and data entry and analysis of the questionnaire; Mr. LI Pinfang from Jimei University who was in charge of conducting the questionnaire surveys, and Ms. MA Xiaoxue from Dalian Maritime University who collected background information and official data. I would like to thank to Dr. Lijun Tang, Research Associate in Seafarers International Research Centre at Cardiff University, for his constructive comments on the early draft of this report.

Finally, I would like to take this opportunity to thank my colleagues here at the University of Nottingham and the School for Contemporary Chinese Studies. I cannot overestimate the contribution from Professor Bernadette Robinson of the UNESCO Centre for Comparative Education Research in the School of Education, for her substantial work in revising, editing and finalising the report. I would also like to thank my colleague, Mr. Richard Pascoe, Director of the China Policy Institute, for his encouragement and support throughout the project and for writing kind words in the Foreword, and Ms. Hua Geddes, Ms. Chin Ling Koh for their administrative support for this project.

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Executive Summary

1. China has gained a new momentum for the development of its seafarer supply industry. This has been driven by both 'pull' and 'push' factors. The former refers to the increasing demand from both national and international shipping companies for high-quality seafarers. The latter relates to the increase in unemployment rate and growing demand for vocational training for seafarers. In addition, the Chinese government has set a policy goal of becoming a leading supplier of high quality seafarers in the world. Although China is the largest provider of seafarers in the world in terms of quantity, there is a shortage of 'high quality' seafarers (those who are competent and experienced in working on ocean-going vessels). As a result, the Chinese government has taken a series of steps to promote the development of the seafarer supply industry through its Seafarer Supply Initiatives (SSI).

2. The Seafarer Supply Initiatives (SSI) have taken the following actions: targeted rural communities in inland or poor areas as a source of supply; re-focused maritime education and training (MET) away from academic degree courses to more vocational training; enlarged the MET sector bringing in new providers and new courses; encouraged shipping companies to develop seafarer supply areas in inland China; and introduced full training costs to be borne by trainees on courses that do not receive government subsidies. The SSI have two interwoven aims: to increase the supply of high-quality seafarers for national and international shipping, and to promote development in the rural communities that supply them. The focus of this report is on the second of these aims for three reasons: (a) the importance of a sustainable supply of high-quality seafarers; (b) the access to training, its costs and expected benefits for rural families; (c) the lack of previous empirical studies on the relationship between seafarer supply and rural development. We define rural development as any process, activity or movement that will lead to the improvement and security of the livelihood of rural people in general and the rural poor in particular.

3. The research reported here asked four key questions:

    a) What are the characteristics, motivations and attitudes of trainees from rural areas towards seafaring training and employment?

    b) What differences are there between trainees, households, villages and locations in relation to seafarer training and supply?

    c) What factors affect access to seafarer training and approaches to a seafaring career?

    d) What is the expected impact of MET and SSI on rural development, particularly in the poorer areas?

4. The research was conducted through a questionnaire survey of around 2500 trainees attending courses at ten MET institutes representative of all different types of training institute in six cities in China in the summer of 2009. Out of the 2500 questionnaires distributed in classes at the MET institutes, 1814 were returned (73%). This yielded 1751 valid questionnaires which were analysed using simple descriptive statistics including cross tabulation. The findings were also analysed using a framework indicating human capital levels and the economic levels of families and villages, as well as differentiating between inland and coastal areas, and rural and urbanised villages. This enabled comparisons to be made.

5. Key findings

   a) The SSI offer opportunities for China to develop and use its huge human resources in rural communities for seafarer employment through an appropriate professional training programme.

   b) The SSI are more attractive to rural people from inland regions and to resource-poor villages and households than to those from coastal regions and resource-rich villages and households.

   c) Most trainees (two-thirds) were satisfied with their training though many (over two-thirds) also expressed a need for more time to practice skills within the courses. Different groups of trainees expressed different needs and priorities, suggesting that there is scope for the training curriculum to be more responsive to these different needs.

   d) Trainees' expectation of high pay was their main motivation in embarking on training, followed by the hope of job security.

   e) Given that full costs of training are provided by the sending communities and rural poor families, the success of SSI is largely dependent on trainees gaining employment after the completion of their training courses. Further research is needed to examine the employability of different types of training courses in the labour market.

   f) Because of the changes of the MET system, there is an urgent need to establish new regulations and quality control systems for seafarer recruitment, vocational education, employment and career development.

The relationship between seafarer supply and rural development is an under-researched area to which a methodological framework has been explored in this research. The survey results seem to suggest that the feasibility of this methodological approach has the potential to be applied to other survey projects in vocational training and rural development.

6. Conclusions and policy recommendations

   The conclusions and policy recommendations from our research centre on issues of strategy, quality of training and standards, reduction of financial barriers to training and the involvement of a key stakeholder, the employing shipping companies:

   a) In order to bring together the various initiatives and strands aimed at supporting seafaring training and development, there needs to be a national strategy in which objectives, initiatives and policies are clearly defined. Such a strategy is needed to establish and develop a coordinating mechanism or system amongst all relevant government agencies, and to improve the regulations for seafarer recruitment, training, employment and career development. The significance of such a strategy is not limited to the maritime industry but applicable also to the national strategy for human resource development and rural labour transfer in which vocational education, training and employment are crucial.

   b) The quality and standards of training programmes and the trained seafarers they produce are in urgent need of review. This is needed in order to assess the quality and comparability of the various MET training courses and institutes and the employability of their graduates. Such a review would assist the Chinese government in deciding on necessary measures to ensure the quality of MET institutes and their

courses (for example, the setting of standards and inspection for accreditation) and the wider provision of information about them. The results of such a review would also be beneficial to the rural poor by raising their awareness of the risk of investing in seafarers training courses and enabling them to be more selective.

c) If support and new employment opportunity for the rural poor is one aim of the SSI, then some initiatives are needed which reduce the financial barriers which prevent them from taking advantage of it. One course if action is for the Chinese government to set up a special loan facility that charges zero interest or provides subsidies for a certain number of rural poor who have the potential and motivation to embark on seafarers' training courses.

d) Given the need for good quality trained seafarers together with the positive impact of seafaring employment on rural development and poverty alleviation, shipping companies (including foreign companies) have a role to play in supporting SSI as an important part of their social responsibility. They should be encouraged to invest in and engage with the SSI to help raise the standards of seafaring training through working with training institutes to ensure an appropriate curriculum for employability and agreed standards (possibly supporting a professional association for this purpose). Shipping companies can also be instrumental in sponsoring tuition fees and providing onboard training opportunities for promising trainees from poor rural families.

1. Introduction

China has the potential to become a world-leading supplier of sea-faring labour given the current situation of supply and demand. The term 'seafarer' is here defined as any man or woman1 who is qualified to work onboard an ocean-going vessel. Such seafarers can be categorised into various levels of quality, as indicated by qualifications, competences and experience. 'High-quality' seafarers are those who have the qualifications, competence and experience to work aboard any ocean-going vessels regardless of the nationality of the ship owner/manager or crew composition.

Demand for Chinese seafarers comes from two sources: international and domestic. Globalisation of the international shipping industry since the late 1970s has generated demand for cheap seafaring labour and opened up opportunities for developing and transitional economies to cultivate their seafarer training and recruitment industry. This has resulted in the emergence of new supplies of seafarers from Asia and Eastern European countries, replacing those from traditional maritime countries such as the USA, UK, Greece, Japan and Germany (Lane et al 2002; Alderton et al 2004). However at the same time, international shipping is suffering from a shortage of maritime officers (BIMCO/ISF, 2000, 2005). Though demand for high quality seafarer labour is evident within China and signalled by international interest, the Chinese seafaring industry has been rather slow to adapt to the global labour market. The Chinese share of the global seafaring labour force is only 5%, in fifth place behind Filipinos, Ukrainians, Indians and Poles (Wu 2006). Furthermore, there have been many complaints about the quality of Chinese seafarers in terms of language competency, professionalism and standards.

Demand for quality seafarers also comes from Chinese shipping companies. Alongside China's economic growth and the expansion of its international trade, Chinese national fleet has expanded dramatically, a trend likely to continue in the near future (UNCTAD 2008). Reflecting the shortage of quality seafarers, the salaries of Chinese seafarers on board national fleets have rapidly increased in recent years, leading to a narrowing salary gap between Chinese and foreign seafarers. A major challenge facing the Chinese authorities and shipping industry is how to develop and maintain high quality crew to operate the national fleet.

On the supply side, three factors shape the present situation. Firstly, rural China has 225.42 million rural migrant workers in urban employment; 62.3% of these work outside their home county (Xinhua News Agency 25 March 2009). Seafaring has also proved an attractive option to them and in particular to those from the poorer inland areas because of its high pay compared with shore-based jobs. Secondly, alongside the expansion of China's higher education system over the last decade, China's capacity for maritime education and training (MET) has also grown, doubling its output of graduates in recent years. Thirdly, seafaring is becoming increasingly attractive to graduates from non-maritime universities or colleges because of their difficulties in obtaining other suitable jobs with acceptable pay levels. As graduate unemployment has increased, more graduates have invested in MET courses for a maritime career, resulting in a switch from non-maritime to maritime courses. This is creating a new pool of high quality seafarers in China.

In response to the needs and opportunities arising from this situation, the Chinese government has taken a number of initiatives to promote the development of seafarer supply. These have included reducing the constraints on access to officer certificate examinations, encouraging MET institutes to provide more seafaring training courses and

[1] Seafarers are generally male, with females undertaking work connected with the leisure side of seafaring.

with a more vocational orientation, and allowing final year non-maritime students to attend maritime training courses and gain official certificates. More recently, the Chinese government has proposed an ambitious plan for becoming a world-leading nation in the supply of seafarers by 2020 (China Shuiyun Newspaper, 28 August 2009). This will require the balancing of quantity and quality in the growth of Chinese seafarers in order to meet the needs of both Chinese and international employers. For the purpose of this report, we call all such new initiatives, strategies and policies toward the development of the seafarer education and training sector and increasing supply of high quality Chinese seafarers as 'seafarer supply initiatives' (SSI). Details of SSI will be provided in the next section but two key questions arise here. How can the quality of seafarer recruitment, education and training be ensured alongside the expansion in numbers? What is the expected impact of this expansion on the rural development of the sending communities?

Though these two questions are inter-related, the focus of this report is on the second question for three reasons. Firstly, rural development and poverty alleviation are an important dimension of SSI as well as being a government priority. Secondly, the quality of the output of the MET courses (particularly the employability of graduates) has become a big issue facing the Chinese government, recruitment agencies and MET providers. This issue has become more prominent as increasing numbers of poor rural trainees are self-funding, even borrowing money to finance their courses, especially at a time when the global economic recession has had negative effects on the international shipping industry. Thirdly, despite claims about the positive impact of seafarer supply on rural development, evidence of it is slim both in China and in other countries.

The research reported here investigates the supply and training of seafarers from rural areas in China. It took the form of fieldwork observation in a seafarer supply area in Xingxiang, Henan, and a questionnaire survey of around 2500 students attending training courses at ten MET institutes in six cities in China in the summer of 2009. Based upon information collected from the field in particular, together with the analysis of relevant documents, the following research questions were generated.

1. What are the characteristics, motivations and attitudes of trainees from rural areas towards seafarer training and employment?
2. What differences are there between trainees, and their families, villages and geographic locations in terms of access and approach to seafarer training and occupation?
3. What factors are responsible for the above differences?
4. What is the expected impact of MET and SSI on rural development, particularly for poorer areas and households?

These questions will be addressed in this report with the aim of developing better understanding of rural seafarer training and supply, especially in relation to rural poverty alleviation. The next section provides an overview of the background and progress of SSI. Section 3 introduces the research design and survey methodology used. Section 4 provides profiles of sampled trainees, their families and villages. Section 5 examines trainees' motivation for embarking on a seafarer career and undertaking an MET course. Section 6 analyses the costs of investing in seafarer training and sources of finance. Section 7 sheds light on trainees' perceptions of a seafarer career and employment prospects. The report concludes (Section 8) with some recommendations.

2. Background and Progress of Seafarer Supply Initiatives

Although China had a total of 1.55 million people registered as seafarers in 2008 (Xinhua News, 16 April 2008), making it the country supplying the largest amount of seafaring labour in the world, fewer than a third (31.7%, 491,000) of these seafarers held qualifications at various levels ranging from captain and chief engineer to deck and engine ratings. Furthermore amongst the qualified seafarers, only 40% (200,000) were qualified for ocean-going vessels while the remainder were limited to coastal or river-going vessels. As mentioned earlier, the term 'seafarer' is defined for the purposes of this report as any man or woman[2] qualified to work onboard an ocean-going vessel. Qualified seafarers can be categorised into various levels of quality, according to qualifications, competences and experience. High-quality seafarers refer to those who have the qualifications and competence to work aboard any ocean-going vessels regardless of the nationality of the ship owner or manager or crew composition. In terms of this definition, the development of Chinese seafarers is dependent on the collective efforts of several stakeholders, namely the communities supplying seafarers, institutes providing maritime training, Chinese and international shipping companies, and central and local government.

The sending communities play an important role in seafarer supply. However, the decline in government funding for MET and the commercialisation of training has led to trainees and their families bearing an increasing share of training costs. Since few urban residents or youths from richer families are interested in taking up a seafaring occupation, the development of high quality seafarers is increasingly dependent upon rural communities and poor families. Thus the development of high quality seafarers is closely related to rural development. Poor regions and families are more interested in finding seafaring work and investing in seafarers' training since successful trainees are expected to bring about significant economic returns to their families and contribute to local economic development. However, not all poor families and regions can bear the costs and risks of seafarer training and so are excluded from the employment opportunity.

Response to the need for Chinese Seafarers

Having recognised the links between the development of high quality seafarers and rural development in the sending communities, the Chinese government has taken a number of steps since the early 2000s to encourage rural communities to participate in seafarer supply initiatives. For the purpose of this report, we use the term 'Seafarer Supply Initiatives' (SSI) to refer to all activities, projects or programmes which have been led or managed by the Chinese authorities from different administrative units or levels with the aim of mobilising all available resources, especially among the rural poor, to participate in the development of high quality seafarers. Within this broad definition, the SSI have following features:

a) the involvement of many ministries and government agencies with the common goal of developing high quality seafarers. These include the Ministries of Communications (mainly Maritime Safety Administration), Commerce, Labour and Social Security, and the Chinese Overseas Contracting Association and the National Union of Seamen, etc. Because of the number of stakeholders involved, coordination among different government departments is a challenging issue;

b) a focus on the rural poor as a source of supply and a contributor to improve quality. Participation from poor regions and households is seen as an important condition for the success and sustainability of SSI;

[2] Since female seafarers work on the leisure side of the industry and these courses were not part of the research, the trainees in this research were all male.

c) increasing the supply of senior officers - for both national and international fleets. Internationalisation is an important dimension of the SSI and to be successful requires participation and support from international regulators, MET providers and shipping companies.

