5 GOODS PROVIDED BY FORESTS AND TREES

Given the very limited forest cover and low forest productivity in West Asia, the production of industrial wood products is very limited in most countries. Turkey is the only country with a developed wood industry and a significant production of industrial wood products. However, the production of fuelwood, wood charcoal and NWFPs is significant in most countries.

5.1 Fuelwood and charcoal

Several countries have tried to control fuelwood and charcoal production through legislation and licensing, but it is believed that most fuelwood collection and charcoal production take place informally or illegally. Apart from the lack of management in this sphere in many countries, the increasing population, especially of the rural poor, their dependence on fuelwood and their inability to purchase fuel hamper any efforts to control fuelwood production. Information on the production and consumption of fuelwood and charcoal is thus extremely sparse in the subregion.

5.1.1 Importance and extent of use

Fuelwood and charcoal are more important than industrial wood products in many countries of West Asia. Woodfuel[3] is used mainly by rural people as the principal source of domestic energy, especially for cooking and heating. Forests, rangelands and shelterbelts or windbreaks on agricultural land are sources of fuelwood. Since most fuelwood harvesting takes place illegally, reliable data on production and consumption are not available.

The degree of reliance on fuelwood and charcoal varies considerably among the countries. Fuelwood and charcoal provide almost 85 percent and 70 percent of household energy needs in Afghanistan and Yemen respectively, while charcoal production is also an important source of income for the rural poor. Consumption has increased significantly in the wake of prolonged conflict, which disrupted supplies of commercial fuels. Iraq has been experiencing a similar situation since the war caused a fall in petroleum production.

Most of the population depends on petroleum products, electricity and to a lesser extent solar energy, while the poorest rural communities depend on fuelwood for cooking and heating in Turkey, Iran, Syria and Jordan, where they have access to free or cheap fuelwood in surrounding forests or rangelands.

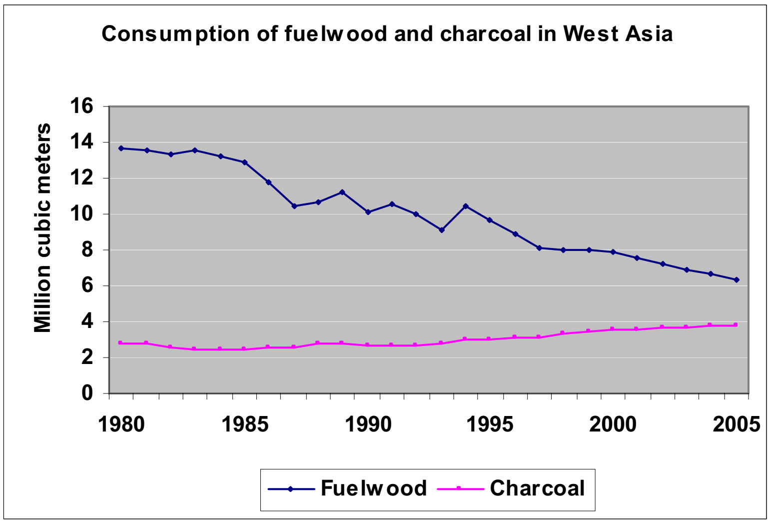
5.1.2 Decrease in fuelwood consumption and increase in charcoal consumption

According to FAO’s assessment, Turkey has been the foremost country in both fuelwood and charcoal consumption, although the amounts have been steadily decreasing over the past twenty years. Increasing income, ongoing urbanization and access to commercial petroleum and natural gas in Cyprus, Iran, Lebanon, Oman, Saudi Arabia, Syria, Turkey and the United Arab Emirates have resulted in a significant decrease in dependence on fuelwood over the past twenty years. In contrast, Afghanistan and Yemen have increased their fuelwood and charcoal consumption significantly over the same period, as have Jordan and Syria, although

[3] Woodfuel refers to fuelwood plus charcoal.

to a lesser extent. Charcoal consumption is expected to increase in almost all the countries except Iran. In Cyprus, Lebanon, Jordan, Oman, Saudi Arabia and the United Arab Emirates, there is an increasing trend toward charcoal consumption in restaurants and for barbecues, while the consumption of fuelwood for cooking or heating in rural areas has fallen greatly.

