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## An innovation framework for analysing and facilitating diasporas contribution to poverty reduction in developing countries

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Bengt T. Henoch

School of Engineering,  
Jönköping University, S 551 11 Jönköping, Sweden  
Fax: +46 36 34 04 84 E-mail: [bengt.henoch@ing.hj.se](mailto:bengt.henoch@ing.hj.se)

**Abstract:** This paper reviews the relations and links between diaspora and their home and host countries, and defines methodologies and technologies that, in a conceptualised frame, can support diasporas' role in developing their home country and creating wealth for their home country and them. The focus is on trade and enterprise development. The review covers demographic and social data for diaspora and their home countries, supporting entrepreneurial and innovative systems and ICT and knowledge management. The concepts are joined into an innovation framework for analysing and evaluating diasporas' contribution to export trade and enterprise development in their home countries. Finally, implementation strategies and benefits are discussed.

**Keywords:** diaspora; migrants; export trade; diaspora network; entrepreneurship; millennium goals; developing countries; innovation systems; e-business; remittances.

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**Biographical notes:** Bengt Henoch received is MSc Electrical Engineering, CTH, Gothenburg and PhD in Microwave Technology, KTH, Stockholm and BA in Sociology, Stockholm University. He was a Manager at KTH for research on microwave solid-state and Visiting Scientist at Stanford University since 1980. He was a Manager at Philips, Industrial Automation from 1980 to 1990 and also a Professor in Electronics in 1987–1997 at KTH. In 1997, he joined Jönköping University, planning education and research and directing a multidisciplinary research programme for "Development processes in SMEs". Also Coordinating a Europe/Latin America university network for interregional SME collaboration. Presently strongly involved in diaspora research relative to Muslim and Vietnamese diaspora and the diaspora role in trade and enterprise formation in developing countries.

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### 1 Introduction

The objective of the paper is to review the relations and links between diaspora and their home and host countries, and to define methodologies and technologies that, in a conceptualised frame, can support diasporas' role in developing their home country and creating wealth for their home country and themselves. The focus is on developing

trade and industry in a globalised environment connecting the diasporas' home and host countries.

Reflecting global inequality, poverty and hunger, all 191 UN Member States have pledged to meet eight millennium goals (<http://www.un.org/millenniumgoals/>). Meeting the millennium goals is largely connected to wealth creation in the developing countries, and the tremendous inequality is demonstrated by the Gross Domestic Product (GDP) per capita, which in the richest countries is 22 times greater than that of the less developed countries.

An individual's understandable reaction to these conditions is to escape intolerable or unsatisfactory conditions by internal or external migration or asylum seeking. In EU as a whole, the number of third country nationals is 14.7 Mio or 3.3% of the total population, to which should be added diaspora with the nationality of the host country. Presently, the number of asylum seekers is 400,000 per year and is slightly decreasing because of EU asylum policy. In contrast to the USA, the EU population is stagnating or shrinking and migration has become the main driver in population change and compensates for a shrinking population (European Commission, 2004b).

In EU, the larger degree of unemployment and the insufficient social integration of diaspora are well known. The urgent need for the vitalisation and development of diaspora societies is becoming more and more recognised. As a background some characteristics of diaspora can be noted:

- diaspora tends to settle in specific suburbs or regions and can be described as societies with an internal infrastructure
- diaspora societies are not, as is often anticipated, mono-ethnic and mono-cultural, but truly multi-ethnic and multicultural
- the unemployment rate in diaspora societies is considerably higher than in the surrounding because of mismatching competence and discrimination
- the spread of competence in diaspora societies is larger than generally recognised, going from illiteracy to high professional and academic skills
- diaspora individuals often have difficulty in finding work according to their qualifications, and this is true also for young people with fresh educations.

As a consequence, several programmes for social inclusion are implemented and in EU, this is reflected in the Tampere conclusions (European Commission, 2003a) and in understanding the migrant's potential contribution to the Lisbon objectives.

For the continuation, we need a working model for the relations and links between diaspora and their home and host countries.

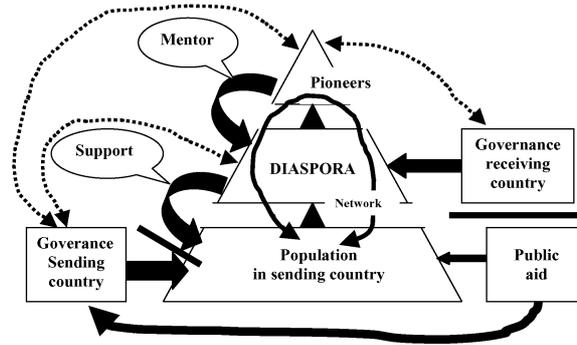
The model in Figure 1 is, intentionally, somewhat provocative, which serves to highlight some malfunctions in the three party relations: diaspora, home country and host country.