In practice, the SSI contain the following policies and measures:

a) the targeting of rural communities in inland or poor regions in developing seafarer supply sources as a means of alleviating poverty;

b) an expansion of MET provision and a shift in the focus of MET, from four year degree courses to three year or shorter vocational training courses with a lower entrance requirement;

c) the encouragement of shipping companies to invest in and support the development of seafarer supply sources in inland China.

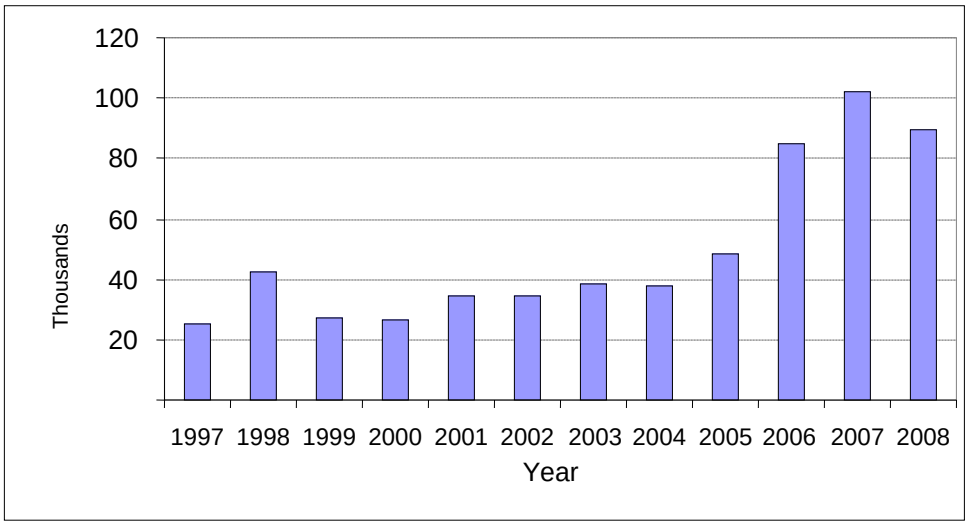
d) a policy which allows qualified MET to run vocational education and training course based upon self-funding from trainees without any government subsidies

Recent expansion in seafarer supply

Associated with its international trade and export growth, Chinese maritime activities and ocean-going fleet have increased rapidly since the mid-1990s. To cope with the shortage of seafarer labour, many state-owned enterprise (SOE) shipping companies went to rural areas to establish sources of supply in inland China. This resulted in a new type of seafarer, 'rural contracted seafarers' (*Nongmin Hetongzhi Chuanyuan*) within state-owned shipping companies. These seafarers work onboard SOE ships but without access to welfare and social security benefits. The Asian financial crisis in the late 1990s led to many of these rural contracted seafarers losing their jobs in the national fleet. However, some of these subsequently obtained work onboard foreign ships and their experience encouraged local authorities and individuals to make ongoing efforts to develop seafaring employment and supply sources.

Since the early 2000s, the development of Chinese seafarer supply has gained new momentum driven by soaring demand from both Chinese and international ship owners and managers. By 2007, seafarer registrations rose to over 100,000 each year, 2.5 times more than the previous peak before the Asian financial crisis. The decline in registrations in 2008 is attributable to the current global economic recession (see Figure 1).

Figure 1. Seafarers applying for annual seaman registration 1997-2008.



(Source: Maritime Safety Administration of China)

From 2003 to 2008, according to official statistics, 424,223 people gained seaman registration (known as a seaman's 'book') indicating a large increase in supply. These newcomers came from all provinces across China though most (81.1%) came from only ten of China's 23 provinces (see Table 1). The growth of seafarers' supply in inland China is encouraged by the government which has aimed to link seafarers' recruitment and training with local economic development and poverty alleviation. There has been growing interest and efforts to promote seafarer supply by provincial governments and local authorities in inland provinces. For example, in Shandong province the number of MET institutes increased from two in 2004 to seven in 2009 while the output of graduates increased hugely from 417 to 12,883 (China Shuiyun Newspaper, 25 March 2009).

In particular, Henan and Hubei as two inland provinces have taken steps to improve their positions among the top ten provinces supplying seafaring labour, moving from 7th and 10th positions in 2004 to 6th and 9th respectively in 2008. Over this period, the supply of seafarers from Hubei province increased seven-fold, its share of new entrants increasing from 2.8% to 5.3% of the national total (see Table 1). Actions taken by Hubei provincial government have included selecting 12 poor counties to be sources for seafarer supply, and establishing a provincial fund to provide low-interest loans to poor families for seafarer training.

Table 1. The ten Chinese provinces supplying the most seafarers 2004–2008

	2004			2008		
Rank	Province	No. seafarers	National total %	Province	No. seafarers	National total %
1	Liaoning	4073	13.9	Shandong	17718	15.6
2	Shandong	3661	12.5	Liaoning	11929	10.5
3	Shanghai	3598	12.3	Fujian	11400	10.0
4	Jiangsu	3596	12.3	Jiangsu	11163	9.8
5	Zhejiang	2563	8.8	Zhejiang	8887	7.8
6	Guangdong	2095	7.2	**Henan**	**7272**	**6.4**
7	**Henan**	**1988**	6.8	Guangdong	6947	6.1
8	Fujian	1258	4.3	Hebei	6673	5.9
9	Helongjiang	1234	4.2	**Hubei**	**6013**	**5.3**
10	**Hebei**	**818**	**2.8**	Tianjing	5110	4.5
	Sub-total	24884	85.2	*Sub-total*	93112	82.1

(Source: Maritime Safety Administration of China)

Despite the progress made by the central government and local authorities in developing seafarer supply in inland China, there is still a long way to go before inland regions can become leading suppliers. Only 17.9% of seafarers were from inland regions in 2004, increasing to 32.6% in 2006 before falling back to 25.6% in 2008 in response to global economic problems (trends are illustrated in Figure 2).

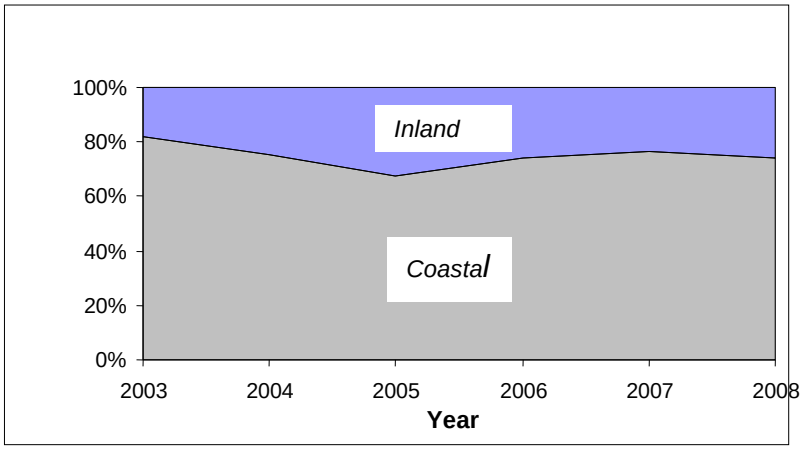


Figure 2. Inland and coastal seafarer supply 2003–2008.

(Source: Maritime Safety Administration of China)

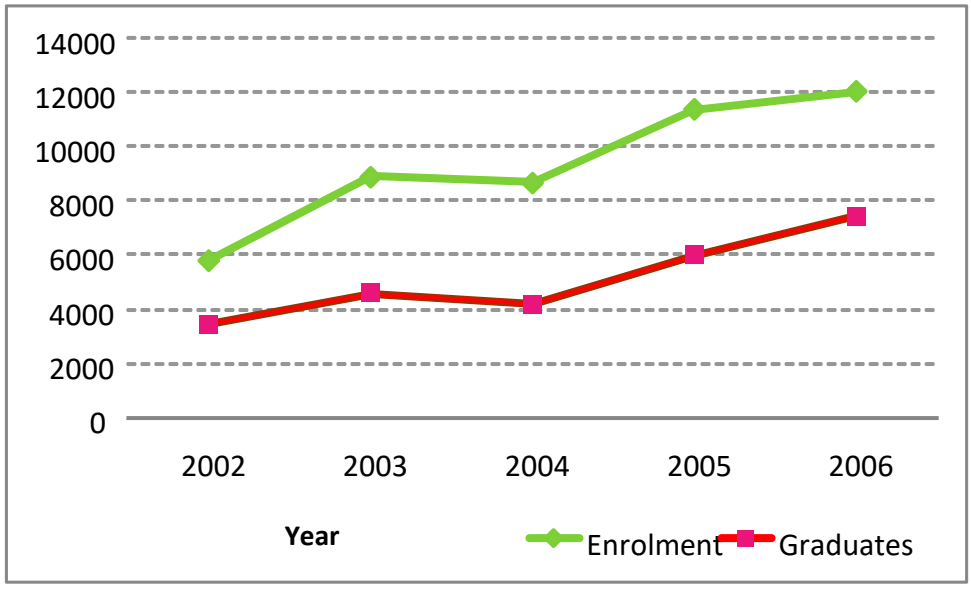
Seafarer education and training programmes

Education and training are key elements in improving the quality of the seafaring labour force. Before 2007 three types of courses were available to those wanting a seafaring occupation:

1. four-year courses in navigation and maritime engineering at a university or college, leading to Bachelor's degree;
2. three-year courses in maritime engineering at universities and colleges leading to a higher education (HE) diploma;
3. vocational education and training courses provided by MET institutes in two forms:
   - two-year courses for senior secondary school completers, leading to a certificate;
   - four-year courses (known as '2+2' in China) whereby trainees recruited from junior secondary school-leavers spent the first two years acquiring basic knowledge (such as mathematics and physics at levels similar to those at senior secondary school), and the last two years in maritime training.

These courses were of two kinds, academic and vocational, according to their orientation, entrance qualifications and certificating body. Generally, students opting for the first two routes above needed to take the national examination *(gaokao)* for HE entrance while the third category of students was selected from those with good results in the provincial examination for vocational education. From the perspective of employment after graduation, however, seafaring is just one of many occupational options for four year degree course holders but a dominant channel for other course graduates. However there has been considerable expansion in MET in China recently, reflecting the growing demand from the national and international seafarer labour markets. As Figure 3 shows, enrolment and graduate numbers in degree and diploma MET courses at universities and colleges (courses monitored and controlled by provincial education authorities) almost doubled between 2002 and 2006.

Figure 3. Enrolment growth in degree and diploma maritime studies, 2002–2006

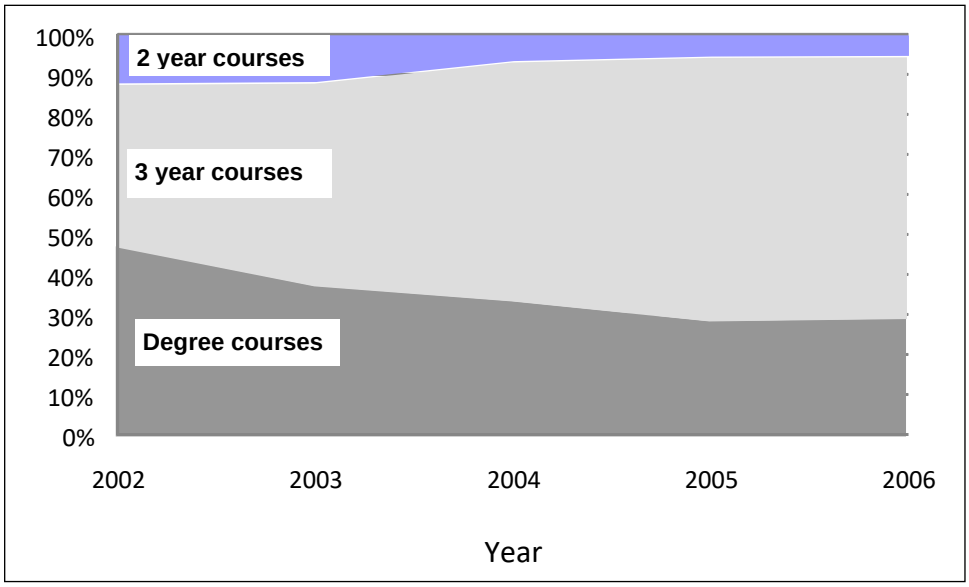


(Source: Maritime Safety Administration of China)

Within the overall trend of expansion in MET, the pattern of course enrolment has changed in recent years. National enrolment in four-year degree courses declined from 47% in 2002 to

29% in 2006, and from 12.0% to 5% for two-year vocational courses. By contrast, three-year courses increased from 41% to 59.0% over the same period. Such a change reflects the preference of employers for three-year trained diploma holders over four-year degree-holders. The employment rate of four-year degree-holders as seafarers is lower and the wastage rate higher than for those completing a three-year diploma. These changes are illustrated in Figure 4, which also shows a declining trend in two-year course enrolments and the shift of many MET providers from two to three-year courses (employers also judged the two-year training to be inadequate for building a sound knowledge base in trainees).

Figure 4. Trends in MET course enrolment



(Source: Maritime Safety Administration of China)

Recent developments in seafarer training provision

As well as responding to the increased demand from the seafaring labour market by expanding MET provision, the Chinese government has adjusted its policies to emphasise vocational training over academic degree courses. As a result, the minimum requirement for entrance to the officer certificate examination has been adjusted. In addition to those conventional maritime degree or vocational course holders described in previous sector, final year non-maritime HE students are allowed to take the officer certificate examination if they have attended a recently introduced one-year maritime training course. Furthermore, a number of maritime institutes are allowed to provide two year official training courses for those who have failed in the national HE entrance examination and would like to attend these courses via self-funding. Unlike conventional courses the newly introduced courses are focused on clearer and narrower objectives to help trainees to pass the seafarer officer certificate examination hosted and issued by the Maritime Safety Administration of China (Ministry of Commerce). The provision of those newly introduced courses is not limited to maritime universities colleges, but are also available at some licensed seafarer training centres established by state-owned shipping companies or private training providers.

