

УДК 331.101.262:005.6(597)

## КАЧЕСТВО ЧЕЛОВЕЧЕСКИХ РЕСУРСОВ ВЬЕТНАМА VIETNAM'S HUMAN RESOURCES QUALITY

Нгок Тхи Бич Чан, Л.С. Шпехт, Лам Ши Чан  
Ngoc Thi Bich Tran, L.S. Shpekht, Lam Sy Tran

<sup>1</sup>Ханойский политехнический университет, Вьетнам

<sup>2</sup>Томский политехнический университет, Россия

<sup>3</sup>Университет внешней торговли, Вьетнам

<sup>1</sup>Hanoi University of Science and Technology, Vietnam

<sup>2</sup>Tomsk Polytechnic University, Russia

<sup>3</sup>Foreign Trade University, Vietnam

E-mail: bichngoc2201@gmail.com

**Нгок Тхи Бич Чан,**

кандидат экономических наук, старший преподаватель факультета экономики и менеджмента Ханойского политехнического университета, г. Ханой, Вьетнам.

E-mail: bichngoc2201@gmail.com

**Шпехт Любовь Сергеевна,**

кандидат экономических наук, доцент кафедры экономики ИСГТ ФГАОУ ВО «Национальный исследовательский Томский политехнический университет», Россия, 634050, г. Томск, пр. Ленина, 30.

E-mail: shpekht\_lubov@mail.ru

**Лам Ши Чан,**

кандидат экономических наук, преподаватель факультета международной экономики и бизнеса Университета внешней торговли, г. Ханой, Вьетнам.

E-mail: transilam@ftu.edu.vn

*В наше время, в условиях быстро и всесторонне развивающейся в различных областях общественной жизни научно-технической революции, значение человеческих ресурсов не вызывает сомнений. Они становятся факторами, играющими решающую роль в социально-экономическом развитии стран. Качество человеческих ресурсов является одним из ключевых элементов производительности труда и национальной конкурентоспособности, что подтверждает **актуальность** данного исследования. **Целью** работы является изучение существующей ситуации в области качества человеческих ресурсов Вьетнама и определение путей ее совершенствования. Во время проведения исследования использованы следующие **методы**: сравнительный и ретроспективный анализ, описательный, научно-фактологический с применением общенаучных методов познания. **Результаты исследования.** Проведенный анализ настоящего положения в области качества человеческих ресурсов Вьетнама позволяет сделать вывод о том, что все еще существует большой разрыв в условиях экономического развития и качества человеческих ресурсов между Вьетнамом и другими странами мира, даже в рамках стран АСЕАН. Поэтому, совершенствование качества человеческих ресурсов становится настоящим и требует системного подхода. Оно должно начинаться в раннем детстве с улучшения вопросов физического развития людей и продолжаться во взрослом состоянии путем совершенствования системы образования и обучения. Это важная задача, на решении которой правительство Вьетнама должно сфокусироваться путем разработки долгосрочной политики повышения качества человеческих ресурсов страны.*

**Ключевые слова:** качество человеческих ресурсов, рабочая сила, образование и обучение, физическое развитие, недостаточное питание, питание.

*Nowadays, under the conditions of rapidly and comprehensively developed in various fields of social life scientific and technological revolution, the importance of human resources has been clearly confirmed. They become the factors which play a decisive role in social and economic development of countries. The quality of human resources is one of the key elements to make up labor productivity and national competitiveness that confirms the **relevance** of the research. **The main aim** of the paper is to investigate the real situation of Vietnam's human resources quality and to determine the ways of improving it. **The methods** used during the investigation are the following: comparative and retrospective analysis, descriptive research method, scientific factual method, with applience of the common scientific methods of research. **The results.** The analysis of the real situation in Vietnam's human resources quality leads to the conclusion that there is still a big gap between Vietnam and other countries in the world and even within the ASEAN region in terms of economic development and human resources quality. Thus, the improvement of the human resources quality is becoming imperative and requires an approach with system synchronization. It should start right from the im-*

*proved physical quality of human resources in early childhood to improve the quality of education and training in adulthood to solve this problem. This is the job that Vietnam government should focus on solving the problem through long-term specific policies to improve the quality of human resources of the country.*

**Key words:** human resources quality, labor force, education and training, physical development, malnutrition, nutrition.