It is fruitful to map our model on Maslow (1968) hierarchical pyramid of needs in Figure 2 (Huitt, 2004), first because it can be seen as a driver of migration and diaspora, and second because it can be a quality measure of a community, how its citizens can fulfill their needs.

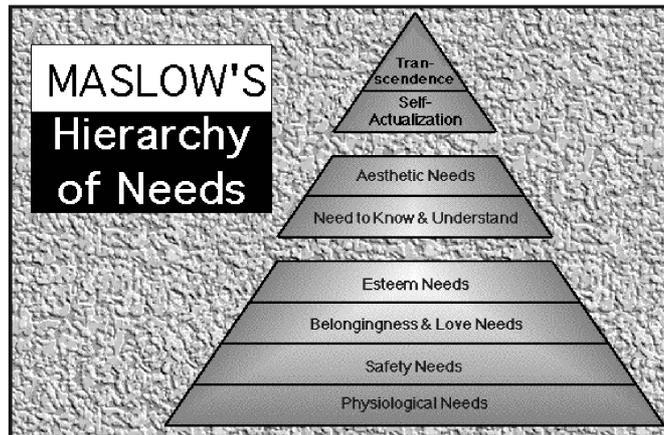
Using these models, we can discuss the motivations for migration, establishment of the diaspora and the internal pioneering movement inside the diaspora. The model in Figure 1 also shows the substantial support flowing from diaspora to the kinship and

home region, and also the mentoring knowledge transfer from pioneers to the main diaspora community. Different formal and informal diaspora networks act as agents for this support and mentoring.

**Figure 1** Model for the relations and links between diaspora and their home and host countries



**Figure 2** Maslow's pyramid of needs



The model also puts the spotlight on poorly communicating channels for support and aid, especially communities in the host countries and the public aid community. One channel is the host community social programmes, focused on integration and discrimination issues in their regional ethnic minority groups. Another channel is the public aid community programmes, focused on the poor population in the diaspora home countries primarily through the governance structure with the risk of supporting the existing society structure. It is important to note that the diaspora aid is exceeding the public aid and is more directed to the grass root level.

In the model, the dotted lines indicate links that are important to reinforce.

This is admittedly an exaggerated picture, which is justified by the purpose of giving incentives to strengthen and support the diaspora role in wealth creation based on enterprising and trade in a globalised environment. Essential is a win-win approach based on mutual benefit for diaspora individuals and communities, as well as home and host communities.

As the target area is global enterprising and trade, it is also essential to connect to trade support and development programmes targeting developing countries. Important guiding strategies are to focus on:

- ensuring that the developing countries reap the benefits of the world trade system
- improving communication and transport infrastructure and systems.

Consequently, most developing countries have national trade support programmes aiming at an export development strategy, a trade support network for training and counselling services and information support for trade fairs and delegations and web-presence. Such trade support programmes are generally externally financed through official aid organisations on national and international level and important stakeholders are WTO, UNCTAD, ITC, OECD and others.

## **2 Background knowledge**

The background knowledge that is related to diasporas role in wealth-building in the home countries goes over wide areas and we will limit ourselves to knowledge that is strictly applicable in the building of a conceptualised framework. The background knowledge is organised in three major blocks.

### *2.1 Diaspora and home countries*

This block sets the scene for the diasporas role relative to their home country, as it is relevant to wealth-building in the home countries.

#### *2.1.1 Demography and social conditions*

This basically falls outside the scope of the paper, but is an important background for the diaspora importance. There is a massive literature, and important sources are the EU (European Commission, 2004a), UN (<http://www.un.org>) and World Bank Year Books.

Developing countries with critical economies have considerable parts of the working force outside the country. Following (IOM-SIDA, 2003; European Commission 2004b) the conditions in Moldavia are that of the 4.5 Mio citizens in the country, 30% if the work force are migrants in Western and Eastern Europe and remittances from Moldavians abroad are the main driver of economic growth and amount to 19% of GDP. Similar conditions prevail in other developing countries, e.g., the Dominican Republic (MIF, 2004).

Islamic Communities (Bemelmans and Fretas, 2001) and Latin American diaspora in EU (Pelegriño, 2004) are investigated, and (Abbazi.Shavazi and Jones, 2001), give a global survey of Muslim demography and socio-economy of Muslim populations.

#### *2.1.2 Diaspora support*

As we have set out to find new ways giving diaspora a significant role in the development of wealth in their home countries, we must survey support that diaspora gives to relatives and kinship in their countries of origin.

Diaspora support is often referred to as remittances, but for an understanding of migration as a social process it is important to characterise (Nyberg-Sorensen, 2004) formal and informal monetary remittances, social remittances, intra- and international remittances as well as individual and collective remittances (e.g., Home Town Associations). The mix between formal and informal (Hawala, Hundi) remittances is for natural reasons not fully known, but the estimation is that the formal flow has increased four times, maybe at the expense of the informal flow.