The tuition fees for conventional and newly introduced courses differ in one important way. Whereas tuition fees for the former are controlled by the government education authority, the latter are not subject to government regulation and do not receive government subsidies. As a result, trainees taking newly introduced two-year courses normally need to pay higher tuition fees (to cover the full cost of MET course provision) than those counterparts in conventional courses. Trainees taking newly introduced courses also face an

additional cost, a fee to intermediaries[3] who bring them into a licensed MET institute whereas trainees on conventional courses do not, since all services in the latter provided by the government are either free or have minimum charges.

Overall, recent seafarer education and training is characterised by several interacting features: a change in focus from academic courses to vocational training; increased access to training courses enabled by lowered entry standards; a shift from four year to three year or shorter courses (with three-year courses the preferred option by employers); more flexible training options (including a one-year training course for non-maritime students in their final year of university); a policy drive to link rural development to seafarer supply; a policy requirement for trainees to fund themselves for full costs of the training courses .

The research reported here aimed to explore some of these features in relation to rural supply, from the perspective of trainees.

3. Research design and survey methodology

This section describes the research design and survey methodology for investigating the trainees and the rural communities providing seafarers.

In focusing on rural development, three particular background factors were relevant. Firstly, the *hukou* or people registration system is still operative, identifying every Chinese as a rural or urban citizen no matter how long a rural registered citizen (or rural *hukou* holder) has been living in an urban area. The term 'rural development' can be broadly defined as any activity leading to the improvement of rural livelihoods including non-agricultural[4] employment and migratory activities. In this regard, SSI and seafaring employment could contribute to rural development since it can lead to an increase in household income. Secondly, given China's ongoing industrialisation and urbanisation, rural development can be viewed as a process of labour and population movement or resettlement from rural to urban areas, from agricultural to non-agricultural employment. The impact of SSI on rural development can be examined via the geographical re-distribution of labour, trends and results of the transition and the development of non-agricultural employment and migration opportunities. Thirdly, rural development is not limited to the growth of rural income and non-farming employment in general but more specifically to the growth of income and non-agricultural employment of poor villages and households. Whether poor villages or households have the opportunities and means to participate in MET courses, and subsequently secure employment at sea, thus become important indicators for measuring the impact of SSI.

With this background in mind and within practical constraints, our original research questions were further refined as follows:

1. What are the characteristics, motivations and attitudes of trainees from rural areas towards seafaring training and employment?

   Who are the trainees?

   What influences their decisions to participate in seafarer training?

   Do trainees have positive attitudes towards seafaring training and employment or do they see it as a 'last resort'?

[3] Intermediaries are independent agents who act as brokers in recruiting trainees and assisting them with the enrolment in an MET institute. For this they charge a fee to the trainee. In practice, they act as gatekeepers to entry.
[4] Agricultural work here refers largely, though not exclusively, to small scale or subsistence farming.

2. What differences are there between trainees, households, villages and location in relation to seafarer training and supply?

   Do richer and poorer rural households have different attitudes towards it?

   What proportion of the trainees come from poorer households and areas?

   Do the poorer households and village provide trainees with lower human capital than richer households and areas?

   What relationships are there between human capital levels and household/village levels and seafarer supply?

3. What factors affect access to seafarer training and attitudes?

   What does seafarer training cost?

   Who pays for the training?

   Is cost a deterrent for poorer families?

   How do different factors influence their motivation, attitudes, and perceptions of a seafarer career?

4. What is the expected impact of SSI on rural development, particularly in the poor areas?

   Do the trainees think their training is useful and effective?

   What expectations do trainees have of employment?

   What benefits do the trainees expect for their families and villages?

   What limitations exist for SSI in general and for vocational MET in particular?

The main means of investigating these questions was through a survey eliciting the perceptions and attitudes of trainees together with analysis of educational levels and rural background.

Several limitations shaped the approach to the research.

- Official data are not wholly available for MET courses. They are only available for MET trainees attending university and college courses approved and regulated by the local education authority whereas vocational courses are approved by the National Safety Administration of China. In practice, many MET institutes offer both kinds of courses.

- Vocational courses are offered at two levels, officers and ratings, both relevant for rural development. Unfortunately, at the time of the research, most courses for ratings were not available during the survey because of the global economic recession so the research had to focus only on the officers' training courses.

- The primary source of information for rural development and poverty alleviation was trainees taking seafaring training courses in MET institutes. Inevitably, the informants had different interpretations of rural poverty and the meaning of 'rich' and 'poor', making comparisons difficult. Ideally, participatory observation and in-depth interviews could have illuminated these differences if time and resources had permitted. Nonetheless, surveying trainees on MET courses provided access to a large number of informants from many provinces and made it possible to construct a broad overview.

The concept of human capital[5] will be used in this report as a way of categorising trainees as having high, medium and low levels. A similar categorisation was needed for households and villages in order to identify the rural poor. Instead of searching for a system (or reference frame) to measure and compare household or village income in absolute terms (such as RMB Yuan per capita), this research used a 'relative' system (or subjective assessment) to describe the economic performance of households and villages. In practice, it is based on the following assumptions:

a) the respondent is well-informed about his family's sources of livelihood, including his father's occupation and the family's major income sources;

b) he has good knowledge of his village's population, economic and social development and can provide information on its main products and services, poor households and migration rate as well as position of his own family's economic status in the village;

d) he has reasonable knowledge about local economic and social development so that he knows the economic position of his village in its county;

a) there is only one respondent from each family and village in the sample.

Given the nature of data collection based upon the respondents' judgements of their home circumstances, a ranking system was adopted in the questionnaire so that the development status of villages, households and respondents themselves could be distinguished and graded into three levels: high, medium, and low. Villages and households were ranked in terms of economic level and respondents according to human capital accumulation. Three or four indicators were used together for the purpose of classification.

Since assembling local knowledge collected from individual trainees might not by itself have presented an accurate picture of rural China, the locations of MET institutes were taken into account in selecting the sample. For this reason, we selected six cities –to include large seaport cities (Dalian, Shanghai, and Xiamen), the inland city of Wuhan, and also the medium-sized and small coastal cities of Quanzhou and Zhangzhou in Fujian province. All METs in China (over 80 of them) can be divided into four categories as follows:

a) university-based MET institutes providing all types of training courses including four-year degree course, three-year diploma course, and newly introduced one-year or two-year vocational courses (the length of course determined by previous educational level but leading to the same examination and officers' certificate). Trainees on one-year courses have previous experience of higher education while those on two-year courses did not achieve higher education entrance;

b) college-based MET institutes providing three-year academic courses (diploma) and two-year vocational courses;

c) MET institutes based in enterprises (such as China Ocean Shipping Company (COSCO) and China Shipping). These provided only short training courses in the past but have now joined in the provision of two-year vocational courses, leading to the examination for officer certification;

d) a few private training centres, established in recent years to provide training courses for both officers and ratings.

[5] Human capital refers to the skills, capacities and knowledge that individuals can acquire, often through investment in education and training as well as work experience, and which can contribute to economic production and earnings in the labour market (Little 2003)

Given the fact that various types of METs have different ways of recruiting students from the countryside, we tried to select 10 METs from all of the above types. Table 2 describes the distribution of METs and respondents by the type of MET.

Table 2. MET institutes and survey respondents

MET	No. institutes	No. respondents	%
University-based	4	805	46
Non-university	6	946	54
Total	10	1751	100

Notes: University based METs: Dalian Maritime University, Shanghai Maritime University, Jimei University, Wuhan Science and Technology University;
Non-university METs: COSCO Shanghai Seafarer Training Centre, Hubei Transport College, Quanzhou Maritime Training School, Shanghai Maritime College, Xiamen Maritime Training Centre and Zhangzhou Maritime Training School.

For the purpose of this research, the degree courses at maritime universities were not included in the survey for two reasons. The selection of students for such courses are totally dependent upon the strict national higher education examination procedure, leaving little space for students and their families to make choices. Also, the degree courses have relatively poor employment and retention rates as their graduates are also likely to find land-based jobs. By contrast, the other courses of 1–3 year duration are vocational forms of education only for potential seafarers, leading to the national examination for seafaring officer qualifications awarded by the Maritime Safety Administration of China.

At each MET institute, we collected information on all current approved[6] MET courses and selected one class from each type, wherever possible. Within each selected class, all students were gathered and briefed about the project and then invited to participate in the self-administered questionnaire survey on a voluntary basis. We selected respondents according to course type in order to examine the relationship to rural development. As mentioned earlier, the three-year (conventional) course is partly subsidised by government, in contrast to the more certificate led one-year and two-year courses, which are funded out of trainee fees. Trainees on the one-year courses are those who have already spent three or four years at other non-maritime universities and have higher academic levels than those taking two or three year courses. A total of 2500 questionnaires was sent to selected METs and course students, and we collected 1814, a response rate of 73%. Once collected the data was entered into an Excel database by supervised students at Xi'an University of Technology, and the data cleaned and checked for validity. Taking out those uncompleted or invalid questionnaires, a total of 1751 were validated and then analysed using simple descriptive statistics, including cross-tabulation.

As Table 3 shows, over 80% of survey respondents were enrolled on vocational courses. This suggests that one effect of SSI on MET provision has been to create more places for potential seafarers to participate in training. However, we do not claim that our findings in Table 3 are representative of the distribution between academic and vocational courses nationwide and we note that the sample size for the one-year courses is rather small. Despite these limitations, nonetheless, our samples provide a sound basis for identifying the differences between various groups and examining key aspects of rural sea-farer supply.

[6] All Maritime Education and Training Centres are licensed by the Maritime Safety Administration of China, Ministry of Commerce, in order to control numbers and quality of training.

Table 3. Trainees by course type and duration

Course type	Duration	No. trainees	%
Newly introduced	1 year	46	2.6
	2 years	1391	79.4
Conventional	3 years	314	17.9
Total		1751	100

4. Profiles of trainees, their families and villages

This section reports findings from the survey and provides profiles of the trainees, their families and villages, according to their levels of human capital accumulation and level of economic development. It also examines the relationship between the location of supply communities, levels of human capital in trainees and the economic status of villages and households.

Characteristics of trainees

The mean age of respondents was 21.7, ranging from 17 to 48 years. The majority (80%) was between 20 and 24 years old, the remaining 20% being younger (<20 year old) or older (>24 year older). The one-year course participants were about 4 years older than the mean age of sampled students, as they have spent three or four years on non-maritime courses before their present one. The majority (94.7%) of respondents were single, and 5.3% were married.

In terms of educational level, 40.3% of respondents claimed that they had participated in or were currently taking either a higher education course for at least three years or a vocational education course for two years. Of the rest (59.7 %), 93% had sat the national higher education examination but failed to obtain a place in higher education. The trainees can be described as rural élite who had received an education up to secondary school completion or beyond.

Many respondents (43%) had migrated from their home areas before joining the training course. Amongst those migrants, over 70.0% had migrated between provinces, normally from inland to coastal regions. In terms of other work experience, 45% had worked in the service sector, 26% in technical or managerial work, and 29% in physical manual work. About 16% of all respondents claimed that they had participated in other vocational training courses before joining the MET course.

The human capital perspective

From a human capital perspective, all respondents can be categorised into three levels: low, medium and high. Four indicators were used for this categorisation: age (<=20, 21-23; >=24), education (formal higher education or intermediate vocational education), experience of migration and previous training experience. Table 4 summarises questionnaire data according to these categories. The high human capital group consists of those who have all or many of the following features: they are older, have higher academic achievement (participation in a higher education or vocational course), have experience of migration and have taken part in other vocational training courses. By contrast, the low human capital group is more likely to contain those who are younger, have not participated in higher education, have no experience of migration or work, and have not attended any other skill training course.

Table 4. Categories of human capital amongst trainees according to four indicators

Category	No.	%	Mean age	% with HE or Vocational Education	% Migration experience	% Other skill training
Low	615	35.1	20.6	3.1	4.5	0.8
Medium	645	36.8	21.3	49.8	46.6	6.1
High	491	28.0	23.7	74.0	87.0	47.7
Total	1751	100	21.7	40.3	43.4	15.9

How then are human capital levels related to household and village economic status? How do these levels relate to the perceptions and attitudes of trainees towards a seafarer career and training? These questions are explored in the following sections.

Home location of trainees

The trainees surveyed came from 27 of China's 31 provinces. Table 5 lists the ten provinces supplying the most trainees (91% of the total in our sample).[7]

Table 5. The ten provinces supplying most trainees in our sample

Rank	Province	No. trainees	%	Cumulative %
1	Henan	283	16.3	16.3
2	Jiangsu	266	15.4	31.7
3	Fujian	256	14.8	46.5
4	Hubei	254	14.7	61.1
5	Shandong	176	10.2	71.3
6	Hebei	101	5.8	77.1
7	Anhui	89	5.1	82.3
8	Hunan	72	4.2	86.4
9	Liaoning	41	2.4	88.8
10	Shanghai	40	2.3	91.1

The home locations of respondents can be divided into coastal and inland provinces. The coastal region (the traditional source of seafarer supply) accounted for 54% of respondents, the inland region for 46%. This result is consistent with other surveys (Wu 2007, Wu 2008).

About 70% of trainees came from rural areas, 20% from towns and 10% from cities. When asked detailed questions about village population and development information, over 98% of trainees offered clear and informative answers. This seems to suggest that almost all participants belonged to the rural population in terms of *hukou* registration with a clear awareness about the development of their rural communities. According to our observation in other projects, it is common for rural residents to resettle in urban centres but retain close linkages with home communities where family members live and have land. Also, many rural villages are in the process of transition to urban suburb (town or city).

For details about their families and livelihoods, we asked questions about father's occupation and major sources of household income. As Table 6 shows, there is ongoing transformation

[7] We note that in this survey there is a sample bias which gives a lower proportion of seafarer supply from Shandong province when compared with Table 1.

in rural China where more and more people are involved in employment other than farming, or have become part-time farmers. The latter have both urban and rural incomes, with the larger part coming from non-agricultural activities such as small businesses, occasional labour or migrant work. This is particularly true for those families who are interested in seafaring employment and can afford the costs of seafarer training courses out of income from non-agricultural activities or urban employment.