### 1. Real situation of Vietnam's human resources quality

When it comes to human resources, people often refer to its constituent elements, such as physical, mental and mind power. In Vietnam, there are many issues relating to real situation of these factors that need to be considered.

In Vietnam, the physical development of human resources is closely related to children's problems. The moral character, intellectual and physical development of any person were formed in childhood. The low level of socio-economic development of the country is one of the main reasons, leading to poor nutrition of the majority of the population, especially children, which is the subject in the vulnerable age groups.

In Vietnam, up until 2014, there were more than 7 million children under 5 years of age, of which the number of malnourished children having rickets (stunt) was up to 2.2 million (31 %). Basing on these indicators, The World Health Organization put Vietnam in the list of 20 countries with the highest number of malnourished children in the world [1].

According to the annual statistical data of the National Institute of Nutrition, it may be noted that the rate of children (under 5 years old) who were the victims of rickets and underweight in 2014, was 24.9 and 14.5 % correspondingly [2].

Along with the malnutrition, in Vietnam there is another nutrition problem – obesity. Child's obesity is dangerous and is a factor that contributes to a higher likelihood of obesity, premature death and disability in adulthood. However, in addition to the increased risk in the future life, children suffering from obesity have difficulty breathing, increased risk of fractures, hypertension, early signs of cardiovascular disease and psychological consequences.

In Vietnam, there is a paradoxical situation. According to the National Institute of Nutrition (NIN) of Vietnam, in 2010 the proportion of children with excess body weight and obesity at the age of 5 accounted for 5.6 % (6.5 % in urban and 4.2 % in rural areas) [3]; in 2014 this share was about 4.8 % (overweight 3.5 % and obesity 1.3 %). Surprisingly, this percentage had a tendency to increase in southern large cities, where the climate was better to have a physical activity. For example, in 2014 this share reached 10.8 % in Danang, 12.6 % in Ho Chi Minh City, 13.4 % in Binh Duong, etc. [2]. According to WHO in 2013 in the world 42 million children under 5 years old were overweight or obese, in which Vietnam had about 430 thousand people (over 1 %) [4].

According to nutrition experts, insufficient nutrition dietary for children in their childhood, is one of the main reasons that causes slow growth in height and weight in adulthood. Let's now consider main physical indexes of the Vietnamese people. The numbers in fig. 1 and 2 show that the Vietnam labor forces are not competitive by the physical aspect.

According to 2010 survey data by the National Institute of Nutrition of Vietnam, the average height of adult in 2010 was about 4 cm higher than in 1975 (men – 4.4 cm; women 3.4 cm). Adults had also weight in 2010 higher than in 1975 (fig. 1, 2). These figures are the lowest in Southeast Asian countries involved in the survey as well as lower than national averages in South Korea, Japan and China.

In the world total expenditure on health tended to increase. World health statistics of 2015 showed that it grew from 4.9 % of GDP in 2000 to 6.0 % of GDP in 2012 [5].

Some demographic indicators of the population of Vietnam are below.

The estimated population of Vietnam was 90.7 million in 2014, that is 4.7 million increase compared to 2009 (86 million). Vietnam's life expectancy at birth was estimated 73,2 years old [6]; crude birth rate was 12 births per 1000 population; total fertility rate was estimated at 2,09 children born per woman. Crude death rate was 6,85 deaths per 1000 population; infant mortality rate was 14,8 deaths per 1000 live births. Compared to ASEAN countries, Vietnam's population ranked third place in region after Indonesia (248.8 million) and the Philippines (99.4 million). The estimated rate of labour force (15–64) was 69.4 % population; the estimated dependency ratio was 30.6 % population [7].

