

## Possibility of Development and Employment Create in Wood and Paper Industry of Iran

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**Abstract:** Develop of wood and paper industry is accompany economical develop reciprocity. Various productions of wood and paper industry are result of increasing value at renascent resources that these resources aren't alike of fossil resources. The basic of question; how is situation and potential of employment in the wood and paper industry of Iran? Since, the research methodologies are analytic and approximate, and also forecasting and calculations methods were used. Present situation is showing that present of labor number in this industry is equal 113682 people (wood industry section: 62942 and paper industry section: 50740 people). Prop of job creation is weakening because raw materials of internal are decrease and imports aren't purposive. furthermore, effects of this subject is high, because; price jump of importable lumbers and poplar timbers, also fluctuating severely in their price, trade balances of some raw materials aren't negative for surplus value and also trade balances of productions aren't positive, inflation rate of wood (10.31%) and paper (9.8%) products were lower than poplar timber (12%) from 1997 to 2006. But this industry could job creation to 9529 people in 2004 and it can increase to 15203 people in 2013 that position number at factories of particle board will more than plywood. Position number can increase by forestry, imports and exports of purposive, use of pride of place in neighbor countries and Iran of situation (near to objective market), use of internal potential in Iran (expansible of processes for example; particle board, MDF and wastepaper recycle).

**Key word:** job creation, position number, forest products, imports and exports

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### INTRODUCTION

Value of renascent resources or timbers and various products of wood and paper are increased by wood and paper industry. These products are providing from renascent resources that aren't alike fossil resources. These products are creating job and Develop of wood and paper industry is accompany economical develop reciprocity. Commonly, paper consume is criterion for progressive scaling of countries. Trade of wood and paper products (imports, exports) and theirs productions to cause to revenues and dynamism of economic in the developed countries and even other countries haven't timbered resources sufficiently. Employment in the wood and paper products industry includes people working in: forest and logging, log sawmilling and timber dressing and also other wood product manufacturing and paper and paper products. The wood and paper products industry is largely recognized for its contribution to rural economies and community benefits. There are a range of direct and indirect benefits of the industry, which vary between communities depending on the nature and scale of forestry activities and the dependence of communities on the industry.

Iran situation is uniqueness geographically, sociologically and territorially and also develop situations of Iran is desirable economically, technologically and naturally. Iran is surrounded by consumers and these neighbor countries of Iran are far off large regions of forest products and wood and paper products. Values of these potentials (for example; forestation, product of particle board, fiber board and other productions) are

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hidden, because Iran is lagged from world development and also resources and materials for example; metallic furnish, cement, gypsum, stone and brick are used here. Employment is hidden inner this industry and in experiment of these developed countries for example; China, Korea, and USA and even other countries haven't reascent resources. Develop of this industry is essential for Iran because Iran, Asia minor and Middle east are requiring to these products and these productions from Iran and other countries are imported by these countries.

**Literature Review:**

Review or impedimenta and incitements of job creation are following:

**Employment Deterrents Are as Following:**

Instability exports and fluctuation in exports of Iran are influenced pernicious on the; internal products supply, consumers (demands), national income, investment, employment, products price (Pabarja, A. and *et al.*, 1997). Factories situation of Iran is as fallowed; lack of wood materials, old technology, products quality of unacceptable, weakly compete with replacement products and undesirable situation in some factories for example; veneer and plywood producers (Amiri, S., 1991). Inferior productions are traded by some exporters and this neglect is impeded to export. Factories situation of woodworking are as followed; limitation of internal marketing, material quality of low, old machinery and other problems of reducer of products volume (Zolghadr, M., 1998). Lacks of wood materials are changed of some use related to this industry and replacements are applied by consumers, because wood products are expensive (Zahmatkesh, H. and *et al.*, 1993). farmers of poplar plantations are despaired, in the cause of; broker, absence of cooperative, absence of curriculum and promotive program, exploitation period of long and old for poplar, loss of poplar plantation, unsuitable methods of cultivation, protection and harvest (Asade, F. and *et al.*, 1994).