Table 6. Father's occupation and household income sources

1. Father's occupation			2. Household income sources		
	No.	%		No.	%
Official	95	5.5	Business	273	15.7
Businessman	196	11.3	Waged labour	357	20.5
Urban worker	406	23.4	Non-agriculture	424	24.3
Rural migrant worker	288	16.6	Farming (agriculture)	601	34.5
Farmer	653	37.6	Other	89	5.1
Other	99	5.7			
Total	1744	100.0	Total	1744	100.0

Rural household economic levels

Besides family economic structure, respondents were asked to give an assessment of their family's economic status in relation to all of the village households. Such an assessment is quite familiar in Chinese rural society because people take an interest in knowing about the economic achievements of their neighbourhoods. Some caution is needed in accepting this data, however, since respondents are more likely to under-grade their family income. In this survey, 61% of respondents claimed it as medium level, one third (34%) as low, and only 5% as high.

The household economic information given here can be used to classify all sample households into three groups (high, medium and low) in order to gain a clearer and more objective picture about their economic position in the local context (see Table 7).

Table 7. Household economic levels

Level	Household economic level N (%)	Father's occupation (%)			Household livelihood source (%)			Village position (%)		
		Farmer	Worker	Other	Farming	Non-farming	Other	Low	Medium	High
Low	579 (33.8)	91.4	8.6	0.0	91.9	8.1	0.0	59.1	40.9	0.0
Medium	581 (34.0)	19.3	76.8	4.0	11.4	72.6	16.0	36.0	62.5	1.5
High	551 (32.2)	1.5	51.4	47.2	0.0	6.5	93.5	5.4	80.8	13.8
Total	1711 (100)	37.9	45.5	16.5	35.0	29.5	35.5	34.0	61.1	5.0

Note: For farmer occupation, 'worker' here includes both urban and migrant workers in Table 6.1 while non-farmer under HD income sources here refers to both non-agricultural and other in Table 6.2, leaving business and wage labour into other.

As can be seen, the three indicators used are father's occupation, household livelihood source, and household position in the village. Generally, many households who claim to be in the middle rank, or with an average income, are likely to be to be higher in reality since their

income no longer depends solely on farming but includes other sources, such as business or waged labour, and heads of families may also have reliable incomes from urban jobs. This is in contrast to actual middle and low rank households whose livelihoods are heavily dependent upon farming alone, which makes their income less secure and more liable to fluctuate. Household economic level is a key indicator for measuring rural transformation in China and also reflects the influence of location. Table 8 shows that households in urban areas are more likely to be in the 'high' rank whereas the majority of low rank households are located in rural areas. Also households in coastal areas are more likely (60%) to be in the 'high' category than households in inland areas (40%).

Table 8. Household economic level according to location and human capital level

Level	Location (rural-urban)		Region (inland coastal)		Human capital category		
	Rural %	Urban %	Inland %	Coastal %	Low %	Medium %	High %
Low	93.6	6.4	57.0	43.0	30.1	40.2	29.7
Mid	72.3	27.7	44.0	56.0	36.0	36.1	27.9
High	46.3	53.7	39.8	60.2	39.7	34.1	26.1
Total	71.2	28.8	47.0	53.0	35.2	36.9	27.9

One important finding we can draw from Table 8 is that survey respondents ranking 'high' in human capital accumulation do not necessarily come from locations or regions with high economic levels. In fact, a slightly higher percentage of trainees (29.7% compared to 26.1%) come from the locations with low economic levels. This suggests that poorer villages and areas are not necessarily poor in the accumulation of human capital for seafarer recruitment and training purposes.

Village economic development

To find out about the villages trainees came from, we asked them to rate their village's economic development (low, medium, high) and to identify the major sources of village resident income. We also asked them to estimate the number of poor households in their village and rate their village's development status according to three categories (low, medium, high).[8] As Table 9 shows, villages in the 'high' category were less dependent upon either traditional farming or waged labour but relied more on business (e.g. township or village enterprises, trade and service industries). By contrast, in the 'low' (poor) category, 80.6% of villages were dependent upon traditional farming.

Table 9. Village economic levels

Levels	No. (%)	Income sources (%)			Poverty rate (%)			General village economy (%)		
		Farming	Waged labour	Business	>=30%	10-30%	<10%	Low	Medium	High
Low	480 (7.9)	80.6	19.4	0.0	74.0	26.0	0.0	86.7	13.3	0.0
Medium	800 (46.5)	38.8	50.6	10.6	16.8	67.0	16.3	19.6	79.9	5.0
High	441 (25.6)	9.0	37.4	61.7	0.0	31.3	68.7	1.1	90.7	8.2
Total	1721 (100)	40.7	38.5	20.7	28.4	46.4	25.2	33.6	64.1	2.3

[8] We assumed that only one student came from each village.

Trainees' estimation of the proportion of poor households in their villages was based on their local knowledge and individual perception rather than any government standard. A very few respondents (2.7%) claimed that there were no poor households in their village; 22% thought the rate was below 10%; nearly half (46%) estimated the percentage to be 10% to 30%, while 28% of respondents suggested that there were more than 30%. In terms of general village economy, two-thirds of respondents from 'high' level villages said that the incidence of poverty there was below 10%, and the remaining third estimated it to be 10% to 30%. By contrast, about three-quarters of respondents from villages with low economic levels estimated the poverty rate to be more than 30%, and the rest put it as 10% to 30%.

As with the findings on households, villages in more urbanised and coastal areas were more likely to be ranked 'high level' than those in rural and inland areas (see Table 10). However, within this difference there was some variation. More coastal villages (40%) than villages in urban areas (10%) were in the 'low' category. In the 'high' category, rural and urban-area villages are equally represented despite there being only 30% of urban-area villages in the total sample. In terms of the relationship between household and village economic levels, over 60% of households in 'high' category villages were also in the 'high' household group, while over two thirds (68%) of households in the 'low' category were in 'low' level locations (mostly in rural and inland areas).

Table 10. Village levels, location and household economic status

Levels	Location (%)		Region (%)		Household economic status (%)		
	Rural	Urban	Inland	Coastal	Low	Medium	High
Low	90.7	9.3	59.6	40.4	67.9	24.5	7.5
Medium	71.0	29.0	45.8	54.2	29.1	40.1	30.8
High	49.9	50.1	35.5	64.5	5.1	33.1	61.8
Total	71.1	28.9	47.0	53.0	33.9	33.9	32.1

According to the survey data (see Table 11), high levels of village economic development are not necessarily associated with human capital accumulation. The opposite seems to be the case in our data, that is, the higher the economic level of the village, the lower the proportion of high-level human capital.

Table11. Village level and human capital accumulation of trainee**s**

Village level	Human capital categories of trainees(%)		
	Low	Medium	High
Low	27.9	37.7	34.4
Medium	38.3	36.4	25.4
High	38.3	37.0	24.7
Total	35.4	36.9	27.7

Link with rural migration

An important element in China's rural development is the large scale of labour and population migration from rural areas. This is particularly true for mountainous, remote, and poor villages, leading to the spread of 'empty' villages in poor regions (Wu and Yao, 2010). This survey confirms this trend in general and provides the following specific points (see Table 12).

- An increasing number of rural households are resettling in urban areas (towns or cities). Almost one out of five respondents estimated the household migration rate to be more than 30% of village registered households, and more than 40% of respondents thought it was between 10% and 30%.
- The migration rate for young people is thought to be even higher than household migration (see Table 13). Thirty one percent of respondents reported that over half of young people in their village had been outflow from villages while over 40% of respondents estimated that between 20% and 50% of young people had migrated at some point.
- The migration rate of labour and household appears to be closely related to village economic level: the lower the village economic ranking, the higher the estimations of migration rate.

Table 12. Village economic level and migration

Level	Household outflow %			Young people outflow %		
	<10%	10-30%	>30%	<20%	20-50%	>50%
Low	37.6	35.9	26.5	23.1	38.0	39.0
Medium	35.1	49.3	15.6	20.9	48.7	30.3
High	44.7	41.5	13.9	36.1	40.0	23.9
Total	38.2	43.5	18.2	25.5	43.5	31.1

To conclude, our data shows that most trainees were between 20 and 24 years of age and had been educated to secondary school completion level or beyond. Most of the trainees (70%) came from rural areas; 54% came from coastal areas and 46% from inland. Many (43%) had experience of migration. An important finding for our research was the relationship between levels of human capital accumulated by the trainees and the household/village economic levels and location. Trainees with high levels of human capital accumulation did not necessarily come from families or locations with high economic levels. In fact, the reverse seemed to be the case: a lower proportion of trainees with high human capital accumulation came from villages with a high economic level. This indicates that poorer villages and areas are able to supply adequately educated and suitable entrants for seafarer training. The issue of whether or not rural people would be attracted to seafarer work and training is dealt with in the next section.

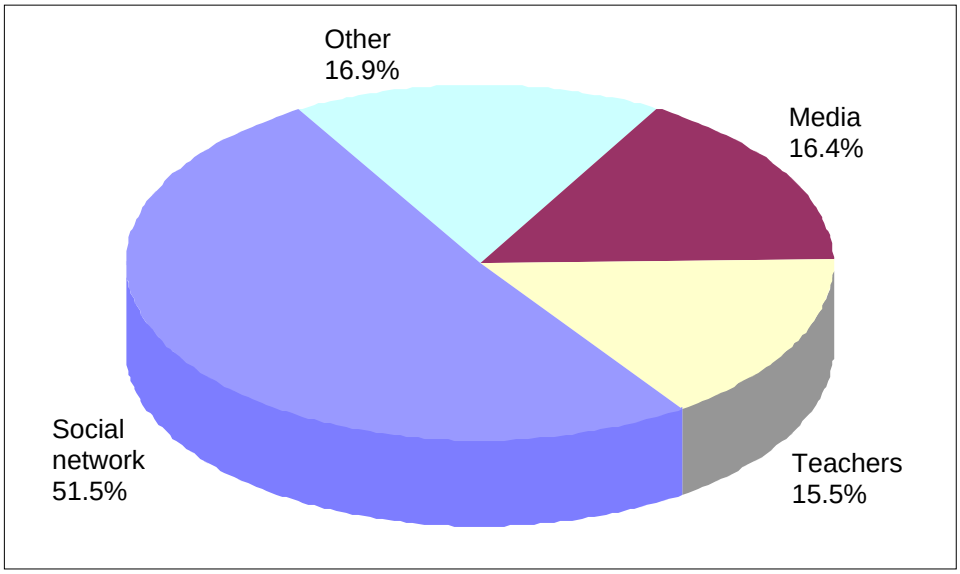
5. Motivation for participating in seafarer training

This section examines the motivation of trainees in selecting seafaring as an occupation and the influences on their choices. How did they find out about seafarer work? Why are they interested in it? What attitudes did their friends and family have towards it?

Information sources about seafaring

The trainees' knowledge about seafaring and training came from several sources. Just over half of them (51.5%) identified social networks (friends and relatives) as their information source. Public media such as television, newspapers, magazines and internet were identified by 16.4% of respondents, and schools and teachers by 15.5% (see Figure 5).

Figure5. Sources of information about seafaring as an occupation



However, there is some difference in the information sources used by various groups. As Table 13 shows, social networking is used more often in the coastal areas and villages supplying seafarers than in inland areas and villages that do not already supply seafarers. Social networking is also used more often in the more prosperous villages whereas the use of teachers as a source of information is greatest in the poorer villages.

Table 13. Sources of information about seafaring

Location and level	Divsion	No. trainees	Sources of information		
			Media	Teachers	Social networks
Region	Inland	810	17.3%	16.1%	48.2%
	Coastal	918	15.5%	14.8%	54.3%
Seafarer in village	None	563	21.0%	17.2%	41.2%
	One or more	1163	14.3%	14.7%	55.8%
Village economy	Low	480	16.5%	20.4%	43.0%
	Medium	799	16.9%	15.2%	51.4%
	High	439	15.7%	11.2%	58.5%
Human capital	Low	615	14.7%	19.7%	53.4%
	Medium	645	18.6%	15.0%	47.1%
	High	487	15.6%	10.7%	54.3%

Reasons for choosing seafaring

Once in receipt of information, respondents gave a variety of reasons for embarking on seafarer training. The most important reason, by far, was expectation of high income: 56.8% gave this as their first choice and 84.9% of respondents overall gave it as one reason in the multiple choice responses (see Table 14). The next two reasons most frequently given were influence of social network (14.3%) and lack of suitable onshore jobs (8.9%). The influence of family and friends was given in over half (55%) of the total choices made.

Table 14. Why were you interested in seafarer training?

Reasons	No. trainees	First choice (%)	Multiple choices (%)
Expectation of high income	994	56.8	84.9
Social network influence	251	14.3	55.2
No suitable onshore job	156	8.9	47.1
Broker involvement	116	6.6	45.2
Teacher recommendation	95	5.4	37.4
Other	122	7.0	21.7
Total	1734	100	291.5

As can be seen from Table 15, expectation of high wages was the strongest motivation across all categories. The next strongest influence (though much less so) was social networks (mostly in more prosperous coastal areas but less with respondents having high human capital).

Table 15. The primary reason for choosing seafaring according to different groups

Category	Item	No on-shore job available %	Expectation of high wage %	Social network influence %
Region	Inland	8.1	60.5	11.2
	Coastal	9.7	54.7	17.4
Seafarer supply	None	7.2	62.2	9.9
	One or more	9.7	55.0	16.7
Village economy	Low	6.9	58.1	11.2
	Medium	9.5	58.6	13.4
	High	9.9	54.1	20.4
Human capital	Low	7.1	56.2	18.1
	Medium	8.8	56.6	13.7
	High	11.9	58.5	12.1
Total		9.1	56.8	14.9

Social networks were identified as having a stronger influence than media, teachers and brokers, and thus offer further potential for use in the promotion of seafaring. Social networks clearly play an important role in providing information. Nearly 80% of respondents said they gained support from their social network in undertaking seafarer training (25% strongly so). Negativity or lack of support for seafaring appeared to be linked to level of village economic performance, previous experience of seafarer supply and household economic position (see Table 16). Location and type of village (whether more urbanised or more rural) did not appear to affect attitudes.