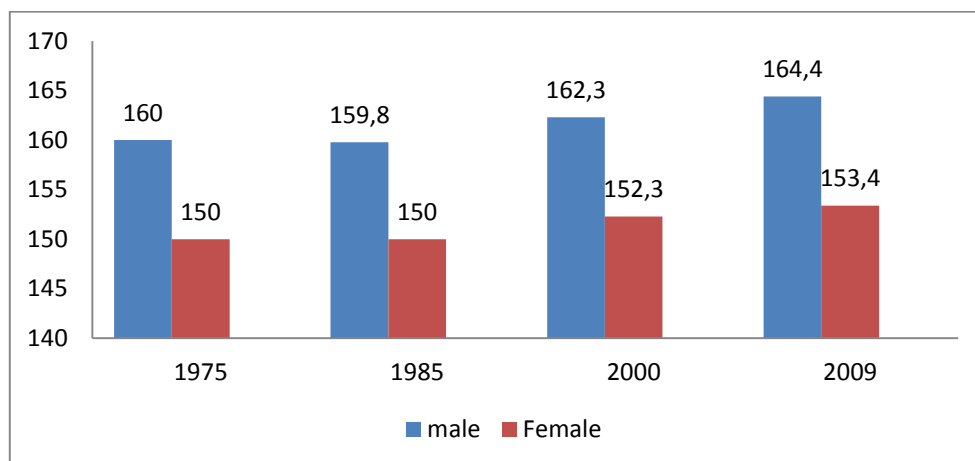


Fig. 1. Average height of the Vietnamese (by sex), cm

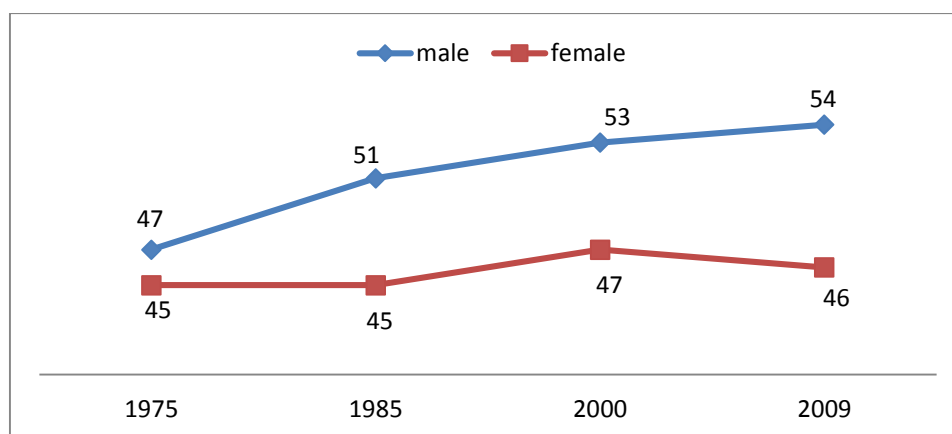


Fig. 2. Average weight of the Vietnamese (by sex), kg

Source of fig. 1, 2: National Institute of Nutrition and UNICEF. A survey report on the results of the general research of the nutritional status, 2009–2010. Hanoi, 2012, 4 p. [3].

Let's now consider current status of the workforce through training in Vietnam.

According to the data of the Ministry of Labour of Vietnam, the population aged 15 and over reached 70.86 million up until second quarter 2015, an increase of nearly 1.55 million (2.23 %) compared to the second quarter 2014; urban areas increased by 681 thousand people (2.97 %); men increased by 450 thousand (1.33 %). Scale of labor force in the second quarter 2015 reached 53.71 million people, the equivalent to the same period of 2014; urban areas increased by 230 thousand people (1.45 %); men increased by more than 73 thousand people (0.3 %) [8].

We need to consider the qualifications of the labor force in Vietnam in general and the education results of annual training in the following table in order to evaluate the quality of human resources of Vietnam.