In order to protect forest and tree resources from overexploitation, some countries have formulated and imposed regulations to control fuelwood collection and charcoal production. For example, Saudi Arabia imposed a five-year ban on both in 2000 and permitted imports to meet domestic demand, while Syria has adopted a system of licensing charcoal production from forests and fruit trees. However, such restrictions have not always been effective.



Source: Jeremy Broadhead, FAO, 2001.

5.1.3 Possible impact of high oil prices on woodfuel

High – and constantly rising – oil prices are driving a global switch to biofuels. Although there are no recent reports from West Asian countries regarding the immediate impact of high oil prices on domestic woodfuel consumption and production, it can be assumed that the decline in woodfuel consumption and production could slow down in such countries as Turkey, while they could increase in such countries as Jordan and Syria. Indeed, despite decreasing woodfuel production and consumption in many countries in the subregion, Jordan's woodfuel production has risen by 50 percent over the past 15 years, possibly in part because of the increase in charcoal production and consumption. In addition, the high rate of unemployment and the high cost of fossil fuels may encourage a return to fuelwood.

5.2 Non-wood forest products

NWFPs are an important source of livelihoods in all the countries of the subregion. Their most important roles are in food security and nutrition, health care, support to agricultural and livestock production, the supply of construction materials and household items, and cultural values. NWFPs vary greatly in local availability and preference, ranging from products used for local consumption to products traded on international markets. Most NWFPs are gathered or produced by individual farmers, local communities or societies. However, insufficient information, especially on account of unorganized collection, processing and trade, makes it hard to assess the precise nature of their contribution.

5.2.1 Main NWFPs

The main NWFPs in West Asia are medicinal and aromatic plants, herbs and spices, gums, resins, tannins, mushrooms, honey, fruits, nuts and fodder. According to available data, several NWFPs are commercially important in some countries. For example, Turkey annually produces about 5 800 tonnes of bay leaves, 1 000 tonnes of pine nuts, 318 tonnes of chestnuts, 326 tonnes of natural mushrooms, 3 300 tonnes of sorax and 3 000 tonnes of thyme. Lebanon produced 70 tonnes of pine nuts in 2004, while Oman produced about 100 tonnes of honey in the same year and Saudi Arabia produced 60 tonnes of honey in 2005.

Some NWFPs are important to rural communities and people's livelihoods and income, despite their limited commercial value. For example, pine nuts, carob molasses and various seeds, nuts and fruits are popular in many countries of West Asia. Most countries produce natural honey; for example, Cyprus has nearly 47 000 beehives with an average annual production of 20 kg per hive.

Trees and shrubs in most countries are used as forage for cattle, sheep, goats and camels, but no quantitative data exist in any country. Medicinal and aromatic plants are also important in Afghanistan, Cyprus, Iran, Iraq, Jordan, Oman, Syria and Yemen. The main flowering aromatic plants in Lebanon are wild marjoram and sage, which are harvested for both local consumption and export.

5.2.2 Development trends

The majority of NWFPs are used for subsistence and for small-scale, household-based enterprises that provide income and employment for rural people. NWFPs are more valuable than wood products in Lebanon, Oman and Saudi Arabia. They are usually produced in the informal sector, with no regulations concerning harvesting and trade, and this has resulted in overexploitation in some areas. Regulations exist only in very limited cases; for example, regulations have been laid down in Lebanon concerning the harvesting of wild marjoram and sage to ensure their optimal use for both herb and honey production.

Box 9 Exports of NWFPs from West Asian countries

The following data provide a general indication of the increasing importance of certain NWFPs from some West Asian countries. In 2003 Iran exported 185 million kg of pistachios, with an export value estimated at US$680 million, or 2 percent of total national exports. The country is the world's largest exporter of pistachios, accounting for 76 percent of global exports in 2003. Afghanistan is another major exporter of pistachios, with an export volume of 513 000 kg in 2002, earning an income of US$1.9 million. Turkey is the world's largest exporter of thyme and bay leaves, earning an income of US$29 million in 2004. Turkey is also the world's fifth largest exporter of chestnuts, exporting 8 million kg and earning an income of US$12 million in 2003. Turkey, Iran and Yemen are the main exporters of natural honey in the subregion.
Source: UN COMTRADE database http://unstats.un.org/unsd/comtrade/

Rising exports, combined with a growing demand on the international market, have been a key driver of NWFP development. Turkey has made significant progress in the sector since 1995, mainly with regard to certain food products, leading to an increase in private and foreign investment in the processing and marketing of NWFPs. The value of thyme and bay leaf exports rose from US$21 million in 2002 to US$29 million in 2004, with the United States, Germany, China and the Netherlands as the main export partners. Many countries in West Asia have emerged as major exporters of NWFPs.