Table 16. Negative social network attitudes towards seafarer training

Category	Rank	No. trainees	%
Village economy	Low	136	28.3
	Medium	159	19.7
	High	91	20.8
Previously seafarers in village	No	160	28.5
	Yes	230	19.8
Household economy	Low	167	28.9
	Medium	110	19.1
	High	110	20.0

As might be expected, poor households and villages seem to be more cautious in supporting trainees to attend seafarer courses, perhaps because of costs. The costs of training were reported as a deterrent by just over a third (37.2%) of respondents (see Table 17).

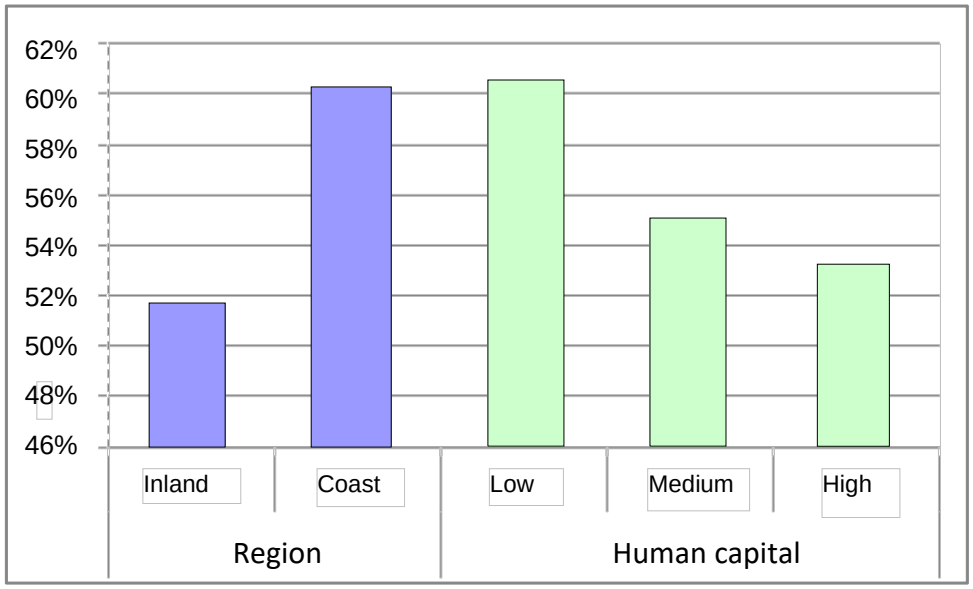
Table 17. Family reasons for reservations about seafarer training

Reason	No. trainees	First choice (%)	Multiple choices (%)
Seafaring as an occupation	524	35.6	50.2
Training costs	373	25.4	37.2
Job uncertainty	276	18.8	33.5
Other	297	20.2	25.7
Total	1470	100	146.6

Did the trainees have work or training options, other than seafaring, open to them? Over a third (37.1%) said they had alternative occupations as a possibility and over half (56.1%) had a choice of training institutes. Those who had other choices of future occupation were also more likely to have more choice of maritime training centre. This leaves a large number of trainees who lacked options, suggesting an unmet need for vocational training and adult education and untapped potential in developing the rural labour force.

Who then had the most options in terms of work and training? Trainees from coastal regions had more options in the labour market than their counterparts from inland areas, even those in the low human capital category (Figure 6). This suggests that more experienced and qualified people may find it more difficult to get a suitable on-shore job, thus turning their attention to seafaring as an occupation.

Figure 6. Choice of other jobs by region and human capital level



Several factors were reported by trainees as influencing their decision to apply for seafarer training. As can be seen in Table 18, nearly half (45.6%) chose job security as their primary reason and over two-thirds (69.2%) included it as one of their reasons. The reputation of the MET institute was the next most influential factor, followed closely by that of intermediary intervention. Government promotion was the least influential factor but still identified by nearly a third of respondents. In terms of the pre-training information provided by intermediaries and MET institutes, half of respondents viewed its quality as good or acceptable, 20% saw it as too general and 16% as misleading.

Table 18 Factors influencing trainee decisions to join seafarer training courses

Reason	No. trainees	First choice (%)	Multiple choices (%)
Job security	783	45.6	69.2
MET Institute	327	19.0	46.6
Intermediaries	297	17.3	44.7
Government	87	5.1	31.0
Other	223	13.0	25.1
Total	1717	100.0	216.7

Although job security was selected by all groups as the most important factor in choosing seafaring, it was less so for older trainees, those aged 24 and over (37 % compared with the 45.6% overall). This older group was more concerned about the reputation of the MET institutes than respondents overall (see Table 19).

Table 19. Factors influencing choice of seafarer occupation

Age division	No. trainees	Intermediaries	MET Institute	Job security
<=19	141	16.8%	22.1%	47.7%
20-23	1382	18.4%	17.4%	46.5%
>=24	194	13.2%	25.9%	36.8%

As can be seen from our findings, the major driving force in taking up seafaring was the expectation of high earnings though the influence of social networks and lack of suitable onshore work played a role too (though more than a third of trainees had alternative employment options). Trainees from more prosperous coastal regions had more employment options than those from inland rural areas. The large number of trainees who lacked options suggests a need for more opportunities for vocational and continuing education at the local level. Trainees' experience in gaining information about seafaring and training suggests that this aspect of recruitment would benefit from improvement in terms of the availability of information and the mobilising of social networks to provide it. However, once information has been received and considered by trainees, they still need to decide if the training is affordable.

6. Costs and financing of training

The affordability of training is a key factor in determining whether or not applicants for training accept an offer of a place at a training institute. Applicants need to pay tuition fees to MET providers, a fee to brokers or intermediaries and have sufficient funds for living expenses (accommodation, food and other expenses). In making the decision to invest in training, applicants balance a number of factors relating to costs and benefits.

Expectation of high wages was the main motivation for over half of the respondents and appeared in the responses of 84% of respondents (see Table 20), justifying investment (finance and time) in training. The second most frequently perceived benefit from training was job security (identified by 61.6%). The quality of training institutes ranked third out of six in the reasons given, identified by 53.5% of participants. Only 8.3% reported training costs as their first consideration when deciding to embark on training, though it was mentioned by 46.7% as one among several factors. There appeared to be little difference between groups in the factors influencing their decisions.

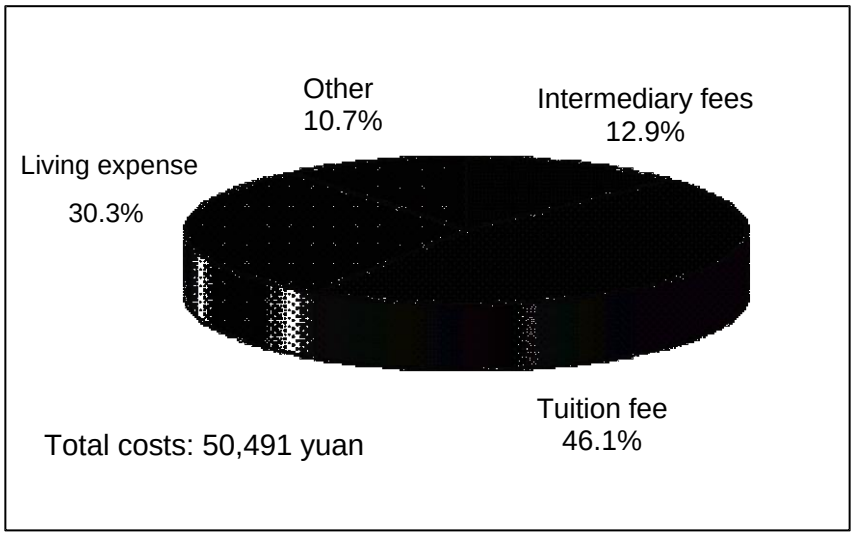
Table 20. Key factors influencing the decision to attend the training course

Key factors	No. trainees	First choice (%)	Multiple choices (%)
Training costs	143	8.3	46.7
High wage of seafarer	975	55.6	83.7
Institute quality	191	11.1	53.5
Intermediary's credibility	120	7.0	45.1
Future job security	252	14.7	61.6
other	57	3.3	17.6
Total	1720	100	303.1

Total costs and cost structure

The total costs of training per capita average were roughly calculated as 50,491 RMB Yuan. The costs consist of a tuition fee (the largest element), living expenses, intermediaries' fees, and other items (see Figure 7).

Figure 7. Constituent costs of seafarer training courses



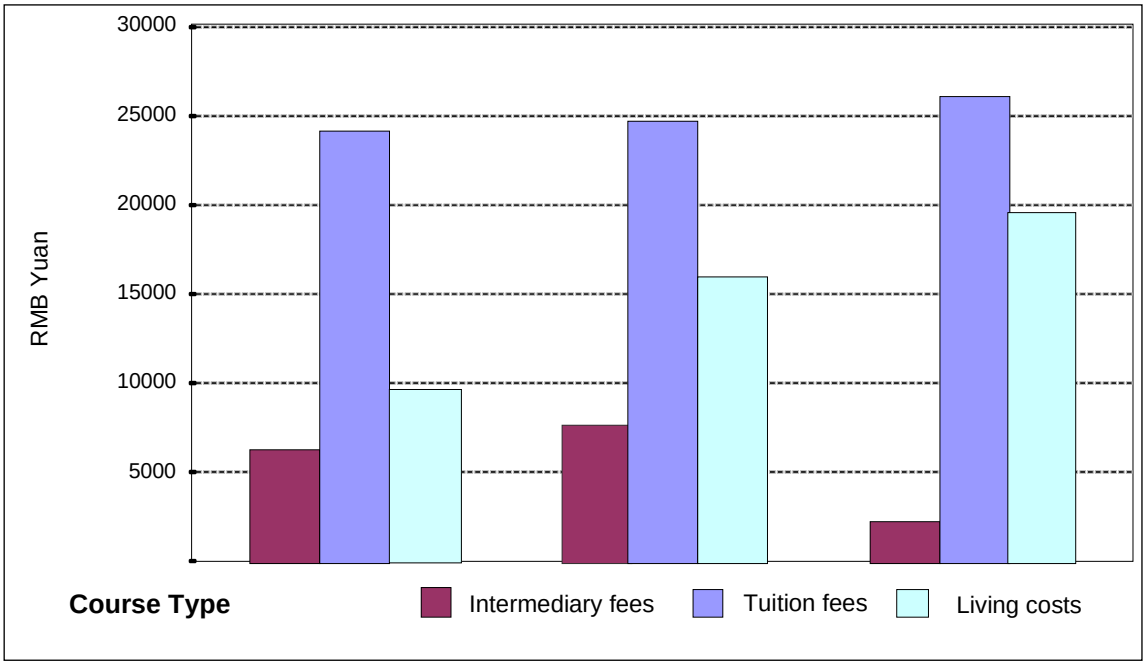
The costs of different types of training courses are illustrated in Figure 8. Generally, the average costs were 52,992 RMB Yuan for a three year course, 50,382 RMB Yuan for a two-year course and 38,466 RMB RMB Yuan for a one year course. Apart from the differences involved in living expenses for different length courses, the biggest difference among courses lay in intermediaries' fees. These ranged from 6380 to 7700 RMB Yuan for 1 and 2 year newly introduced courses (15%–17% of the total costs), to 2400 RMB Yuan or less for a conventional three year course (less than 5% of the total costs)[9] Though the three courses are of different length, the tuition fees are almost the same, indicating that 1-2 year newly introduced courses cost more for trainees or their families than the three year regular course.

The evidence collected indicates that the SSI have successfully mobilised rural people to participate in the seafarer training courses. Though they pay a similar amount of tuition fees they spend less time in the MET centre compared with three year conventional courses. However, the participation for some trainees carries a cost that those on the conventional courses do not have to pay, namely, intermediaries' fees of around 7000 RMB Yuan. While

[9] However not all trainees paid intermediaries for a placement on courses since some MET institutes recruited trainees directly.

those newly introduced courses are more vocationally oriented and shorter than the conventional courses they come at a cost, we are not able to comment on the cost-effectiveness of the different types of courses because of lack of data on success rates and evaluations from employers and other stakeholders

Figure 8. Structure of financial costs by type of training course



According to information we collected from one of our surveyed METs that have had graduates from both three year conventional courses and two year newly introduced courses, the success- rates (a pass in all seven or eight examinations –for a deck officer or marine engineer certificate issued by the maritime authority) vary greatly for different courses. Taking the 2007 cohort studies as an example, the success rates for three year course students are 51.8% for navigation and 64.2% for maritime engineering respectively. This is in sharp contrast to the success rates of 2 year course students, which are only 33.6% and 36.4% respectively, nearly 20% lower than their counterparts on conventional courses.

How did the trainees finance their courses?

It is common in China for students to receive financial support for education and training from parents and sometimes from relatives either as an interest-free loan or as a gift. In our survey, 92% of trainees had financial support from parents who contributed, on average, 81% of training costs (see Table 21). Also, 42.7% of respondents received funding from other relatives, covering 15.3% of training costs.

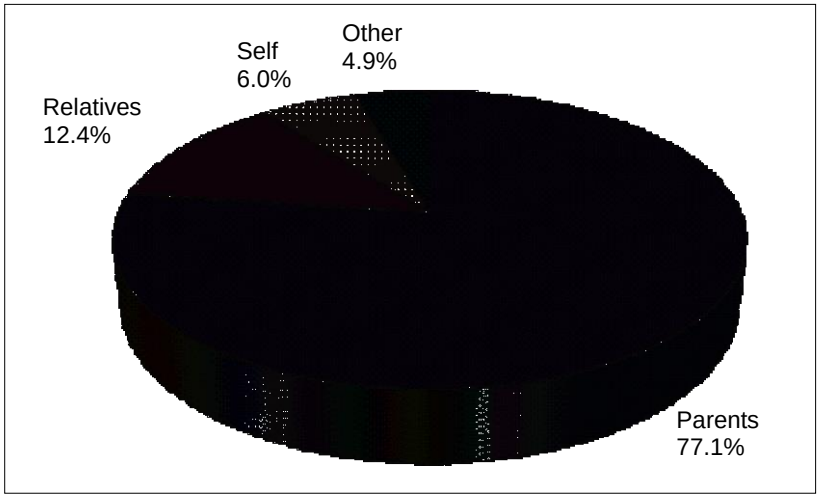
Table 21. Financial sources for training course

Sources of funding	Parents	Other relatives	Self	Bank	Other	Government
Trainees (N)	1607	747	655	474	411	397
% of sample	91.8	42.7	37.4	27.1	23.5	22.7
Share of cost (%)	81.0	28.0	15.3	11.2	3.3	2.6

Note: the categories in Table 24 are overlapping (and hence add up to more than 100%) since most respondents used more than one source of funding.