Table 1. Number and percentage of trained workers with a degree/certificate

Target	2014			2015	
	Second quarter	Third quarter	Fourth quarter	First quarter	Second quarter
The total number of participants in labor – force (million)	53.71	54.31	54.43	53.64	53.71
Number of workers with diplomas and certificates (million)	9.81	9.98	10.01	11.39	10.77
Proportion (%)	18.31	18.42	18.45	21.24	20.06

Source: [8].

In general, Vietnam has abundant human resources and it is still in the period of “golden population”, but it also poses many problems.

In the second quarter 2015 the structure of the trained labor force with qualifications/certificates was the following: among 10.77 million people the number of people with university degree or above made up 4.47 million (41.51 %); with college level – 1.61 million (14.99 %); with intermediate level – 2.92 million (27.11 %); with elementary level – 1.77 million (16.39 %). The structure of a university degree or higher/colleges/intermediate/elementary is **1 : 0.35 : 0.65 : 0.4** (whereas this proportion in the world is **1 : 4 : 10**, the last figure summarises intermediate/elementary) [8]. This structure warns about the structural imbalance of trained labor between vocation education and university education, this risk will increase as Vietnam integrates into the ASEAN Economic Community and Trans Pacific Partnership Agreement (TPP) comes into force.

Human capital is a key issue for innovation. National innovative capacity depends largely on the quality of education and training for scientists, industry and other professionals, and it also depends on the coverage of the education system. Training scale is shown in table 2.

Table 2. Human resources training scale of Vietnam

Targets	School year				
	2010–2011	2011–2012	2012–2013	2013–2014	preliminary 2014–2015
1. Number of high school students (thousand)	148,9	150,1	150,9	152,7	152
2. The percentage of students graduating from high schools (%)	95,72	98,97	97,98	98,75	–
3. The total number of college students, university (thousand)	2, 162,1	2,208,1	2,178.6	2,061,6	2.130,5
4. Number of graduates (thousand)	318,4	398,2	425,2	406,3	441,7
5. The proportion of university, college graduates (%)	14,73	18,03	19,51	19,70	20,73

Source: [9]. Criteria No. 5 is calculated by the authors as follows: (4) / (3).

According to published data in the UNESCO Science Report 2015, in 2012 the amount spent by Vietnam on education and training is equivalent to 6.3 % of GDP, including college education and above (1.03 % of GDP), second in Southeast Asia and Oceania after Timor-Leste (1<sup>st</sup> with 9.42 % of GDP), Thailand (2<sup>nd</sup> – 7.57 % of GDP) and New Zealand (3<sup>rd</sup> – 7.35 % of GDP) [10].

We may give out an overall assessment of the training and education system of Vietnam as follows: backward and heavy theoretical education, does not meet the requirements of the labor market. In addition to funding constraints, the administration of university education also lacks information about market demands and incentives to meet those needs. Funding for vocational training does not keep pace with increasing the number of engineering students and researchers. Vietnam's education system also needs to do more to increase the quantity and quality of human resources, especially in vocational (professional) training and colleges.

In short, the quality of education in many universities and colleges does not meet the requirements of today's labor market; there is tendency of increasing the number of vocation training schools and giving the status of “university” to vocation colleges.

Vietnam faces stiff competition from regional neighbours who may possess better foreign languages, technology and professional skills. In 2014, Vietnam had about 5 million workers, just 10 per cent of the country's workforce, who were rated as high-quality manpower, or those who could work directly at positions that could generate the creation, development, dissemination and application of knowledge. According to a World Bank's survey, the quality of human resources of Vietnam reached 3.79 points (out of 10), ranking 11th out of 12 surveyed countries in Asia. At the same time, South Korea scored 6.91 points; India 5.76 points; and Malaysia 5.59 points. The country's human resources were weak in quality and working style and lacked dynamism and creativity. Another report done by the International Labour

Organisation (ILO) last year revealed that Vietnam's productivity was 11 times lower than that of South Korea, 12 times lower than Japan's, and 18 times lower than in Singapore's [11].