Local initiatives and national policies have been promoting the development of certain NWFPs, particularly honey. In Oman, there is growing interest among farmers in growing woodlots of *Ziziphus* for foraging bees and there is a new trend toward the establishment of beekeeping reserves. In 2002, there were about 28 000 beehives producing more than

60 000 kg of honey. The Lebanese Government has encouraged the development of *Pinus pinea* forests for pine-nut production and *Ceratonia siliqua* forests for carob molasses production. Policies have also been adopted to promote NWFPs, including a ban on the importation of pine nuts.

NWFPs have great potential for future development and could contribute significantly to the livelihood of the rural poor in many countries. Information, improved techniques and investment in the production, processing and marketing of NWFPs are the main challenges to development of these items.

5.3 Industrial wood products

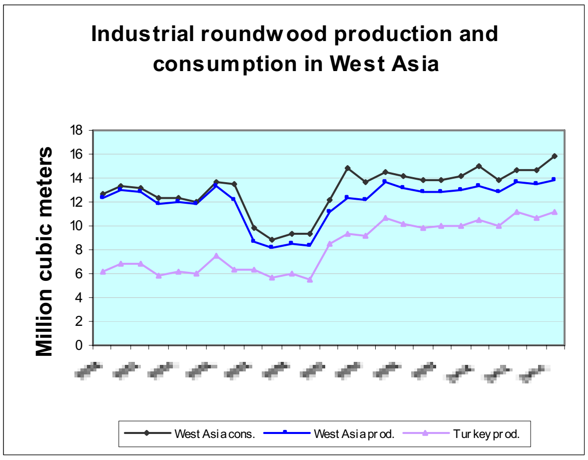
As a result of the low forest cover and more particularly the low productivity of forests and trees in West Asia, the subregion produces only small quantities of industrial wood products. Turkey has dominated all types of industrial wood products and shaped production trends in the subregion, but the subregion depends greatly on imports, mainly of sawnwood, wood-based panels, paper and paperboard. Total imports of forest products accounted for 2.7 percent of total world imports in 2004. However, the per capita consumption of all types of industrial wood product is far below the world average. It should also be noted that widespread unrecorded wood extraction is a major problem in assessing the real level of wood production from the subregion's forests. It is clear that substantial quantities are extracted illegally in certain countries (particularly Afghanistan).

In addition to the scarcity of forests, official logging has been banned in some countries (for example Lebanon) and harvesting is limited to sanitary felling, while production quotas from natural forests have been reduced in some countries (for example Iran and Cyprus). As mentioned earlier, agroforestry, especially using fast-growing species such as poplars and eucalyptus, is an important source of wood supplies.

5.3.1 Trends in production, consumption and trade

Industrial roundwood

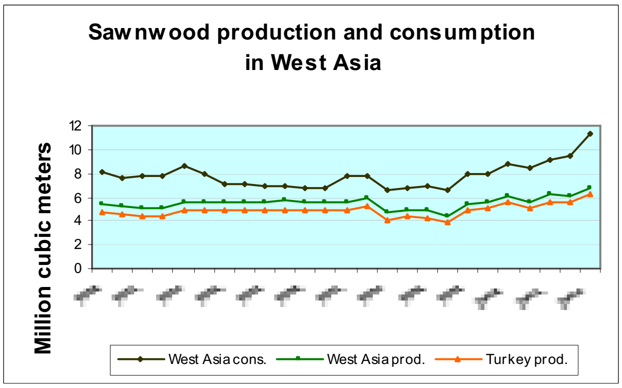
For the subregion as a whole, the production and consumption of industrial roundwood have increased from 12.3 million m^3 to 13.8 million m^3 and from 12.7 million m^3 to 15.9 million m^3 respectively over the period 1980–2004. Although per capita consumption of industrial roundwood (0.055 m^3) is much lower than the world average (0.258 m^3), its consumption has remained fairly stable, with an average annual increase of only 0.9 percent. West Asia is a net importer of industrial roundwood (12.7 percent of consumption in 2004). Turkey has dominated production within the subregion. Iran and Afghanistan are the other two main roundwood-producing countries, whereas production is negligible in the Gulf countries.