Some of the key structural and cyclical factors that have influenced (or are expected to affect) the Wood and Paper Product Manufacturing industry division include: There is limited capacity to expand the industry in South Australia because of water shortages and other resource supply changes. Level of activity in industry is significantly affected by the level of activity in the; housing industry; downstream manufacturing industries; imports; and the level of consumer confidence. Continue developments in innovation and technology - e.g. drying, cutting and treatment methods and also increase automation and capitalization leading to a decrease in workforce size. Larger scale plants require a smaller, yet more highly skilled, workforce. Some of the key structural and cyclical factors that have influenced (or are expected to affect) the Product Manufacturing industry division include: Some Manufacturing industry subdivisions have become highly capital intensive, with investment in advanced technologies intensifying and impacting on production and systems managements. The introduction of advanced technology in the industry has rationalized the industry and shifted the demand for labour from a relatively unskilled to a technically skilled workforce. The quantity of labour inputs appears to have decreased in the production process, but not necessarily for equipment maintenance and systems control. Potential export opportunities and import threats from the signing of Free Trade Agreements (FTA) with the United States and Asian countries. Increase demand for value-added products; and environmental concerns regarding water usage and waste disposal (Workforce Information Service, 2005).

Tewari, D. (2006) stated several variables have affected the development corporations and job creation: Micro variables are important at the local level whereas the macro variables have shaped their performance nationwide. At the micro level, several factors have affected the functioning of these organizations, including structural, cultural, and organizational-specific variables. At the macro level, technological, legal, and political and market-related phenomena have added pressure on them and paralyzed their performance. For example, legal control of trade in nontimber forest products has had very negative effect on the industry (Tewari, D., 2006).

Greenaway, D. *et al.* (1999) find that when we introduce trade, increases in trade volumes, both in terms of imports and exports, cause reductions in the level of derived labour demand (Greenaway, D. and *et al.*, 1999).

**Employment Incitements Are as Following:**

If these considerations points as following are improving (increasing or manufacturing or creating), position number will increasing; lack of internal capacity, needed to special technology for some products for example; varies papers (Sayiade, K. and *et al.*, 2003), user of poplar timber is lowing (Forozanmehr, G. and *et al.*, 1992). Clean paper (tissue) is low price and these products and also theirs per capita of consume are increased (Sayiade, K. and *et al.*, 2003).

If log or timber, pulp and some of various papers as primeval materials are importing and then their value are increasing and using or exporting, position number will increase. Main importers and exporters of these products (USA, Germany and France) and main importers (Japan, China and Korea) (Peck, T., 2001) understand of this subject. Pulp imports of China and Korea is increased yearly. Pulp imports of China are more than wood products and their imports are increased yearly but Papers imports of this country are fixed (Dudly, N. and *et al.*, 1996; Sun, X. and *et al.*, 2004). Pulp, softwoods lumber and demand of forest products are increased yearly in Iran (Bayatkashkoli, A. and *et al.*, 2006). Woodworking products were succeed in 1997 (Zolghadr, M. and *et al.*, 1997) and potential of Iran is as fallowed; excess of labor, low costs of transportation and energy, low require to foreign materials and more capacity than internal demand for some products, suit prime cost of wood working products, near to market of Middle east and Caucasus (Zolghadr, M., 1998).

It appears that, on balance, the developed countries would experience net employment creation as a result of this trade, and there would be only relatively small decline of employment in their import-substituting industries. In turn, the developing countries would gain employment through increased export that would further contribute to their economic growth, with favorable indirect effects on employment (Balassa, B., 2002).

Some of the key structural and cyclical factors that have influenced (or are expected to affect) Product Manufacturing industry division include: Creating opportunity has targeted a number of manufacturing industries and the securing of defense contracts will benefit South Australia's manufacturing industries. The rising (fluctuating) value of the Australian dollar poses risks for the Manufacturing industry, particularly import competing sectors such as wood and others product manufacturing, and export sectors with further growth dependent on new export markets (Workforce Information Service, 2005).

Our first major finding is that EP (environmental protection), economic growth, and jobs creation can be complementary and compatible: Investments in EP can create jobs, not destroy them (Bezdeka, R. and *et al.*, 2007). Improvement of employment situation in Iran is related to aforesaid subjects.

The basic of question; how is situation and potential of job creation in the wood and paper industry of Iran? A hypothesis is follow; potential of job creation is more than present of position number. Science, potentials of employments in this industry of Iran will identify in this research.

## **MATERIAL AND METHODS**

Essential information fore example present of position number related to any one factories or workshops and their capacity of products were compiled (Ministry of industries and mines, 2004) and than position sum total of provinces related to any one generative sections as fallow were calculated:

Wood working sections include of work shops or factories are as following; carpentry, lumbering, door, window, decoration, cabinet or cupboard, parquet, match, toothpick, pallet, woodcarving ...

Wood composite panels sections include of work shops or factories are as following; variety of fiber board, particle board and plywood.

Furniture or cabinetwork sections include of work shops or factories are as following; bench, desk, chair, bed, suite ...

Final group is productions of pulp and paper.