Following the survey of Nyberg-Sorensen, 2004, the formal flow of 72 bio\$ is divided between Latin America and Caribbean 31%, South Asia 20%, Middle East and North Africa 18%, East Asia and the Pacific 14%, Europe and Central Asia 13% and Sub-Saharan Africa 5%. The five major receiving countries, India, Mexico, The Philippines, China and Turkey account for 50% of the flow.

The distribution of external financing in developing countries has been investigated in the ANIMA project (Debrinsky, 2005) and of the external finance to developing countries; 20% comes from official aid organisations, 54% from private organisations and 26% from formal diaspora remittances. This underlines the importance of migrants, which is further underlined by the fact that of the 175 Mio migrants in the world, 60% live in more developed regions where they make up almost 10%.

The dominating importance of remittances over public aid is further demonstrated by the financial flows in the Americas (McCinley, 2003). In 2000, official remittances to Mexico and the Caribbean countries amounted to 15 bio US\$, which is an increase of four times since 1990. During the same time, official aid decreased to 2.5 bio US\$. Counting informal remittances, the amount of remittances can be sufficiently higher. McCinley also argues that countries of origin have not taken proper action to encourage investment of remittances through favourable banking conditions and investment programmes.

Remittance as a development tool in Morocco has been researched by Nyberg-Sorensen (2003). In 2003, 2.5 Mio Moroccans were residing abroad, representing 8% of the population and affecting, maybe, half of all Moroccan families. Principal receiving countries are Belgium, France, Germany, The Netherlands and lately, Italy and Spain. Migrant remittances amount to about 3 bio US\$ and represent about 80% of the trade balance deficit, meaning that more than 1 Mio Moroccan passes the poverty line. Remittances flow through the official banking system as well as informal channels. The Riff area has experienced a noticeable growth because of migrants and returning migrants. The Hassan II Foundation has a programme strengthening Moroccan culture in Europe and connecting to diaspora.

The effect and quality of remittance investment (Nyberg-Sorensen, 2003, 2004) relates to the mix between consumption, investments in taxis, tourism, summer houses, small businesses, etc., and support to home region associations. Remittances are generally a positive factor, but there are examples, e.g., in LA, where a healthy social and consumer pattern is disrupted. It is argued that remittances increase the quantity and *quality* of investments as a reflection of the broader economic and social context and networks between diaspora and home communities. This is in contrast with the investment through public aid. Established diasporas have grown in numbers. Trade relations and nostalgic commerce are growing. Diaspora are in their contacts with the home region spending on what is called the five Ts: Tourism (2000 \$), Telecom (20 min/month), Trade (nostalgic), Transportation (1/year) and Transfer (200 \$/month).

Banks and public aid are starting to see the quality and synergy effects of remittances and tend to link support to remittances.

An interesting approach to support and channel diaspora investments is launched in the project ANIMA ([www.anima.org](http://www.anima.org)), which is (Debrinsky, 2005) developing a cooperation between European investment promotion agencies (EU IPAs) and Mediterranean agencies (Med IPAs). The objective is to promote the Mediterranean region as a whole and build a network linking Med and EU IP, aiming at 'Reinvestment of Native Entrepreneurs into MEDA countries'.

### 2.1.3 *Transfer systems*

In some countries, cooperative credit associations have historic traditions (Lee and Venugopal, 2004) and are known as kye (Korea), tandas (Mexico), susu (Trinidad), hui (China) and mujin (Japan). Such credit institutions are brought from the home country and used for provision of small-scale capital outside the formal banking system.

Since the 70s', micro credit has been used for loans and small capital to poor people. The concept is not very precise and includes agricultural, rural, cooperative or consumer credit, as well as credit from the savings and loan associations, credit unions or moneylenders. Yunus (2003, 2005) has pioneered the micro credit as a way to provide small *loans without collateral* to very poor people. The financial security is given by a partnership between bank, NGO and a cooperative savings institution. Grameen Bank micro credit ([www.gfusa.org](http://www.gfusa.org), [www.grameen.net](http://www.grameen.net)) works profitably all over Bangladesh, giving loans to 2.5 million poor people, 95% women. The bank is owned by the borrowers. In a cumulative way, the bank has given total loans of about US\$ 3.75 billion. Generally, the repayment rate has been over 98%.