Source: FAO STAT, 2006.

Sawnwood

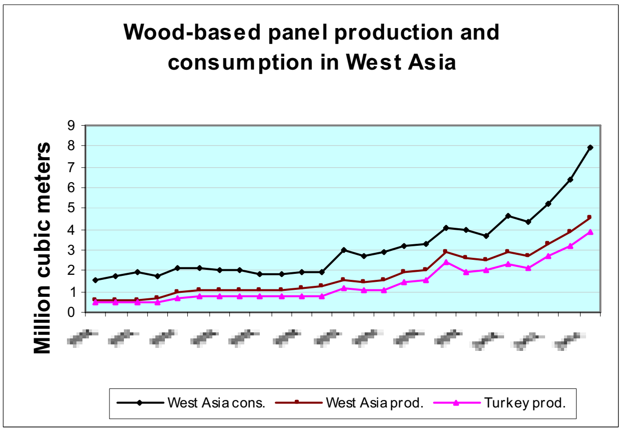
Overall consumption of sawnwood rose from 8.1 million m^3 to 11.3 million m^3 over the period 1980–2004, making an average annual increase of 1.4 percent. Average per capita consumption is 0.039 m^3, which is a little over half the 2004 world average. Production has stagnated, increasing from 5.4 million m^3 in 1980 to 6.7 million m^3 in 2004. Dependence on sawnwood imports has increased significantly. Again, Turkey has dominated production in the subregion, while Afghanistan and Iran are the other two main contributors and production is negligible in the Gulf countries. Saudi Arabia accounts for the largest proportion of total sawnwood imports in West Asia (34 percent in 2004).



Source: FAO STAT, 2006.

Wood-based panels

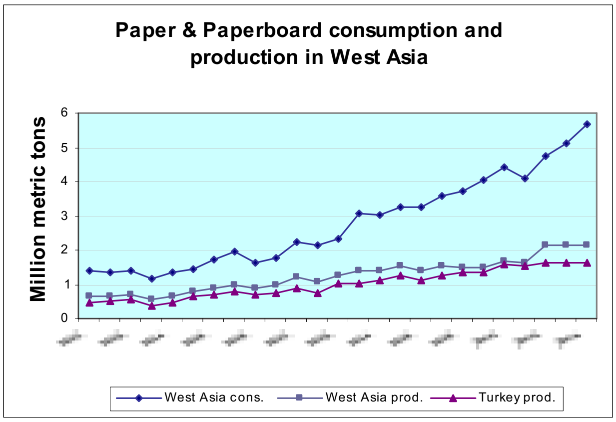
Unlike industrial roundwood and sawnwood, the production and consumption of wood-based panels have increased enormously, rising from 0.6 million m^3 and 1.5 million m^3 respectively in 1980 to 4.6 million m^3 and 7.9 million m^3 in 2004. The average rates of increase in production and consumption were 8.7 percent and 7.2 percent over the same period. However, average annual per capita consumption is 0.028 m^3, which is lower than the world average (0.036 m^3). Turkey has obviously dominated production in the subregion. Particularly over the past decade, it has significantly developed its wood-processing industry, mainly for the production of oriented strand board (OSB) and medium density fibreboard (MDF), leading to a significant increase in the production of wood-based panels. Iran also produces wood-based panels, but to a smaller extent, and its production has also increased over the past decade. Afghanistan, Iraq, Lebanon and Syria produce very limited quantities. Like other wood products, the production of wood-based panels has been steadily shrinking in Cyprus. There is no production in the remaining countries. Over the past decade, almost every country has increased its imports of wood-based panels considerably to meet domestic demand, largely from the construction and furniture sectors.



Source: FAO STAT, 2006.