Vietnam ranked 68 out of 144 countries and economies in the Global Competitiveness Index Rankings. The basic competitive indexes on innovation, education and training, the attractiveness of the labor market are summarized in table 3.

*Table 3. Competitiveness index of Vietnam in comparison with China and ASEAN countries in the ranking of 144 countries*

Country	Global Competitiveness Index		Innovation and sophistication factors		Higher education and training		Labor market efficiency	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Singapore	5.65/7	2	5.13	11	6.09	2	5.69	2
Malaysia	5.16	20	4.95	17	4.80	46	4.80	19
Philippines	4.40	52	3.90	48	4.45	64	4.03	91
Vietnam	4.23	68	3.35	98	3.74	96	4.37	49
China	4.89	28	4.14	33	4.42	65	4.55	37
Lao	3.91	93	3.51	80	3.28	110	4.59	34
Cambodia	3.89	95	3.15	116	2.92	123	4.63	29
Thailand	4.66	31	3.84	54	4.58	59	4.24	66
Indonesia	4.57	34	4.20	30	4.53	61	3.81	110

Source: [12], summarized by authors.

In terms of human development index, according to the Human Development Report 2014, in 2013 Vietnam ranked 121<sup>st</sup> (the average) of ranked 187 countries and territories. In Southeast Asia, Vietnam classified under Singapore (9<sup>th</sup>), Malaysia (62<sup>nd</sup>), Thailand (89<sup>th</sup>), Indonesia (108<sup>th</sup>), the Philippines (117<sup>th</sup>) and just put on Cambodia (136<sup>th</sup>) and Laos (139<sup>th</sup>) [13].

According to data above, it can be said that the quality of the labor force is weak. Training and improving the quality of the labor force to meet growing requirements becomes imperative in the context of the global integration of Vietnam's economy.

Let's now consider the real situation of human resources in research and development (R&D).

In contemporary society knowledge and innovation are seen as vital sources and driving forces for sustainable development, one of the major goals of the world we live in today, a subject of great interest for researchers and policy makers. Scientists have a very important role in research and development, bringing new knowledge, new ideas and new technologies, changing the face of life.

The figures in table 4 show the quantity and status of Vietnam's R&D manpower allocated according to working sectors.

*Table 4. R&D Human Resources according to working sectors and job function (person)*

Economic elements	Total research manpower	Division by job function			
		Research officers	Technical officers	Support officer	Others
R&D Human Resources according to working sectors	164.744	128.997	12.799	15.149	7.799
R&D institutes, academies	37.481	29.820	1.895	3.852	1.914
Universities	74.217	63.435	2.524	6.131	2.127
Administrative offices	10.926	8.460	987	979	500
Other administrative units	11.989	7.495	2.580	1.386	528
Enterprises	28.708	18.553	4.745	2.705	2.705
Non-profit organizations	1.423	1.234	68	96	25

Source: [14], compiled from R&D surveys in 2014 and 2014 Enterprise Survey.

Statistical working sectors (types of organization) in table 4 show that the universities and colleges are the sectors with the largest research staffs (63 435 people, accounting for nearly 49.1 %), followed by State's research and development institutions (29 280 people, accounting for 23.1 %).

Meanwhile, the enterprises's research staffs accounted for only 14 %. It can be said that, in enterprises, especially small and medium-sized ones (accounting for over 95 % of all enterprises in Vietnam) the number of technological and scientific staff is so little that the ability of acquiring and applying high technology in production is limited. The results of R&D activities are not directly or hardly applied in practical production.

The number of researchers per capita is high, but the number of researchers per FTE indicator (Full Time Equivalent) is very low (see table 5).