As can be seen, a further significant source of funding was the trainees' own savings (usually derived from previous employment. About 37% of respondents used these to cover 15.3% of total course costs. Roughly a quarter of respondents mentioned other financial sources such as bank loans and government support though these two sources provided only very small amounts. Seafarer training in our sample is heavily dependent upon parental and family support (89.5% overall), as Figure 9 shows.

Figure 9. Financial contributions to seafaring training course costs



While the training costs are similar for trainees, the financial pressure for individuals and groups may be very different. Poorer families are less able to provide funding for training, contributing about 15.0% less than the richest group. In terms of human capital, trainees with high human capital levels from poor villages had lower levels of parental financial support. This supports the conclusion that the rural poor find it more difficult to finance maritime training and that participation in is more dependent upon their own savings than their counterparts from non-poor families (see Table 22).

Table 22. Share of funding between parents and trainees by human capital level

Human capital level	Use of own savings	Parental contribution
Low	3.9	87.2
Medium	7.3	81.0
High	35.0	72.4
Total	15.3	81.0

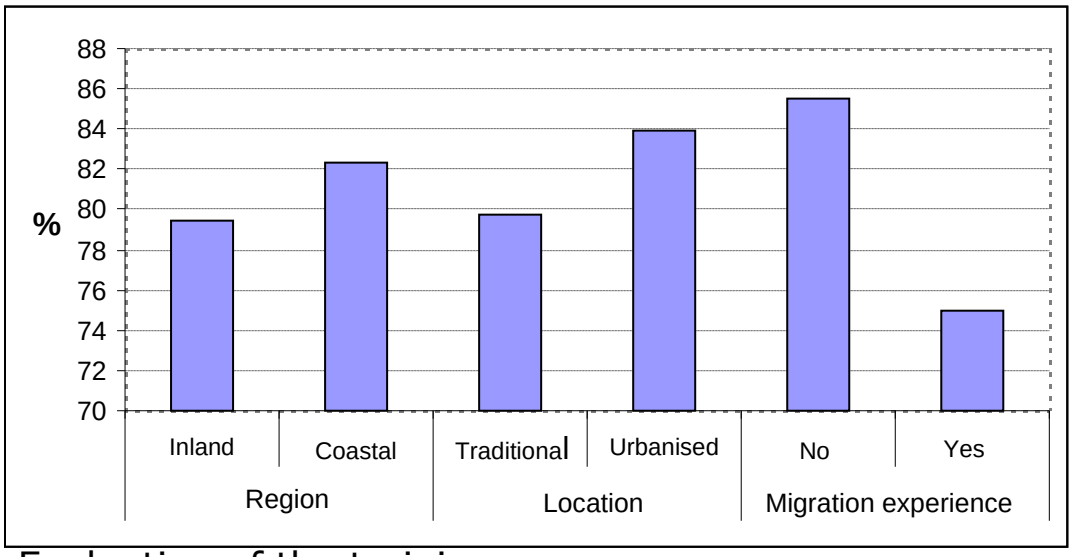
Note: figures in cells are un-weighted due to different response rates in different columns indicated in Table 21.

Parents provided the major contribution to training costs. Figure 10 shows the share of parents' contribution in the total financial cost of the sample. Lower levels of family support were found in inland regions and rural villages than in coastal and suburban villages. Trainees with migration experience appear to be less dependent upon family funding support than those without it.

Though only 8.3% of trainees identified cost as the main factor in influencing their decision to embark on training, it is clear that financing the training places heavy demands on trainees and their families, especially in poorer inland regions and more rural villages. If the government's policy aim is to use seafaring employment as a means of alleviating rural poverty, then financial support for the poorest potential trainees would help achieve this aim.

We were not able to say from our research whether or not cost had deterred some potential trainees altogether from embarking on training since our respondents were enrolled trainees. This aspect would benefit from further research. An aspect also needing further research is the role and costs of intermediaries who broker trainees' access to particular courses and institutes. Given the costs of financing training, did the training courses represent value for money? Were trainees satisfied with it?

Figure 10. Parents' share of training costs



7. Evaluation of the training

Training is a key element in determining the quality of the labour force in any field. Our questionnaire asked trainees to give their overall view of their training courses. Their response was largely positive: two thirds (67.4%) of respondents were satisfied though nearly a quarter (23.1%) were not (the remaining 9.5% were undecided).

Trainees on the one-year and three-year courses were more satisfied than those on the two-year courses (see Table 23). Trainees taking the one-year year 'conversion' courses for final year university students new to maritime studies reported the highest level of satisfaction, 86.7% (though this sample size of 44 was small). Trainees at university-based training centres were more satisfied with their courses than those in non-university centres.

Table 23. Trainee satisfaction with maritime training courses

Category	Very satisfied	Satisfied	Difficult to say	Dissatisfied	Very dissatisfied
Type of course					
One-year	11.1	75.6	6.7	6.7	0.0
Two-year	5.6	69.2	10.2	18.8	6.2
Three-year	4.8	71.6	6.7	12.8	4.2
MET Institute					
Non-university based	4.4	58.8	11.5	18.5	6.7
University based	7.0	65.3	7.0	16.1	4.5
Total	5.6	61.8	9.5	17.4	5.7

Trainees' levels of satisfaction varied among the different course components (Table 24). They were most satisfied with the content on practical skills (72.3%), then theory (63.0%). Only half were satisfied with the course content on teamwork and discipline.

Table 24. Course components and trainee satisfaction

Components	No trainees	First choice (%)	Multiple choices (%)
Practical skills	644	39.1	72.3
Theory	545	33.1	63.0
Discipline	234	14.2	51.6
Teamwork	225	13.7	51.1
Total	1648	100	236.1

Satisfaction with course components also varied between different groups. Trainees from high level (richer) households were more satisfied with the components on theoretical knowledge and teamwork while those from low level (poorer) households were more satisfied with the practical skills and discipline (see Table 25). Those on one-year courses with previous experience of study at university level were more satisfied with the theory component than trainees on three-year courses, who were more satisfied with practical skills. Fewer of the trainees on one-year courses were satisfied with the content on discipline and teamwork than trainees on longer courses.

Table 25. Satisfaction of different groups with training course components

		Discipline	Teamwork	Practical skills	Theory
Household level	Low	16.8	11.7	43.0	28.5
	Medium	13.3	15.7	38.6	32.4
	High	12.6	14.1	36.0	37.2
Course type	1 year	2.3	2.3	18.2	77.3
	2 year	13.5	14.2	37.7	34.6
	3 year	19.1	12.8	48.3	19.8

Though practical skills training was important for the trainees, 72.6% reported insufficient opportunity for developing them, a major source of dissatisfaction (Table 26). This was followed by dissatisfaction with English teaching (66.7% of trainees) and insufficient information about life as a seafarer (62.2%). Dissatisfaction with training on maritime regulations and theory were mentioned by just over half of trainees.

Table 26. Dissatisfaction with training course components

Item	No. trainees	First choice (%)	Multiple choices (%)
Practical skills	605	36.0	72.6
English language	430	25.6	66.7
Life as a seafarer	328	19.5	62.2
Maritime regulations	150	8.9	51.9
Theory	139	8.3	50.6
Other	30	1.8	8.7
Total	1682	100	312.7

As well as identifying aspects of course provision that might be in need of improvement, expression of dissatisfaction can also be used to identify the different training needs of groups. For example, trainees from inland or rural areas and low level households reported

more dissatisfaction with practical skills training, while those from coastal, more urbanised villages and high level-households were more dissatisfied with the content on seafarers' lives. The one-year course trainees who had previously studied other subjects, including English, were most dissatisfied with the training in practical skills and about seafarers' lives. This strongly suggests a need for courses and the curriculum to be more tailored to the needs of different groups of trainees.

Table 27. Dissatisfaction with course components in relation to selected factors

Factor	Division	Practical skills	English language	Knowledge of seafarers' lives
Region	Inland	40.1	27.2	15.6
	Coastal	32.8	24.2	22.6
Villages	Rural	36.8	25.6	18.0
	More urbanised	33.7	24.4	24.2
Household	Low	39.3	27.0	17.0
	Medium	36.3	24.6	18.7
	High	31.9	25.1	22.6
Course	1 year	51.2	2.4	34.1
	2 year	35.4	24.8	19.2
	3 year	36.3	32.0	19.0

From the trainees' perspective, the main limitation of course provision overall was the cost of tuition fees (Table 28). This outweighed other concerns, though they all indicate some areas for possible improvement in promoting seafarer training and recruiting trainees for it.

Table 28. Limitations of courses

Limitation	No. trainees	First choice (%)	Multiple choices (%)
Tuition fees	510	30.9	76.3
Living conditions	305	18.5	68.7
Teaching/learning facilities	244	14.8	61.2
Accuracy of advertisement	243	14.7	55.2
Quality of teachers	203	12.3	55.2
Management of institute	148	9.0	57.2
Total	1653	100.0	373.8

The emphasis given to particular limitations varied between groups. For example, those in the categories of rural poor (at the level of household and village) and high human capital identified tuition fees as a limitation more often than other groups.

Overall, two-thirds (67.4%) of trainees viewed the training in a positive light though they also discriminated between the course components that did or did not meet their needs. The development of practical skills was seen as important by the trainees and was the component rated most highly in trainee satisfaction (by over a third of trainees). However, trainees also identified it as a major source of dissatisfaction in that there was insufficient time in the programmes for developing practical skills (72.6% of responses mentioned this problem). This seems to suggest that compared to other training components, the practice in of skills was the component with most room for improvement.

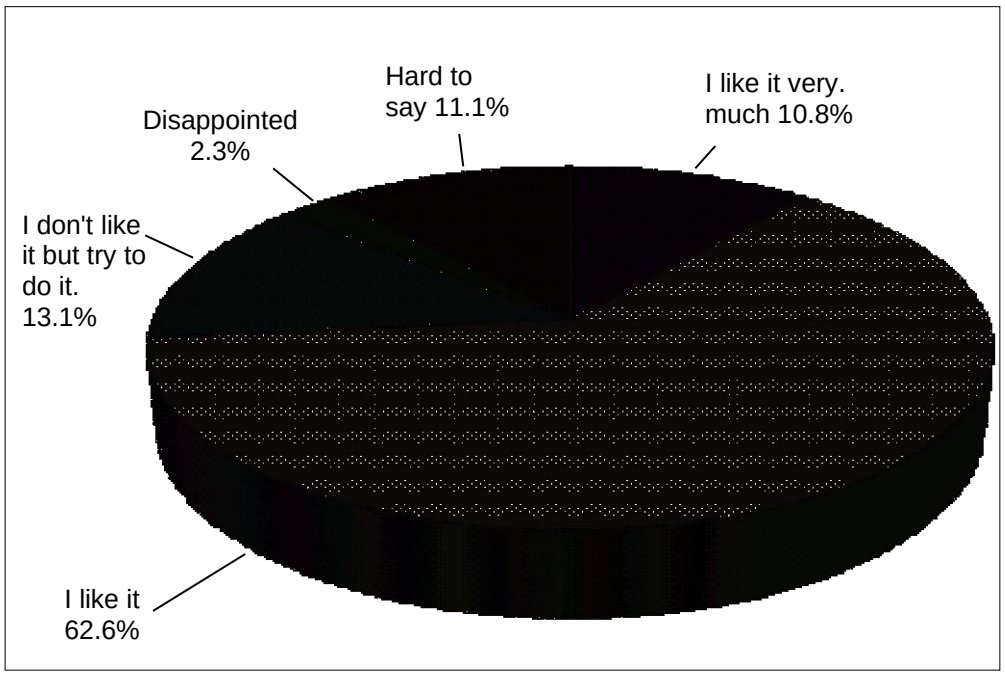
Variations in satisfaction with the training were also related to course length and economic level of household and village. All of this suggests that the MET courses and institutes are in need of review and improvement, taking into account employer's perspectives too. The concern with costs was again evident in trainees' evaluation of their courses, identified as the main limitation in courses (by 30.9% of trainees; it was also referred to in 76.3% of responses overall), raising issues of 'value for money' in training. Expectations of highly paid employment also entered into their judgement, as can be seen from the next section.

8. Seafarer Career Prospects

Seafarer training was undertaken as a means to an end, namely employment as a seafarer. What expectations did trainees have of their future career? This section summarises the trainees' perceptions of their potential seafarer career as well as their expectations of its impact on their household and village economies.

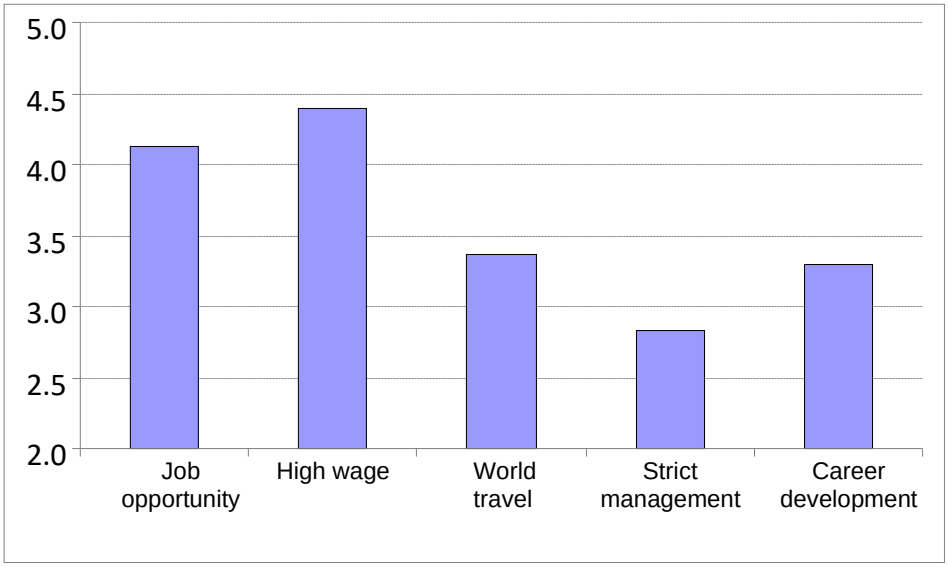
Most trainees (73.4%) had positive attitudes towards seafaring as an occupation; only 2.3% expressed disappointment and said they did not really want to do it (see Figure 11).