Imports and exports amount of wood and paper products are forecasted by trend method and potential of position create are estimated on the basis imports of these products and present of labor number in some factories. Since, the research methodologies are analytic and approximate, and also forecasting and calculations methods were used.

## **RESULTS AND DISCUSSION**

### **Results:**

#### **Present Situation:**

Present situation is showing that labor number of present in wood and paper industry is equal to 113682 people (62942 people in wood sections and 50740 people in paper section). Labor number of present in wood working sections is equal to 33413 people and 15745 people in panels of wood composite sections and also 13784 people in cabinetwork sections. Provinces of Tehran (24916 people), Mazandran (15789) and Gilan (13548) are the most position number of present in Iran.

#### **Resources of Forestry and Timberland:**

Forest products volume of north regions of Iran is present in table 1. These products amount were decreased since 1994. If sum total of products in 1994 (equal to 1550500m<sup>3</sup>) is deduct from sum total of other years, remain of demand (requirement) will calculate. Area and competition ranks of forestry (from 1993 to 2003) are present in table 2.

**Table 1:** forest products volume of north regions of Iran (1000m<sup>3</sup>) \*.

year	log	lumber	Post ...	firewood	Sum total	Remain of demand
1981	66.2	274.5	109.6	248	698.3	
1986	167	194.9	94.5	377.6	834	
1989	266.6	189.3	215.3	518.2	1189.4	
1990	267	169	224.4	500.5	1160.9	
1991	320	172.7	237.2	718.8	1448.7	
1992	323.9	186.8	230	635	1375.7	
1993	411.9	170.2	260.3	654.1	1496.5	
1994	395.8	177.7	251.9	725.1	1550.5	0
1995	386.4	159.1	254.8	635.7	1436	114.5
1996	371.1	144.2	244.2	656.3	1415.8	134.7
1997	409.1	141	268.2	670.2	1488.5	62
1998	341.2	129	270	559.9	1300.1	250.4
1999	300.6	95	249	472.4	1117	433.5
2000	315.2	102.3	253.7	493.2	1164.4	386.1
2001	327.8	87.1	244.7	504.4	1164	386.5
2002	316	66	235	383	1000	550.5
2003	291	79	235	358	963	587.5

\*Primary data is compiled from reference of number 14.

**Table 2:** area and competition ranks of forestry (from 1993 to 2003) \*.

Alignment	Area of forestry totality		Area of forestry by private sector		Percent of forestry by private sector		Competition rank of forestry	
	Province	Hectare	Province	Hectare	Province	percent	Province	rank
1	Mazandran	84390	Mazandran	49699	Markaze	91.44	Mazandran	1.27
2	Kerman	46519	Golestan	27687	Ardabel	89.42	Golestan	3.43
3	Gilan	45140	Gilan	25287	Qom	82.99	Gilan	3.82
4	Golestan	39689	Lorestan	20001	Tehran	81.32	Kerman	4
5	Lorestan	25837	Kerman	18214	Lorestan	77.41	Lorestan	9
6	Kohgiluyeh	20000	Ardabel	9478	WeastAzar	71.6	Kermanshah	10.73
7	Kermanshah	19011	Weast Azar	9157	Golestan	69.76	Esfahan	13.55
8	Khorasan	18765	Kermanshah	9083	Zanjan	65.73	EastAzar..	13.91
9	Kordestan	17216	Khorasan	8998	East Azar	61.67	WeastAzar	15.09
10	Esfahan	15517	East Azar	8923	Mazandran	58.89	Kordestan	15.33
11	East Azar..	14469	Kohgiluyeh	8253	Gilan	56.02	Zanjan	15.82
12	Weast Azar	12789	Kordestan	7272	Bakhteyare	53.29	Ardabel	16
13	Semnan	11685	Zanjan	7192	Hamadan	49.15	Semnan	16.27
14	Zanjan	10941	Markaze	6492	Khorasan	47.95	Bakhteyare	19.09
15	Ardabel	10600	Esfahan	5447	Kermanshah	47.78	Kohgiluyeh	20.09
16	Bakhteyare	8534	Bakhteyare	4548	Kordestan	42.24	Khorasan	20.27
17	Markaze	7100	Tehran	4006	Kohgiluyeh	41.27	Markaze	20.82
18	Hamadan	6139	Semnan	3968	Kerman	39.15	Hamadan, Tehran	21.55
19	Qazven	5320	Hamadan	3017	Esfahan	35.1	Qazven	23
20	Tehran	4926	Qom	878	Semnan	33.96	Qom	24.63
21	Qom	1058	Qazven	160	Qazven	3		

\*Primary data is compiled from reference of number 14.