*Table 5. Some general statistical indicators of Vietnam's socio-economic and R&D in 2011 and 2013*

No	Target	2011	2013
1	Population (million)	87,84	89,70
2	GDP (billion VND)	2,779,880	3,584,262
3	GDP per capita (million VND)	31.64	39.95
4	Number of manpower engaged in R&D (per capita)	134,780	164,744
5	Number of researchers (per capita)	105,230	128,997
6	Number of women researchers (per capita)	43,844	56,846
7	Number of researchers per 10.000 population (per capita)	11.97	14.4
<b>8</b>	<b>Number of researchers per 10.000 population (per FTE)</b>	<b>5.2</b>	<b>7.0</b>
9	The Gross social investment in Science & Technology sector (S&T) (billion VND at current prices)	–	31,159.2
<b>10</b>	<b>The rate of social investment in S&amp;T sector of GDP (%)</b>	–	<b>0.87</b>
11	The Gross expenditure on R&D (GERD) (billion VND at current prices)	5,293.95	13,390.60
<b>12</b>	<b>The share of R&amp;D of GDP (% GERD/GDP)</b>	<b>0.19</b>	<b>0.37</b>
13	Average expenditure on R&D per researcher (million VND)	50.31	110.5

Source: [14].

The data in the table 5 shows:

- The number of research staffs per capita in 2013 is relatively large (164 744 persons), but in fact researchers attributed to the FTE only 7 people per 10,000 persons (0.7 per 1000 people in a calculated international way), that is of developed countries. The fact is that the total number of research staff compared to other countries is not small, but compared with the general criteria of the world, this index is too far away compared to the developed countries.

- The percentage of social investment expenditure for Science and Technology to GDP was estimated at 0.87 % in 2013. Meanwhile, total spending on R&D accounted for only 0.37 %. Thus, the amount of investment in S&T is not small, but 0.5 % of GDP which had been supposed to be spent on science and technology, was spent on other things, or rather, it was spent on administrative management and so on and was not spent on research development projects and direct research staff, so the effect of social investment for R&D is not high.

## 2. Solutions to improve the quality of Vietnam's human resources

### *Government policies to avoid malnutrition*

In order to provide the population with quality health services and broad access to primary health care, to increase life expectancy and improve physical and moral development of the population, especially for children and women of childbearing age, to reduce morbidity and disability, *the National strategy on protection, care and people's health improvement for the period 2011–2020, with vision toward 2030* was ratified by Decree № 122/QĐ-TTg dated 10/01/2013 [15] of Vietnam Government.

Most of the indicators are directly linked to the protection of public health and women of reproductive age, physical development of children.

In the last decade, along with economic and social development and ensuring national food security, with state's care and effort and the active participation of the whole society system, Vietnam

has achieved significant results in improving the nutritional status and health. Most of the goals of the *National Strategy on Nutrition for the period 2001–2010* were performed [16]. Knowledge and health of the people has improved considerably; the number of malnourished children under 5 years of age relatively decreased. However, despite the successes, Vietnam has to face serious problems of food supply, when the proportion of malnourished children under 5 years of age is still high. Overweight, obesity and some chronic non-communicable diseases related to diet tend to increase and create a double burden of nutrition problem.

By Decision № 226 / QĐ-TTg on 20.02.2012 Prime Minister of the Government ratified *National Nutrition Strategy for 2011–2020, With a Vision toward 2030* [17]. The overall targets of the Strategy are to improve the Vietnamese diet in quantity and quality, sanitary respect, reducing the number of malnourished children under 5 years of age, the state's effective monitoring of the overweight and obesity and prevention of non-communicable chronic diseases, related to nutrition.

This National Nutrition Strategy for 2011–2020, is a multi-sectoral policy document, aiming to improve the diet of Vietnamese people in terms of quantity and quality, reduce malnutrition of children, and manage obesity/overweight. The vision to 2030 is to reduce child malnutrition below the level of public health significance and to remarkably increase the mean height of adults. In addition, increased awareness about proper nutrition and behavior change should be improved in the general population for the prevention of nutrition related chronic diseases and adequate food safety controls should be ensured.