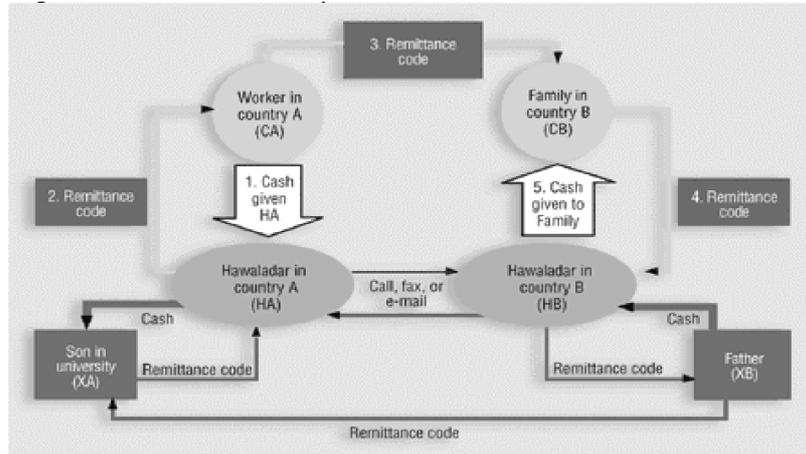
Remittance is a way to transfer the economic diaspora support to the home country and is a small fund transfer, usually between people without bank accounts. The market is dominated by commercial operators such as Western Union and Moneygram. The percentage cost per transaction is high, ranging from 5% to 20%. In order to fight the high costs, the World Council of Credit Unions (WOCCU, 2004) has initiated a transfer system where funds are transferred between members of credit unions or saving cooperatives.

The high commercial overheads for remittances strengthen the position of Hawala and other informal fund transfer systems (El Qorchi et al., 2003) with various names: Fei-Ch'ien (China), Padala (Philippines), Hundi (India), Hui Kuan (Hong Kong) and Phei Kwan (Thailand). Basically Hawala and similar systems have a history of over thousand years and have been developed to allow transfer of money for long-distance trading, without physically transferring money through a broker/hawalander network, internally quitting debts and claims in the sending and receiving region.

Hawala, as shown in Figure 3 (El Qorchi et al., 2003), is very competitive when normal bank channels do not function, both in price and in reaching rural locations. The amount of Hawala transfers is not known as there is no official registration and statistics. Estimations made indicate that Hawala transfers have been of the same size as formal transfers and are decreasing as the formal transfer system is becoming competitive. There is a concern that Hawala systems are illegally used for money laundering, terrorism, drug dealing, tax evasion and other crimes. Governments act in different ways, forbidding, requiring licensed or registered hawalanders and requiring the banks and transfer agents

(e.g., Western Union) to be more competitive. Cooperative solutions (WOCCU, 2004) have also been seen and comparisons can be made with the micro credit discussion.

**Figure 3** Hawala transfer system



### 2.1.4 Diaspora networks

Diaspora is organised in networks locally, nationally and internationally (Lee and Venugopal, 2004; Nyberg-Sorensen, 2003, 2004; Buijs and Rath, 2002) and the strength of the networking evidently depends on the age and status of the diaspora. The diaspora networks and organisations reflect different social ties and objectives:

- home-based networks such as hometown organisations, alumni organisations, sports clubs and charity organisations
- host-based organisations with the objective to support and promote specific diaspora in their specific region of residence
- religious and cultural institutions with the task of strengthening diasporas' religious and cultural identity and often also having a social and educational agenda
- operational networks with active promotion of professional roles and engagements, of trading and enterprising and of home country regeneration.

In practice, there is a considerable overlap between the different types of networks and there are also considerable differences between diasporas owing to the diaspora status and social and political structure in the home country. One of the best organised networks is Muslims in Europe, which under an umbrella organisation, Federation of Islamic Organisations in Europe ([www.FIOE.org](http://www.FIOE.org)) include a spectrum of home-based, host-based, gender-based (youth, women) and socio-religious organisations.

Important examples and roles of operational networks are described in Vertovec, (2002). Vertovec discusses transnational networks and skilled labour migration. He highlights the development of professional diaspora networks and recruitment organisations, and their role in creating a mobile professional labour market. Such networks are usually linked to alumni, residence, home country and profession, and connect to several home countries. India and China are major countries, and links to

high-tech regions and multi-nationals in the USA can be noted. An argument against a one-sided brain drain in developing countries is the return of knowledge and professionals, and the creation of high-tech areas and SMEs in Bangalore, Taiwan, Guangdong and other not so well-known places. In the development of the Bangalore high-tech cluster, the diaspora professional network ([www.indus.org](http://www.indus.org)) has been of crucial importance.

### *2.1.5 Diaspora internal mentorship*

In Figure 1, it is indicated how diaspora pioneers can act as mentors in their local diaspora community. This is an area where the knowledge is limited and most mentor roles are informal. However, it is believed to be important and more common than recognised. A few examples can be given.

- In Mannheim (Bemelmans and Fretas, 2001), the EU/ESF financed German-Turkish Economic and Training Center is working together with the Turkish Entrepreneurs Association in promoting new enterprises.
- In Stockholm (Salah, 2004), the Swedish Young Muslims has set up and is running a development programme for migrant enterprises. The programme includes business management and ICT-support and was announced through the Mosque. Fifty enterprises took part and after analysis of individual needs, learning groups were formed based on the discovered competence gaps.