Paper and paperboard

The consumption of paper and paperboard in West Asia has increased from 1.4 million tonnes in 1980 to 5.7 million tonnes in 2004, making an annual increase of 6.1 percent. The production of paper and paperboard increased from 0.6 million tonnes to 2.1 million tonnes over the same period. The figures indicate the increasing dependence on paper and paperboard imports, especially after the 1990s. Up to 2004, net imports accounted for 62 percent of total consumption. Average per capita consumption was 0.02 tonnes in 2004 (as compared with a world average of 0.055 tonnes). As in the case of other products, Turkey has dominated paper and paperboard production in West Asia, while Iran produces a certain amount. Iraq, Jordan, Lebanon and Syria produce very limited amounts. All the remaining countries are wholly dependent on imported paper and paperboard. Turkey, Saudi Arabia, Iran and the United Arab Emirates account for the largest share of imports.



Source: FAO STAT, 2006.

5.4 *Wood industry development*

In view of its limited forest resources, the subregion produces only small quantities of various types of wood products. Although wood industries do exist in Iran, Iraq, Jordan, Lebanon, Syria and Turkey, many countries do not have their own wood industry and are entirely dependent on imports to meet domestic demand. While sawnwood production has tended to stagnate, wood-based panel and the paper and paperboard production have expanded considerably in the past decade. The development of wood industries is driven mainly by the availability of resources, increased awareness of environmental issues, competition from imported products and development of wood-processing technology.

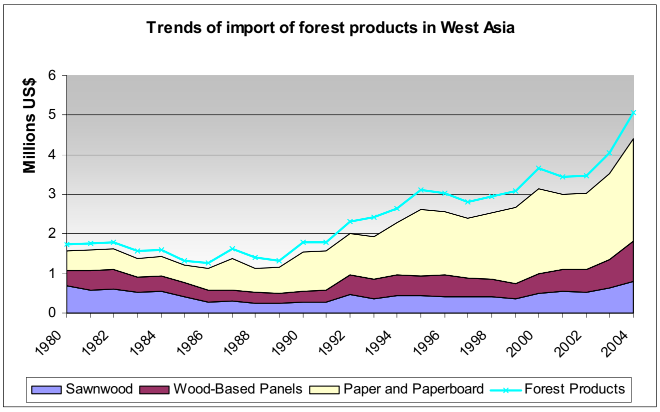
Turkey dominates the industry for all wood products in the subregion and all its enterprises are owned and run by the private sector. Driven by strong domestic demand, better access to foreign markets, the low wages and increasing investment in equipment and technology, the production of MDF and wooden furniture has been growing significantly and steadily over the past decade. However, the Turkish wood industry is facing a number of challenges, such as insufficient supplies of domestic wood and competition from foreign wood products. Turkey’s paper and paperboard industries have been affected negatively by the increase in imports. The pulp industry in particular is not competitive on global markets and the production cost of woodpulp is higher than the imported pulp price.

Iran’s particle-board industry has been expanding. Increased domestic consumption has led to the establishment of new factories, which are mostly operating with second-hand imported machinery. Particle-board producers are all now trying to renew their production lines and improve the quality and quantity of their products, and the competitiveness of the sector is increasing each year. Imports, which are still much higher than exports and come mainly from Turkey, have not risen since the late 1990s owing to the increasing quality and quantity of domestic products. It is forecast that in coming years particle-board consumption will increase at an average annual rate of at least 6 percent.

Turkey has successfully increased its competitiveness in MDF and furniture production and Iran its competitiveness in particle-board production by taking advantage of every opportunity over the past decade. On the other hand, in most of the remaining countries of West Asia, the wood industry is confined to small-scale sawmills and panel-board factories, which depend largely on imports of finished or semifinished products. The competitiveness of these operations has been losing ground and the wood industry has been gradually shrinking. The case of Cyprus is typical here: the production of both sawnwood and wood-based panels has been significantly reduced owing to the continuous reduction in domestic wood production and to competition from foreign wood products over the past decade.

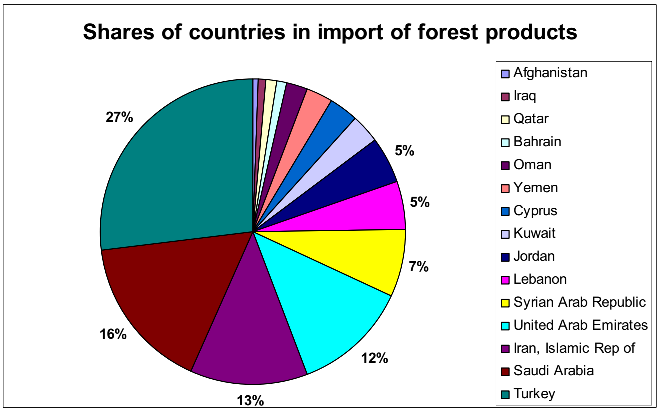
5.5 Trade trends and flows [4]