### *Solutions to physical development*

Having studied the situation above and the features of physical development of Vietnamese, authors offer the following proposals:

- to improve the legal framework, policy and documents to protect and care for children and women;
- to enhance intersectoral coordination, mechanisms of interaction and cooperation between ministries and government offices;
- to prepare the required number of staff, working in the field of nutrition and social protection of children;
- to manage financial resources effectively: ensuring equality for all citizens; conducting inspections, monitoring and evaluating the efficiency of use of budgetary funds;
- to apply experience and scientific achievements in the prevention of obesity and chronic non-communicable diseases related to nutrition.

### *Solutions to education and training system*

Vietnam education and training system (VET) has many limitations, insufficiencies and inadequacies which are hard to overcome; it is only interested in the development of quantity, not focused on quality; educational content does not meet the requirements of national development; VET has not really become a National Policy priority yet. To overcome the points mentioned in this sphere it is proposed as follows:

- Restructuring the system of public and private universities, vocational colleges, vocational training schools.
- Reforming the VET policies and programmes to achieve stronger linkages between education, training and labour market requirements.
- Stepping up the socialization of education.
- Promoting innovation in holistic education to obtain high-quality human resources.
- Improving the quality of education, especially to control the output of undergraduate training and postgraduate.
- Improving the wage mechanism.
- Formulating “soft institutions” to be in association with capacity building of the actors in the labour market and developing social dialogue mechanism and healthy industrial relation.
- VET programmes are designed according to sound and timely Labor market Indicators.

- Creating a favorable working environment and a good opportunity to promote its activities.
- Developing high-quality researchers and teachers for universities, colleges and vocational training schools.
- Constructing facilities, adequate remuneration for talents.
- Strengthening exchanges and integration with the world's universities and science centers.
- Developing a learning society.

To improve the Vietnam labor force quality it should take measures such as:

- Compulsory education policies for all workers.
- Education and training policy for labour market adjusted to address specific challenges of Vietnamese young people in the transition from learning to work.
- Training through both direct provision and contracting systems.
- Establishing skills at sectoral and provincial levels.
- Increasing coverage and quality of general and vocational secondary programmes to make labour market training more effective.
- Improving the effectiveness and coverage of social insurance programs.
- Promoting opportunities to access to social security and training for workers informally.