## *2.2 Supporting environments and systems*

This block describes basic soft concepts and tools that can strengthen diasporas' role in regeneration and wealth-building in the home countries. Admittedly, the concepts are overlapping and have some function of being buzzwords.

### *2.2.1 Learning environments*

Learning environments (Stavrou, 2003) are characterised by their capacity for collective learning about how to develop new 'know-how' type of knowledge. It is argued that collective learning for innovation takes place better in small, more contained social units where people have the opportunities to live, interact and cooperate with each other. As examples, tourism in a region has been promoted through collective and collaborative learning by all of the different actors in the region – learning from each other and learning with each other – towards a common goal. Learning environments can, with advantage, be supported by e-learning and can be seen as a concept supporting the diaspora mentor role internally and in relation to the home country.

### *2.2.2 Entrepreneurial environments*

Entrepreneurs are recognised as important drivers in the renewal of trade and industry, especially SMEs, and in the creation of jobs. The European Commission, in their Green Paper (European Commission, 2003b), recommends a coordinated European approach to entrepreneurship policy, targeting an entrepreneurial society, where barriers to business development and growth are removed, supporting learning networks such as

ethnic minority businesses and facilitating flexible availability of finance and appropriate tax provisions. In an entrepreneurial society risks and awards are balanced, and society values entrepreneurship.

From hard necessity, migrants are leading entrepreneurs with a bias towards ethnic enterprises and micro-enterprises in an informal economy. This makes a closer integration with the host economy desirable (Salah, 2004; Bemelmans and Fretas, 2001).

Several researchers (Faltin, 1999; Timmons, 1994; de Soto, 1992) see entrepreneurship as a chance for outsiders and micro-enterprises in the informal sector to create an alternative path out of poverty- de Sotos 'el otro sendero'. Faltin (2001) also presents techniques for generating entrepreneurial ideas, where he stresses the entrepreneurial team with division of labour. Faltin identifies three critical factors: people, idea and resources.

Formica (2003) approaches the high-tech end of entrepreneurship by defining industry and knowledge clusters, creating high-tech start-ups and cultivating growth-oriented new ventures. Formica developed the concept of knowpreneurs, focussing more on growth and less on self-sufficiency. Some of the professional diaspora networks referred to earlier come close to this definition.

E-learning for entrepreneurship is provided on several websites, for example, through Consortium for Entrepreneurship Education ([www.entre-ed.org](http://www.entre-ed.org)).

### *2.2.3 Innovation systems*

The concept, innovation system is used to describe how a country, a region, a network or an industry functions as a system promoting the transfer of innovations and business concepts into profitable enterprises or organisations in national or global economy. In a regional innovation system, we identify three major elements (trade and industry; education and research; the political structure) interacting (triple helix) in the field between demands from the market and boundary conditions in the infrastructure.

In the field of innovation systems, numerous contributions and scientific papers discuss various aspects of innovation systems, e.g.,

- national and regional innovation systems (Lundvall, 1992; Kuhlmann and Arnold, 2001)
- relationships in elements of national innovation systems (Nasierowski and Arcelus, 1999)
- connection between national and regional innovation systems (Chung, 2002)
- models for industrial innovation systems and processes (Padmore et al., 1998; Padmore and Gibson, 1998)
- measuring success of innovation systems (Evangelista, 2000; Gerstlberger, 2003)
- connection between business strategy and innovation systems (Ritter and Gemünden, 2002).

Obviously the concept, innovation system can be used in describing and evaluating the diasporas role in the development of the home region, as well as the diaspora community and the home region. The concept can also be used as a frame in

organising quality and performance indicators, compare the OECD LEED Programme (Local Economic and Employment Development).

#### *2.2.4 Trade support systems*

Most developed countries have some export trade support programmes, supported partly by governments and partly by trade organisations and Chambers of Commerce. These generally include trade missions and fairs, web-presentations and business data bases, e.g. accessible through ITCs network of Trade Promotion Centers, TPOs. However, following discussions in the ITC 2001 Executive Forum (Barclay, 2002), it can be argued that few developed countries have a comprehensive national strategy for trade support or export promotion. Any national strategy should address long-term issues, promoting new entrants into the export community, stimulating international entrepreneurship and developing new export industries. This is also the base for ITCs promotion of export strategies in developing countries.

WTO members have adopted the Doha Development Agenda (EU and the world, 2005), which intends to give the developing countries full benefit from the trade opportunities offered by the multilateral trading system. A communication from the EU Commission (EU COM/513, 2002) recommends integration of trade policies into poverty reduction strategies and support to the Doha Development Agenda and its agents, WTO, UNCTAD and ITC. Importance is given to multilateral initiatives in collaboration with international organisations, without confining them to specific countries or regions.