All the countries of West Asia are net importers of almost all wood products, with the exception of wooden furniture produced in Turkey. During the period 1995–2004, imports grew at an annual rate of 5.6 percent, reaching about US$5 billion in 2004. The figure on the right shows that paper and paperboard, wood-based panels and sawnwood account for the largest share of forest product imports. Imports of paper and paperboard have increased most significantly, reflecting the huge increase in paper and paperboard consumption in the subregion. The relatively slow increase in imports of wood-based panels is mainly a result of Turkey's constantly increasing production. The stagnating imports of sawnwood reflect stable consumption in the subregion.



Source: FAO STAT, 2006

The figure on the right shows that the main importing countries in West Asia are Turkey, Saudi Arabia, Iran, the United Arab Emirates, Syria, Lebanon and Jordan, which together account for 85 percent of the subregion's total imports. Bahrain, Qatar, Kuwait, Oman, Saudi Arabia, the United Arab Emirates and Yemen rely almost entirely on imports for their domestic consumption of industrial forest products.



Source: FAO STAT, 2006

West Asian countries import industrial forest products from a wide range of countries around the world (Figure 5). Taking West Asia as a whole, Russia, Ukraine, the United States and South Africa are the main suppliers of industrial roundwood, while Romania and Russia are the main suppliers of sawnwood, Indonesia, China and Malaysia the main suppliers of plywood, Romania, Italy, and China the main suppliers of fibreboard, and Sweden, Germany, Finland and Russia the main suppliers of paper and paperboard.

[4] Data source: FAO STAT and UN COMTRADE, 2004.

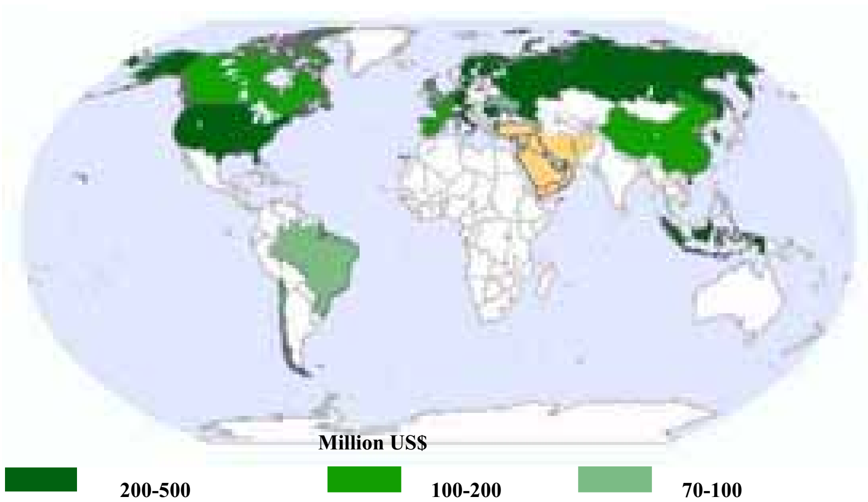
Trade in forest products among West Asian countries is limited. Turkey is the largest supplier to other countries in the subregion. MDF is probably the most widely traded product among the subregion's countries. The table below provides data on exports of MDF from Turkey to other West Asian countries, which accounted for about 90 percent of Turkey's total MDF exports in 2004. Iran is by far the largest importer of Turkish MDF.

The MDF export from Turkey to other West Asia countries in 2004

	Trade value	Proportion of trade value	Net weight (kg)	Proportion of net weight
Total export	$26,199,479		69,580,024	
Iran	$22,025,033	84.07%	58,828,522	84.55%
Cyprus	$1,120,631	4.28%	3,113,562	4.47%
Iraq	$290,596	1.11%	676,003	0.97%
Saudi Arabia	$44,864	0.17%	45,882	0.07%
UAE	$27,007	0.10%	22,832	0.03%
Syria	$18,106	0.07%	42,074	0.06%
West Asia	$23,526,237	89.80%	62,728,875	90.15%

Source: UN COMTRADE

Figure 5 Main supporters of industrial forest products to West Asia



Source: UN COMTRADE, 2006.