#### REFERENCES

1. Le Thi Hop. *2,2 triệu trẻ em Việt Nam suy dinh dưỡng thể thấp còi* [Vietnam: 2.2 million children have stunting malnutrition]. Available at: <http://tuoitre.vn/tin/song-khoe/20140801/22-trieu-tre-em-viet-nam-suy-dinh-duong-the-thap-coi/629365.html> (accessed 24 February 2016).
2. *National Institute of Nutrition and UNICEF. A survey report on the results of the general research of the nutritional status 2009–2010. Hanoi.* Available at: <http://viendinhduong.vn/FileUpload/Documents/3.%20Bao%20cao%20tom%20tat%20Bao%20cao%20Tong%20Dieu%20Tra.pdf>. (accessed 24 February 2016).
3. *Số liệu thống kê về tình trạng dinh dưỡng trẻ em qua các năm* [National Institute of Nutrition. Statistics on the nutritional status of children through the years]. Available at: <http://viendinhduong.vn/news/vi/106/61/0/a/so-lieu-thong-ke-ve-tinh-trang-dinh-duong-tre-em-qua-cac-nam.aspx>. (accessed 24 February 2016).
4. *WHO. Obesity and overweight. Fact sheet, January 2015.* Available at: <http://www.who.int/mediacentre/factsheets/fs311/en/> (accessed 27 February 2016).
5. *WHO. World health statistics 2015.* Available at: [http://apps.who.int/iris/bitstream/10665/170250/1/9789240694439\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/170250/1/9789240694439_eng.pdf) (accessed 6 March 2016).
6. *WHO Library Cataloguing-in-Publication Data. World health statistics 2015.* Available at: [http://apps.who.int/iris/bitstream/10665/170250/1/9789240694439\\_eng.pdf?ua=1&ua=1](http://apps.who.int/iris/bitstream/10665/170250/1/9789240694439_eng.pdf?ua=1&ua=1) (accessed 6 March 2016).
7. *Thông cáo báo chí của ASEANstats: Dân số Việt Nam 2014 vượt mốc 90 triệu người* [General Statistic Office and ASEAN Stats. Press Release: Population Vietnam surpassed 90 million in 2014]. Available at: <https://www.gso.gov.vn/default.aspx?tabid=382&idmid=2&ItemID=15148> (accessed 9 March 2016).
8. *Bản tin Cập nhật thị trường lao động hằng quý, số 6, quý 2 năm 2015* [Ministry of Labour – Invalids and Social Affairs and the General Statistic Office. Labor Market Newsletter Updated Quarterly, No. 6, II quarter 2015. Hanoi, 2015]. Available at: [http://ilssa.org.vn/wp-content/uploads/So-6\\_Q22015\\_final.pdf](http://ilssa.org.vn/wp-content/uploads/So-6_Q22015_final.pdf) (accessed 9 March 2016).
9. *Statistical Handbook of Vietnam.* Available at: [https://www.gso.gov.vn/default\\_en.aspx?tabid=515&idmid=5&ItemID=14278](https://www.gso.gov.vn/default_en.aspx?tabid=515&idmid=5&ItemID=14278) (accessed 9 March 2016).
10. *UNESCO Science Report: towards 2030.* Available at: <http://unesdoc.unesco.org/images/0023/002354/235406e.pdf> (accessed 9 March 2016).
11. Thu Van. *Workforce has much to do to prep for AEC.* Available at: <http://vietnamnews.vn/sunday/features/279534/workforce-has-much-to-do-to-prep-for-aec.html> (accessed 12 March 2016).
12. Schwab K. The Global Competitiveness Index 2014–2015. *World Economic Forum*. pp.13–20.
13. *UNDP. Human Development Report 2014.* Available at: <http://www.undp.org/content/undp/en/home/librarypage/hdr/2014-human-development-report.html> (accessed 9 March 2016).
14. *Vietnam's Science and Technology 2014.* Hanoi, Scientific & Technical Publishing house, 2014, p. 75.



15. *Decree № 122. QĐ-TTg dated from 10/1/2013. Ratification of the National Strategy on the protest, care and health improvement for population of the period 2011–2020, with vision toward 2030.* Available at: [http://chinhphu.vn/portal/page/portal/chinhphu/noidungchienluocphattrienkinhtexahoi?\\_piref135\\_16002\\_135\\_15999\\_15999.strutsAction=ViewDetailAction.do&\\_piref135\\_16002\\_135\\_15999\\_15999.docid=1635&\\_piref135\\_16002\\_135\\_15999\\_15999.substract](http://chinhphu.vn/portal/page/portal/chinhphu/noidungchienluocphattrienkinhtexahoi?_piref135_16002_135_15999_15999.strutsAction=ViewDetailAction.do&_piref135_16002_135_15999_15999.docid=1635&_piref135_16002_135_15999_15999.substract) (accessed 14 March 2016).
16. *National strategy on nutrition period 2011–2020. Chapter I: The implementation of the National Strategy on nutrition period 2001–2010.* Available at: <http://viendinhduong.vn/news/vi/414/181/0/a/phan-thu-nhat-chien-luoc-quoc-gia-ve-dinh-duong-giai-doan-tu-nam-2011-den-nam-2020-va-tam-nhin-den-nam-2030.aspx> (accessed 18 March 2016).
17. *Decision number 226. QĐ-TTg dated from 20/02/2012. Ratification of the National Nutrition Strategy for 2011–2020, with a vision toward 2030.* Available at: [http://vanban.chinhphu.vn/portal/page/portal/chinhphu/hethongvanban?class\\_id=2&mode=detail&document\\_id=155431](http://vanban.chinhphu.vn/portal/page/portal/chinhphu/hethongvanban?class_id=2&mode=detail&document_id=155431) (accessed 18 March 2016).

*Дата поступления 24.03.2016*