Recognising the role of trade in alleviating poverty, public aid tends to include export trade support in its development programmes. One example is Chamber Trade ([www.chambertrade.com](http://www.chambertrade.com)), a free business database open for developing countries, supported by Swedish SIDA and operated by the Swedish Chamber of Commerce. Chamber trade is based on matching, and it connects buy and sell inquiries and search for partners.

‘Support to Trade Promotion and Export Development in Vietnam’, VIE/61/94 ([www.vietrade.vn](http://www.vietrade.vn)) is a project executed by ITC in partnership with VIETRADE and financed by the governments of Switzerland and Sweden. The main objective is to assist the Government of Vietnam in achieving the set export growth rate targets. The project intends to achieve a national export development strategy and an operational trade support network at the national level between government, trade support institutions and exporting enterprises. This project is part of a trade support programme for the Mekong Delta.

### *2.3 ICT and knowledge collection, exchange and management*

It is obvious that ICT and a consistent structure for knowledge collection, exchange and management are essential for enhancing diasporas’ role in developing their home country, as well as creating wealth for their home country and themselves.

The 2003 ITU development report (ITU, 2003) summarises the world-wide ICT penetration. Between 1992 and 2002, the ICT access in developing countries has developed explosively. The percentage of population covered by telephone service in developing countries is 65%, in China/India 94% and in developed countries 97%. Twenty seven percent of PC users and 34% of internet users live in developing countries.

In developing countries, PC users are 3 per 100 inhabitants and internet users 4 per 100. ICT also is a powerful social in the way that ICT gives access to a new world the everyday environment (Dutton, 2004).

### *2.3.1 Tele centres and village phones*

The concept of telecentres is wide and started as phone-fax shops before the explosion of internet. IDRCs excellent overview (IDRC, 2005) describes a telecentre as a physical centre to provide public access to long-distance communication and information services using a variety of technologies, including phone, fax, computers and the internet. They run through a spectrum of 'phone shops', 'cybercafés', cottage telecentres for telework or telecommuting and special multipurpose community telecentres (MCTs).

The IDRC guidelines teach sound business models, which support the sustainable operation of the telecentre, regardless of the operational mode: publicly or privately owned, part of a public or private franchise or provided by international donors.

Telecentres are expected to provide related services such as user training, distance education, keyboard and business training, 'job shops' and community programmes, which motivate cohabitation with existing institutions such as libraries, schools and chambers of commerce. Facilitating the role of telecentres as nodes in a knowledge and communication network will also require a framework for standard and evaluation (Ermberg, 1998).

In Bangladesh, the Grameen Village Phone Programme ([www.grameen.net](http://www.grameen.net), [www.gfusa.org](http://www.gfusa.org)) brings phone service to more than 100,000 rural villages and hamlets. Via a micro credit system (Yunus, 2003, 2005), local micro-enterprises use the phone to operate a 'phone shop' ([www.gfusa.org](http://www.gfusa.org)).

In North India, a network over 300 kiosks ([www.drishtee.com](http://www.drishtee.com)) offers a full range of internet services in the local language. The focus is on e-governance, giving access to a list of local, state and federal government social schemes, filling in and monitoring applications. Further services are: Horoscopes and Matrimonial Services and Offline and Supporting Services with basic computer classes.

In conclusion, ICT penetration through telecentres and phone shops is increasing in most developing countries and in underprivileged communities with resident diaspora. Already, now ICT can support interregional networks, enhancing the diaspora role.

A number of researchers and research reports deal with performance indicators and evaluations of ICT pilot projects in developing countries (DANIDA, 1991; Ermber, 1998; ITU, 1998; Khumalo, 1998). This represents a solid knowledge base on ICT penetration and operational experience in developing countries.

### *2.3.2 Websites and databases*

It may sound drastic to say that the internet is contaminated with websites, portals and databases. Be as it is, but if working with a focused 'diaspora development network' of diaspora, home regions, host countries, trade organisations and universities; the road is open to create a knowledge base covering multinational business data, diaspora data, project and collaboration platforms, distant learning and general multicultural services. It is anticipated that some form of quality assurance of knowledge bases in the 'diaspora development network' will be implemented.

### 2.3.3 *Informatics and knowledge management*

ICT has the potential to support diasporas' role in developing their home country, as well as creating wealth for their home country and themselves. A prerequisite is that existing information is made selectively and timely available based on individual needs; that business, enterprise and competence data are matched for creation of new knowledge and that generated and prior knowledge is managed and selectively distributed in the 'diaspora development network'. This requires a number of informatics and knowledge management tools:

- linking to and searching in the websites in the 'diaspora development network' using concepts for the semantic web
- structuring and representing trade support organisations and databases, enterprises, diaspora organisations and competences and diaspora and home community structures
- supporting formation of business and trade relations between diasporas' home and host countries, based on competence models
- building models for diaspora, cooperative and enterprise competences and representing relevant competences for a given task in a formalised notation
- matching inquiries and partner searches with modelled competences for the formation of possible business and collaboration relations.