Figure 11 Attitudes to seafaring as an occupation



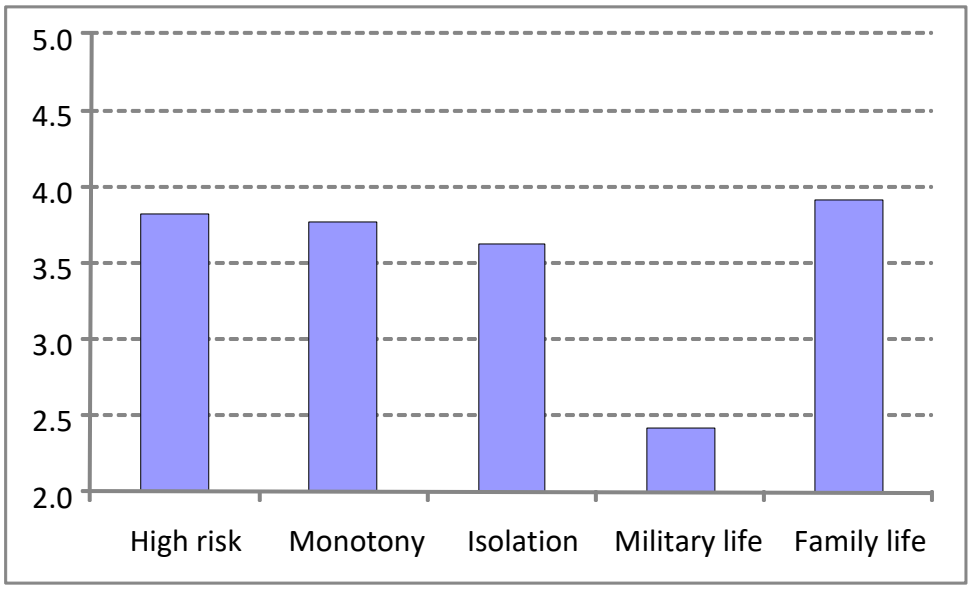
The questionnaire listed several advantages and disadvantages of seafaring and trainees were asked to rate them. As can be seen in Figure 12, job opportunity and high wages were seen as the main advantages (the list included favourable job prospects, the chance to travel the world, strict discipline, generous future earnings and career development opportunities).

Figure 12. Perceived advantages of seafaring as an occupation



The main disadvantages identified were lack of family life, danger at sea and the monotony of life on board ship; or items on the list of choices were military style of supervision, lower than expected pay and isolation from society (see Figure 13). This suggests that respondents had a realistic awareness of the advantages and disadvantage of seafaring as an occupation.

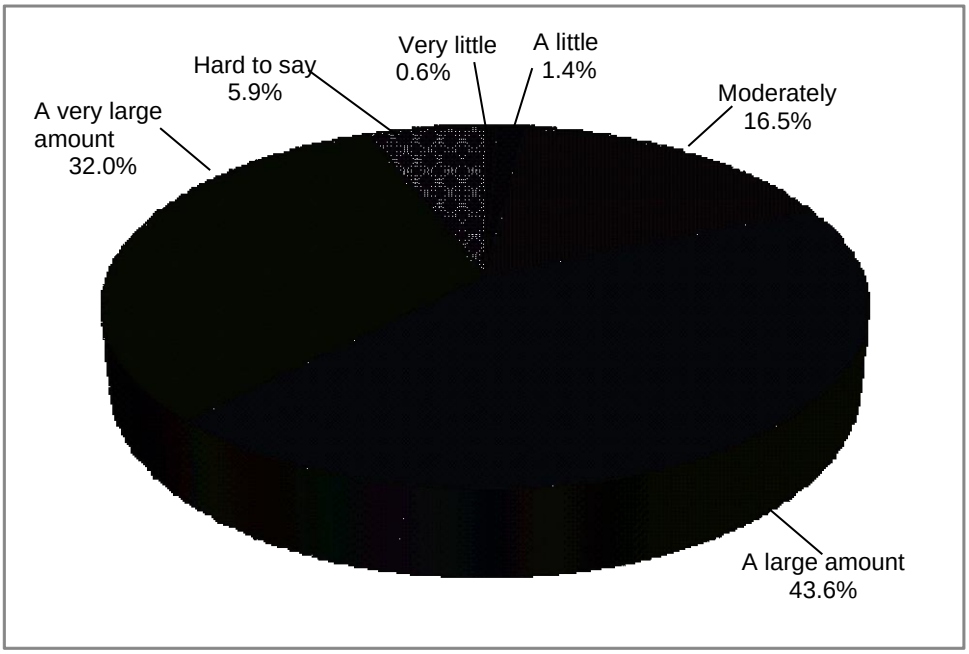
Figure 13. Perceived disadvantages of seafaring as an occupation



Expectations and concerns

Expectations of positive impact from their forthcoming seafaring work were high. With regard to their family income, three-quarters of trainees (78.8%) thought it would have a large positive impact, and a further 17% expected it to be moderate. Only 2% thought there would only be only a little impact (see Figure 14). This is consistent with other findings in the report that around three quarters of trainees are keen to gain employment as seafarers.

Figure 14. How will seafarer occupation influence the livelihoods of your family?



Trainees from poor families and villages in both rural and inland areas expected more benefits than those from richer families and villages in urban and coastal areas (Table 29). From this perspective, the seafarer programme can be seen as having a positive impact on rural poverty alleviation.

Table 29. Perceived impact of seafarer employment

Category	Divsion	A little	Moderate	Large
Region	Inland	2.5	14.6	78.3
	Coastal	1.5	18.9	72.1
Location	Rural	1.4	13.7	78.6
	Urban	3.5	24.0	66.8
Village	Low	2.1	6.4	85.6
	Medium	1.4	16.6	75.6
	High	2.8	28.1	62.7
Household	Low	1.5	9.7	82.9
	Medium	1.8	13.5	78.5
	High	2.5	27.7	63.3

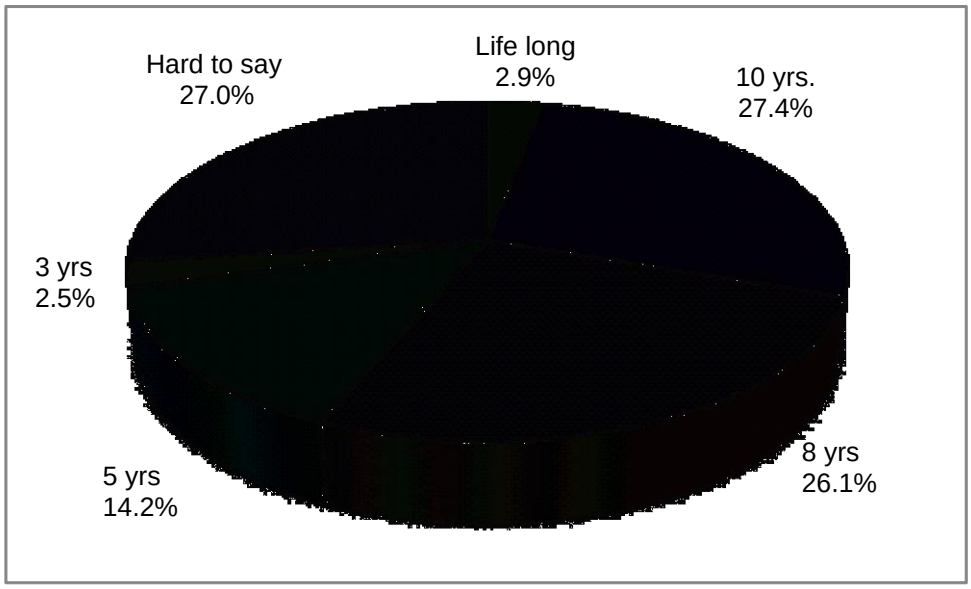
Taking into account the severe impact of the current global economic recession on the international shipping industry, we asked students if they were worried about employment opportunities after completing the training course. One third of respondents said they were very worried; 23.1% were moderately concerned, 35.1% only a little worried, and fewer than 10.0% said they did not worry at all. Some groups appeared more concerned than others (see Table 30). Those from rural areas and low-level villages and married trainees from low-level households were most concerned, as well as trainees on two-year courses and at non-university training centres.

Table 30. Concern about job prospects

Category	Division	Not worried %	A little worried %	Worried %	Very worried %
Location	Rural	7.9	34.9	22.6	34.6
	Urbanised	12.1	34.5	23.4	30.1
Village	Low	6.2	29.6	21.8	42.4
	Medium	7.3	34.8	24.4	33.5
	High	15.0	40.5	21.6	22.9
Household	Low	6.1	31.4	23.9	38.7
	Medium	7.6	36.3	21.8	34.3
	High	13.7	37.9	23.1	25.4
Course	1 year	19.6	32.6	28.3	19.6
	2 year	8.2	33.2	23.2	35.4
	3 year	12.1	43.8	22.0	22.0
MET institutes	Non-university	8.3	31.0	24.0	36.8
	University	10.3	39.7	21.5	28.5

However, the uncertainty of the seafaring labour market did not prevent the majority of trainees from developing a preliminary plan for a seafarer career. While only a few considered a lifelong commitment to seafaring, more than half had a perspective of eight years or more (over a quarter (27.0%) found it hard to say what their longer term plans were (see Figure 15). Around half of the trainees appeared to be taking an 8–10 year perspective on their seafaring employment. This pattern was found across all groups: there was no significant difference on this between the different groups.

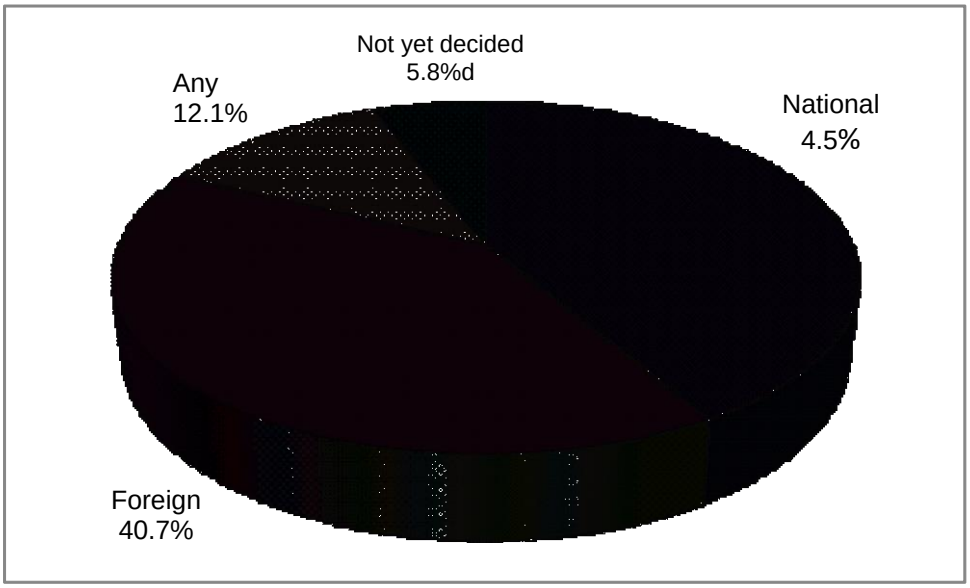
Figure 15. Preliminary plan for the duration of working at sea



What kind of employer?

Trainees had already determined their preferences in terms of employer. Similar proportions of trainees (around 40.0%) preferred to work on either national or foreign shipping, seeing these as equally attractive (Figure 16). A small proportion of trainees (12.1%) was prepared to go to any available job, regardless of whether the employer was Chinese or foreign.

Figure 16. Ideal employers after the training course



Trainees in the high human capital category expressed a slight preference for work with foreign shipping companies rather than the national fleet (see Table 31). This was particularly so for trainees on one-year and three-year courses, more than those on two-year courses. This offers some support for the view that experience and competence to work onboard foreign ships is an important objective for China in the development of high quality seafarers.

Table 31. Employment preference according to levels of human capital and course type

Category		Not yet decided	No preference	National	Foreign
Human capital	Low	7.3%	10.7%	45.0%	36.9%
	Medium	6.5%	11.8%	40.6%	41.1%
	High	2.9%	14.6%	39.8%	42.7%
Course	1 year	2.2%	21.7%	28.3%	47.8%
	2 year	6.4%	13.1%	43.3%	37.3%
	3 year	3.8%	7.0%	37.9%	51.3%

Overall, trainees had positive and realistic attitudes to seafaring employment. Job opportunity and high wages were seen as the main advantages, the disadvantages being lack of family life, danger at sea and the monotony of life onboard. Trainees' expectations of positive impact of seafaring on their family income were high: over three-quarters expected it to have a large effect. Trainees from poor families and villages in more rural and inland areas expected more benefits that trainees from richer families and villages in urban and coastal areas. The uncertainty of the current seafaring labour market did not deter trainees from making plans for a seafaring career, with more than half (53.5%) taking an 8—10 year perspective. Trainees with higher levels of human capital showed a slight preference for work with foreign shipping companies, indicating that it is possible to achieve the goal of supplying high quality seafarers for international shipping, especially if other aspects of seafarer recruitment and training are given attention.

9. Conclusions and policy implications

This report has examined the issue of seafarer supply and training in relation to the rural development of sending communities of China. With a focus on the participation of the rural poor in seafarer training courses it has examined several questions relevant to the Seafarer Supply Initiatives (SSI) fostered by the Chinese government and training institutions.

We started with four questions in the research:

1. What are the characteristics, motivations and attitudes of trainees from rural areas towards seafaring training and employment?
2. What differences are there between trainees, households, villages and location in relation to seafarer training and supply?
3. What factors affect access to seafarer training and approaches to a seafaring career?
4. What is the expected impact of MET and SSI on rural development, particularly in the poorer areas?

The questionnaire enabled us to explore these questions and other supplementary ones through the views and experience of nearly 2000 trainees at ten training institutes. Based upon the results of our data analysis, we can draw some conclusions and policy recommendations as follows.