**Imports of Lumber and Some of Wood and Paper Products:**

Balance of trade for varies of paper products and varies of wood products (in during 1993 to 2003) are present in tables 3 and 4. Balance of trade for wood, paper and their products are negative, mostly, but balance of trade for Varies of particle board is better than other, nearly.

**Increase Possibility of Position Number in this Industry on the Forecasting of Imports:**

Counterbalance of position number on the base imports of wood and paper products in Iran are present in table 5.

**Discussion:**

Compete of succeed in industry is results low price of material. If industry is succeeding in competitors, their position number of present will protect or increase. Prop of this issue is include of; 1- resources of forestry and timberland, 2- imports of lumber, log, pulp and some of wood and paper products that their value are increased possibility. If these materials are accessible with low price and than their value are increased in interior country, position number will increasing and economic of country will active. Science, resources of forestry and timberland should be increased and raw material (lumber, log, pulp...) and other materials of surplus valuable should more imports than years ago. But, above situations aren't desirable and purposive in Iran. Reasons of undesirable situation are as following;

**Table 3:** balance of trade for varies of paper products (in during 1993 to 2003)\*.

year	Varies of newsprint	Varies of paper and cardboard	Varies of healthful tissue	Varies of paper and cardboard with material of non-paper	Varies of ledger or tablet ...	Varies of paper and cardboard of carton or package	Varies of pulp	Sum total
1993	-25871652	-177564189	-9945152	-26650044	-320744	-9949230	-24240575	-250301011
1994	-22878020	-203671250	-5579667	-14107561	87826	-6209339	-8547110	-252358011
1995	-55707716	-437316797	-1385325	-23730454	-41875	-6941654	-31708590	-525123821
1996	-90729106	-355868062	239905	-100494941	4549	-4391745	-30319775	-551239400
1997	-17774980	-268713438	385533	-87312077	31893	-11427444	-19014978	-384810513
1998	-25719403	-129681542	-181723	-75602195	-220719	-4910231	-22687146	-236315813
1999	-16055701	-165527637	-6161686	-97666158	269648	-2725692	-26000855	-287867226
2000	-14341816	-264604386	-6640047	-121789399	131407	-1392454	-37588577	-408636695
2001	-26002075	-190615871	-9876426	-123549124	26249	-3314551	-40376145	-353331798
2002	-28255087	-191291087	-9366584	-151917833	60549	-2866433	-23643688	-383636475
2003	-23008698	-277357200	-11219474	-154313613	-234705	-3077237	-44336048	-469210927

\*Primary data is compiled from reference of number 12.

**Table 4:** balance of trade for varies of wood products (in during 1993 to 2003)\*.

Year	Lumber and wood products	Varies of fiber board	Varies of plywood	Varies of particle board	Firewood and sawdust
1993	-50903951	-83513	-13090904	-3112856	76123
1994	-24726781	-39007	-5406394	-1298059	40668
1995	-17706710	-101382	-555473	279424	149514
1996	-15469360	-179828	-199309	841547	14639
1997	-36463742	-1462275	-3519892	485720	6292
1998	-35609125	-4303024	-5617022	290314	-11506
1999	-31358934	-4518206	-1255263	448440	7681
2000	-42137883	-7995820	-4361899	946518	20026
2001	-48790465	-14621675	-1755942	-1377978	-13795
2002	-66288995	-20202963	-7019236	-8012083	-105575
2003	-2309191148	-163955488	-11105736	-5377357	52125

\*Primary data is compiled from reference of number 12.

**Table 5:** counterbalance of position number on the base imports of wood and paper products in Iran.

Year	Imports (Kg) or position number (person)	Paper and its products	Wood and its products	Particle board	Fiber board	Plywood
2003	ImportsKg	706960882	472068111	31088105	126335004	32896864
2013		610426895	777909393	69380421	207073173	41007244
2003	Position number	2459	5091	178	1272	3760
2013		2123	8390	398	2084	4687
2004	-Actual import	889359049	596659424	16042570	148405686	45175608
2004	-Import of forecasting	476558053	333495332	26562897	79787412	17407328
2013	-Import of reformed	897327536	1120189526	23589343	302326833	66431735
2004	Position number	30933121	643512082	92135	14943043	51637592
2013	Position number of reformed					

\*Primary data is compiled from reference of number 9, 12.

Forest products of north regions in Iran were decreased since 1995 and this decrease amount was got to 587500 m<sup>3</sup> in 2003, of course, increasing of demand or population of Iran was excluded. Science, effects of this decrease amount is more exceed than this amount (table 1).