Competence modelling for formation of SME-networks and SME-Chains is developed and implemented in Henoch and Sandkuhl (2002). The concept in SME-Chains is to use universities as centers of regional networks and student ambassadors as contact partners to SMEs (ALFA, 2001). The student/SME interaction is on regional and transnational levels. As a basis for formation of SME networks, competence information of enterprises is stored and evaluated in a Web-Portal. The competence information should encompass all technical and organisational capabilities of an enterprise, including:

- skill profiles of the personnel of the enterprise
- technical equipments and production capacity
- business processes with value creation and quality management processes
- organisational capabilities.

*Competence models* are generated by an enterprise modelling tool and templates prepared for the relevant industrial sector. *Competence profiles* can easily be entered by the SMEs using functionality of the Web-Portal, and they form the basis for generating concept paths within a semantic net. These paths reflect the competences of the enterprise with respect to skills and product structure.

*Match-making* based on semantic nets has been applied in various Web-Portal implementation projects by Fraunhofer ISST (Billig and Sandkuhl, 2002). Two examples are portals in the fields of technology transfer and IT-qualification. In the area of technology transfer, the main objective is mediation between supplier and seeker of new technologies. The semantic net has to include terms and concepts relevant to the technologies of the domain in question, industry sectors and activity types.

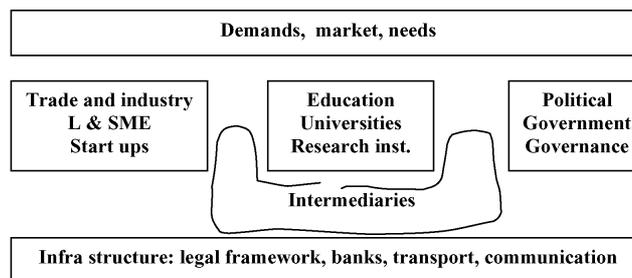
Anticipated ICT services for informatics and knowledge collection, exchange and management should also ideally support document production, project management, interactive collaboration platforms, links to financial and investment sites and general ‘cybercafé’ services.

### 2.3.4 Universities and knowledge collection and exchange

Referring to the model of innovations systems in Figure 4, we can define some general roles for the universities:

- the traditional research role, whether related to diaspora and developing countries or to general technical, business or social orientation
- the traditional education role, whether related to diaspora and developing countries or to general technical, business or social orientation
- an education and mentoring role outside the university.

**Figure 4** Regional innovation system



To this we should add roles that can be described as intermediaries within the industry and trade system, in the university region or between regions. The general base for this role is the mobility of students and professionals, and some particulars can be given:

- Universities in diasporas home countries are base for diaspora alumni associations.
- Universities are located in areas with a presence of diaspora residents.
- Diaspora academics have positions at host country universities. Note the reference list which includes many diaspora academicians.
- Student mobility, predominately students in developing countries study at universities in developed countries.

The programme, krAft (Melander, 2004; [www.kraftprov.nu](http://www.kraftprov.nu)) is a SME-development programme based on self-learning groups with a mentor/teaching team of one academician and one industrialist. The programme is based on four concepts: competence/knowledge, reflection, business development and growth. A leading principle is that business development in SMEs is not primarily about simple knowledge transfer. The belief is that knowledge is not a product that can be easily transferred. Knowledge is something that develops in the minds of people when they are exposed to stimuli (competence/knowledge) that make them reflect on their present situation. Further, and perhaps most importantly, business development is about ‘getting your act together’ and taking action to grow the business.

Experience of diasporas and universities role was gained during development of electronic industry in Estonia after the liberation (Henoch, 1992). During 1991–1994, existing and extended cooperation between the electronics departments in the technical universities and electronic industry associations in Sweden and Estonia was made the base for a catalyst programme for developing Estonian electronic industry. A concept of interregional learning groups was applied and led to new working place in existing industry and start-up enterprises.

In an effort to improve the relationship between university, students and SMEs and the communication abilities of students, a ‘student ambassador’ model (ALFA, 2001) has been developed. More than 100 host enterprises have been participating in this ongoing programme. Usually student teams with two to three members work on a mini-project for one host company and a company representative acts as a personal mentor.