Firstly, the SSI have broadened access for rural educated young adults, and in particular those who have failed to gain access to Chinese universities to maritime work if they are successful in completing a seafarer training course. This work offers them new work opportunities, relatively high pay and more attractive employment options than staying home for agriculture or migrating to big cities as rural migrant workers. Equally important, seafaring provides a new opportunity to develop and use local human resources, the most important resource for rural economic development and household livelihood upgrading.

Secondly, the SSI is more attractive to rural people from inland regions and resource-poor villages and households than to those from coastal regions, resource-rich villages and households. This shows that SSI can have an impact on rural development to meet the need of the rural poor. Compared to other groups, the rural poor are more committed to a seafaring career. To support the development of human capital among the rural poor, more flexible model of vocational training has emerged in China, offering access to training and linking the needs of the shipping industry to potential trainees from a broad range of backgrounds. Through the newly-introduced one and two year training courses, the SSI have successfully targeted and mobilised rural communities, in particular the rural poor, participating in the seafarer supply industry.

Thirdly, in contrast to conventional maritime education which is integrated within the national higher education or formal intermediate vocational system, this new model of training is more strongly vocationally oriented and has widened access through lowering academic entrance requirements. Access does not depend on selection through examination but, above a certain minimum educational level, is entirely based on the ability of trainees or their families to bear all the costs. These include tuition fees, living expenses and intermediaries' fees in the absence of any government subsidies. This contrasts with the subsidised courses within the same METs. Thus this wider access comes at a cost. The key to the success and sustainability of SSI is heavily dependent upon whether the investment of the rural poor, more vulnerable than other groups, brings returns in terms of job security and pay after completion of the training course. It seems that preliminary evidence does not

support such an assumption since, for example, the pass rates on two-year courses are much lower than other courses. To draw such a conclusion, however, needs further research and evidence.

Fourthly, the SSI have raised many challenging issues for the Chinese government regarding the regulation and coordination of seafarer development projects. From the perspective of rural development, ensuring returns on investment by the rural poor in seafarer training involves several key issues still needing attention: the quality of the MET centres and vocational training courses; the employability of graduates of newer vocational courses compared with those trained though more academic routes; the roles and social responsibilities of the stakeholders involved, that is, the brokers (or intermediaries), the training course providers and the shipping companies. Given the adjustment and deregulation of the MET system, there is an urgent need for the establishment of a new regulatory and quality control system for seafarer recruitment, vocational education, employment and standards.

Finally, the relationship between seafarer supply and rural development is an under-researched area. One methodological framework has been explored in this report where, instead of an 'absolute reference' system (for example, net income of households and the national poverty line) and ethnological observations, a 'relative reference' system has been adopted to make the data meaningful and manageable. In this system, all respondents, their families and villages are categorised into three ranks: high, medium and low, according to their human capital accumulation and economic performance. The accuracy (or error) of this methodology is dependent upon two conditions (or assumptions): the local knowledge of all interviewees and the representativeness of the sample of MET institutes and training courses. While this particular study has covered all types of MET institutes and major training courses, some caution is necessary due to the sample bias toward newly introduced two-year courses, a small sample size for one-year courses and the under-representation of three-year courses. Nonetheless, the consistency of most of our statistical tables seems to suggest that this methodology may be useful for survey methodology for other seafarer studies relating to vocational education and training and rural development. Our approach is just one, and we would wish to encourage other kinds of research too to strengthen studies on the relationship between seafarer supply and rural development.

Several policy implications and recommendations can be drawn from this report. They centre on issues of strategy, quality of training and standards, reduction of financial barriers to training and the involvement of a key stakeholder, the employing shipping companies.

1. In order to bring together the various initiatives and strands aimed at supporting seafaring training and development, there needs to be a national strategy in which objectives, initiatives and policies are clearly defined. Such a strategy is needed to establish and develop a coordinating mechanism or system amongst all relevant government agencies, and to improve the regulations for seafarer recruitment, training, employment and career development. The significance of such a strategy is not limited to the maritime industry but applicable also to the national strategy for human resource development and rural labour transfer in which vocational education, training and employment are crucial.

2. The quality and standards of training programmes and the trained seafarers they produce are in urgent need of review. This is needed in order to assess the quality and comparability of the various MET training courses and institutes and the employability of their graduates. Such a review would assist the Chinese government in deciding on necessary measures to ensure the quality of MET institutes and their

courses (for example, the setting of standards and inspection for accreditation) and the wider provision of information about them. The results of such a review would also be beneficial to the rural poor by raising their awareness of the risk of investing in seafarers training courses and enabling them to be more selective.

3. If support and new employment opportunity for the rural poor is one aim of the SSI, then some initiatives are needed which reduce the financial barriers which prevent them from taking advantage of it. One course if action is for the Chinese government to set up a special loan facility that charges zero interest or provides subsidies for a certain number of rural poor who have the potential and motivation to embark on seafarers' training courses.

4. Given the need for good quality trained seafarers together with the positive impact of seafaring employment on rural development and poverty alleviation, shipping companies (including foreign companies) have a role to play in supporting SSI as an important part of their social responsibility. They should be encouraged to invest in and engage with the SSI to help raise the standards of seafaring training through working with training institutes to ensure an appropriate curriculum for employability and agreed standards (possibly supporting a professional association for this purpose). Shipping companies can also be instrumental in sponsoring tuition fees and providing onboard training opportunities for promising trainees from poor rural families.

Based on our study, we conclude that actions taken on the above four points would widen access to seafaring training and employment for the rural poor and improve the quality of Chinese seafarers in national and international shipping.

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Annexe: Seafarer Trainee Survey Questionnaire

Dear Students,

Hello, the economic globalisation has led to an increasing demand for seafarers. China has a great potential to supply high quality seafarers to the world fleet. In order to understand better the current seafarer training and development situation, we are conducting this survey and hope we can receive your support and cooperation. This is an anonymous survey and we promise not to release identity information. It would be highly appreciated if you could offer support for this survey by providing as much accurate information to the questionnaire as possible. Thank you for your cooperation!

Part I: Personal information

1.1 School name：_____1.2 Course module：_____1.3 Enrolment day:_____

2. Your age：_____ 2.1 Number of people in your family:_____.

3. Education level: Primary school ☐ Middle-school ☐ High school ☐ College ☐

4. Martial status: Yes ☐ No ☐;

4.1. If married, do you have children： Yes ☐ No ☐

5. Classification of residence： City ☐ Town ☐ Rural village ☐

6. Household location：_____Province _____City_____County (District)

Part II Background information on your family and village

7. The economic condition of your village: Prosperous ☐ Average ☐ Poor ☐

8. The economic position of your village within county: High ☐ Middle ☐ Low ☐

9. The main source of income for the rural household:

agriculture ☐ labour & migration ☐ business ☐ other ☐

10. Has a cooperative medical insurance system been set up in your village? Yes ☐ No ☐

11. In your view, what is the percentage of impoverished household in your village (choose one):

none ☐ <10% ☐ 10%-20% ☐ 20%-30% ☐ >30% ☐

12. In your village, what is the percentage of households who have migrated and resettled outside of the village? (choose one):

none ☐ <10% ☐ 10%-20% ☐ 20%-30% ☐ >30% ☐

13. What is the percentage of the young labour in your village involving migration and employment outside of village? (choose one):

<10% ☐ 10%-20% ☐ 20%-30% ☐ 30%-50% ☐ >50% ☐

14. What is the percentage of individuals of similar age to yourself managing to enrol onto a university? (choose one):

none ☐ <10% ☐ 10%-30% ☐ 30%-50% ☐ >50% ☐

15. Your father's occupation (choose one):

government officer ☐ urban worker ☐ farmer ☐ migrant worker ☐

entrepreneur ☐ small businessman ☐ other ☐ (Please state): _____

16. The family's main source of income (choose one):

wages ☐ business ☐ labour & migration ☐ agriculture ☐ other ☐

17. Your household's economic position in the village: high ☐ medium ☐ low ☐

Part III Motivation to be a seafarer

18. Do you have experience in participating in the national examination for high education?

Yes ☐ No ☐

19. Do you have migration experience of working outside?

Yes ☐ No ☐

If yes:

(a) how long? ___ year/s

(b) location? within province ☐ outside province ☐ both ☐

(c) What work did you do?
manual ☐ service ☐ technician ☐ management ☐

20. Before coming to this school, did you train or have experience in other professions?

Yes ☐ No ☐ If yes, how many? ____

Who paid? government ☐ private enterprise ☐ family members ☐
all of these ☐

21. Were there any seafarers in your village and other villages?

no ☐ very few ☐ many ☐ a lot ☐

22. How did you come to hear about the maritime profession (choose one)?

☐ TV and radio advertisement
☐ relative and friends
☐ Internet
☐ newspapers and magazines
☐ school teacher
☐ other

23. Why did you choose to attend seafarer training course? (Please select in order):

☐ unsuitable onshore professions
☐ the income for seafarers is high
☐ encouraged by friends and relatives
☐ teacher recommendation
☐ advertisement from agencies

☐ other (Please state) _____

24. When you were preparing to participate in the seafarer training programme, what was the attitude expressed by your family members, relatives and friends? (choose one)

☐ all support
☐ most support with small opposition
☐ most oppose
☐ only small support
☐ totally disapproved

25. If there were any dissenting opinions, what was the main issues (select in order)：

☐ high training cost
☐ unstable working opportunities
☐ the occupation is no good
☐ other (please state):`

Part IV Deciding to participate in the training programme：

26. When you preparing to train as a seafarer, were there any other professional training courses you could have chosen? yes ☐ no ☐

27. When you were preparing to take a seafarer training course，were there any other MET institutes you could have chosen? yes ☐ no ☐

If yes, how many _____? Where is the training course held? _____

28. Which factors influenced you in considering seafarer training seriously? (select in order)

☐ advertisement from the government
☐ agency companies
☐ training structures
☐ guarantee of working on a ship
☐ other

29. Looking at it now, were interrelated information provided specific enough and in abundance?(choose one)：

☐ abundant
☐ mainly sufficient
☐ too general
☐ a lot of mistakes in guidance
☐ difficult to judge

30. Which factor influenced your decision making in training here? (rank in order)

☐ training cost
☐ high wage of seafarers
☐ reputation of MET institute
☐ agency prestige
☐ guarantee of work
☐ other (please state) _____`

Part V The process of seafarer training

31. What is the your estimation about the total of he training cost (Yuan)?

    intermediary：_____ tuition：_____ living expense：_____ other: _____

32. Who is responsible for the financial burden stipulated above (percentage)?

    - ☐ from one's own part-time job and saving
    - ☐ parent's contribution
    - ☐ loans from friends and relatives
    - ☐ bank loan
    - ☐ government subsidy
    - ☐ others (societal contribution, scholarships

33. Until now, what is your level of satisfaction with the training programme? (choose one):

    - ☐ completely satisfied
    - ☐ mainly satisfied
    - ☐ unsatisfied
    - ☐ completely dissatisfied
    - ☐ difficult to say□

34. Which aspect of the training course are you satisfied with?(select in order)

    - ☐ theoretical knowledge
    - ☐ operating skills
    - ☐ teamwork
    - ☐ organisation's discipline

35. Which aspect of the training curricula do you feel is lacking?(select in order)

    - ☐ theoretical knowledge
    - ☐ real, practical experience
    - ☐ English language education
    - ☐ related legislations
    - ☐ seafarer lives
    - ☐ other (Please state) _____

36. Which aspect of the seafarer training course do you feel is lacking? (select in order)

    - ☐ advertisement and recruitment
    - ☐ the degree of support from the school
    - ☐ the provision of work-experience
    - ☐ living and accommodation provision
    - ☐ school's loose managing structure
    - ☐ high training cost□

Part VI. Seafarer Career Prospect

37. What is your overall outlook on the maritime profession?(choose one)

- ☐ totally satisfied, very suited to me
- ☐ mainly satisfied, willing to work well
- ☐ not very satisfied, I will try to continue
- ☐ disappointed, not really wanting to do
- ☐ at present very difficult to judge□

38. Looking at it now, which aspect of maritime profession has the greatest appeal? (rate in terms of importance)

	(high) 1	2	3	4	5 (low)
Favourable career prospects	☐	☐	☐	☐	☐
Generous future earnings	☐	☐	☐	☐	☐
Chance to travel the world	☐	☐	☐	☐	☐
Stringent supervision	☐	☐	☐	☐	☐
Career development opportunities	☐	☐	☐	☐	☐

39. Which factors below will impede ones' enthusiasm to work as seafarer? (select in order of importance)

	(high) 1	2	3	4	5 (low)
High risk at sea	☐	☐	☐	☐	☐
Monotonous living condition onboard	☐	☐	☐	☐	☐
Isolation from society	☐	☐	☐	☐	☐
Military style of supervision	☐	☐	☐	☐	☐
The future stability of my family	☐	☐	☐	☐	☐
Wages did not attain my expectation	☐	☐	☐	☐	☐

40. If you could become a seafarer, what impact would this have on your family's economic condition? (choose one):

- ☐ very little
- ☐ relatively small
- ☐ average
- ☐ relatively large
- ☐ very large
- ☐ difficult to say□

41. Are you worried at all about the prospect of not finding a job opportunity after your training (choose one)?

not at all ☐ a little ☐ yes, worried ☐ totally worried ☐ very worried ☐

42. If, in the future you become a seafarer, how long do you wish to work?(pick one)

3 years ☐ 5 years ☐ 8 years ☐ over 10 years ☐ until I die ☐ difficult to say ☐

43. If you had the opportunity to choose a firm to work in, what kind of firm would you choose? (choose one)

☐ state-owned companies
☐ private shipping companies□
☐ foreign companies
☐ no limit
☐ never thought about this□

44. In your village, do many people know you are in seafarer training ?

Yes ☐ No ☐

If yes, are they concerned about the process and outcome of this course? (choose one)

very concerned ☐ concerned ☐ not concerned ☐ difficult to say ☐

45. If there are relatives in your hometown contemplating to enter the maritime profession, what would your attitude be? (choose one)

☐ make an utmost effort to recommend
☐ encourage enthusiastically
☐ provide support
☐ no support
☐ make an utmost effort to dissuade

46. Do you have any suggestions for reforms with regards to China's seafarer recruitment, training and development? (Please write your answer in the space provided below)

Thank you very much for your participation and cooperation, we wish you a smooth journey in the maritime profession.