Area and competition rank of forestry aren't according to potential of poplar plantation or forestry in provinces and their area of poplar plantation aren't desirable. Potential of poplar plantation are located in provinces of Kordestan, Kermanshah, Azarbayjan ... and north region of Iran. But their competition rank of forestry aren't desirable because province of Lorestan has been the best rank (equal to 9) and province of Hamadan has been the worst rank (21<) in the provinces (table 2). This subject was effected on the price of poplar timber and lumbers of imported, because their price were increased and fluctuated severely. Factories capacities of user from poplar timbers aren't according to their distributions (Bayatkashkoli, A. and *et al.*, 2006) and hence, supply of poplar timbers are decreased in some regions for example Azarbayjan.

Freedom of imports and exports for these products (in 2003) should purposive and detriments of these producers should prevent. Balance of trade for raw materials and products with surplus valuable should negative and also balance of trade for other materials without surplus valuable should positive, but imports and

exports of these products haven't stated such as such above. Balance of trade for some of these products fore example pulp, log and lumber were negative and for another product (firewood and sawdust) were positive or negative in years ago, but most, firewood and sawdust group was negative (table 4). Imports amount of pulp was fixed nearly (table 3) and this pulp is supplement of papermaking and for increasing of resistance with various papers is using. Science, these products aren't using to surplus value. Imports of lumber and log were fixed in years ago (before 2001) (table 4) and alongside decreasing of forest products in north regions (table 1) were harmed to wood and paper industry and poplar plantation. Probability, present situation with continues of imports freedom for these products and propagation of hybrid poplars will better than years ago.

In the other hand, balance of trade for productions without surplus valuable fore example plywood, medium density fiberboard, paper and cardboard of carton or package, paper and cardboard with materials of non-paper and others were negative (table 3, 4). Even, some of products fore example particle board are negative occasionally and healthful tissue is negative generally (table 3, 4) that situation of internal product both particle board and healthful tissue are desirable in Iran. These internal producers were detriment and some of workshops and factories (fore example plywood and particleboard) were closed or their activities are changed (fore example in province of Azarbayjan). Therefore, these producers weren't succeed in position create and compete, but if present situation is turned, their situation will improve and position numbers will increasing. Potentials of Iran are preparation that economies of factories are improved but forestry, imports and exports of these products should purposive. Situation of neighbor countries are desirable and situation of internal Iran is improvable.

Position create of Iran could equal to 9529 people in 2004 and it can increase to 15203 people in 2013 (suppositions; 127.2 people equal to 22178800 Kg particle board, 284 people equal to 2485000 Kg plywood, 228 people equal to 22651000 Kg MDF, 200 people equal to 57500000 Kg paper and 170.1 people equal to 15771600 wood and paper industry) (table 5).

Exports trend for some of wood and paper products are increasing (table 3, 4) and some of wood and paper sections have sellers market (Bayatkashkoli, A. and *et al.*, 2006; Sayiade, K. and *et al.*, 2003; Zolghadr, M. and *et al.*, 1997). This subject alongside other of purposive programs can effect on the increasing of position number. Wastage of agricultural and wastepaper must more using than years ago and imports of raw materials and other products of surplus valuable must increasing. This strategy is as same as strategies of China, Korea, Japan, USA, France and Germany ....

Concerning; inflation rate of wood (10.31%) and paper (9.8%) products is lowing and inflation rate of poplar timber (12%) is exceed on the basic data of price index from 1997 to 2006, but position number of these industry can increasing because of fallowing; wood and paper products are exporting from Iran to neighbor countries, resources of forestry and timberland and also main producers and important importer and exporter of wood and paper are farther than outside region of Iran. Proficient technicians and native technology of Iran are better than neighbor countries. Situation of Iran is preparation to economic and position numbers are improving annually.

Reviews are showing (1, 2, 10, 13, 19 and 21) that achievement to these objectives is severing but it wills accessible. Imports of wood and paper and their productions were increasing since 2003 and these imports are rather than years ago. Recycle of wastepaper and other methods fore example MDF product (hardwood species and process of desirable for MDF are presenting in Iran) should develop. Economical situation for products of wood and paper in Iran and world are showing that position numbers of this industry can increase with marketing methods and develop of this industry.

### **Conclusion:**

Prop of job creation can increase in wood and paper industry of Iran. Economic of any country will active and labor number will increasing, If these considerations points as fallowing are improving (increasing); 1- resources of forestry and timberland, 2- imports of lumber, log, pulp and some of wood and paper products that their value can increased possibility. But, above situations aren't desirable and purposive in Iran.

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