The universities’ regional intermediary role has been extended into an interregional intermediary role for SME collaboration between EU and Latin America (LA) (Henoch and Gonzalez, 2003). Regionally, each participating SME receives visits from a team of two students from the university. This visiting student team assists in modelling the enterprises’ competences, and this information will be part of a competence data bank. Based on matching in the competence database, transnational SME pairs are formed. This is the base for EU/LA SME cooperation projects involving a mixed student team from EU and LA. The same students are engaged regionally and in the student exchange SME projects. The ambition is to create SME collaboration between EU and LA and to give students a real international work experience.

Jönköping University and National Economics University, Hanoi report results from a pilot study (JU-NEU, 2005) on methods to support Vietnamese diaspora in Jönköping county in creating business and cooperation between enterprises in their host and home countries. Full support has been obtained from the diaspora, and the study has included inventory of diaspora competences and Vietnam’s industrial and communication infrastructure. Based on prior knowledge in modelling of enterprise competences and matching, a diaspora competence model has been developed, supporting formation of enterprise partnerships.

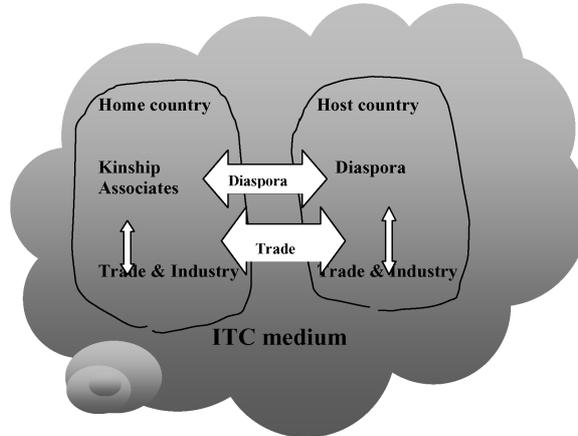
### **3 An innovation framework for diaspora-home country development**

The review of background knowledge has revealed an impressive set of tools that can support diasporas’ role and be the base for a conceptual innovation framework where the information and knowledge flow in two channels: the diaspora channel and the trade channel; they are connected as is shown in Figure 5.

When connecting the two channels, one guiding principle is to rely as far as possible on existing communication structures, as this is deemed necessary for obtaining a sustainable framework. As has been indicated both channels are fairly well established.

- *The diaspora channel* consists of a variety of informal and individual exchange as has been shown. There is also a more formal exchange based on websites and activities involving diaspora and hometown associations.
- *The trade channel* consists of real business and also a flow of buy and sell inquiries supported by business databases and TPO networks. These databases and TPO networks can be nationally and/or transnationally supported.

**Figure 5** Diaspora and trade channels

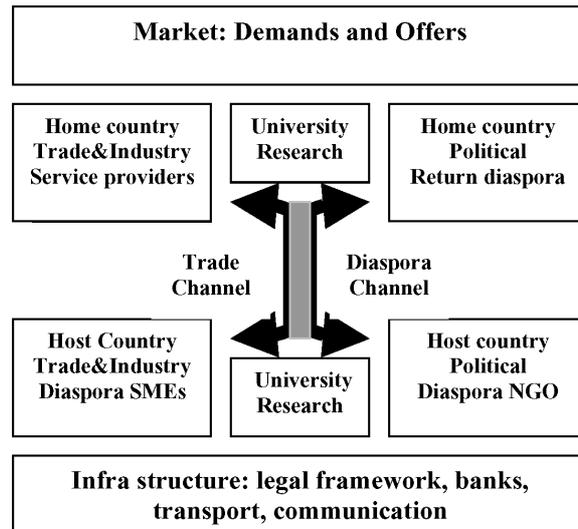


Both channels rely on a common ITC medium, and a condition for success is that the users, as far as possible, can access information from both channels via the channel interfaces they are familiar with. This implies that user interfaces for entering, receiving and exchanging information should be supported by office terminals as well telecenters and cyber-café's in rural or underprivileged areas, and be secure when critical information or money is chosen to be transferred. Considering the span between business data for handicraft and high-tech data, security and certification must have a corresponding span.

If we apply the concept of regional innovation systems, we can discuss the function of the interlinked channels as one of linking two regional innovation systems: the home and the host community, as is shown in Figure 6.

The concept of a transregional diaspora-driven innovation system serves as a road map for creating a framework, where diaspora in collaboration with their home region and other stakeholders can initiate and create start-up activities with mutual benefit.

**Figure 6** Transregional diaspora-driven innovation system



It is interesting to discuss two important aspects of linking the diaspora and the trade channels.

- The trade channel contains business inquiries and statistics show that in trade channels open for developed and developing countries, the interest in the developed countries for trading with developing countries is rather weak, at least as it appears in business inquiry statistics. Interlinking with the diaspora channel should lead to a proactive initiation of business concepts ranging from individual agencies to service cooperatives.
- The diaspora channel contains via remittances a considerable capital flow, directed to consumption or investments in the home region. The tendency or ambition to manage remittances through diaspora saving and credit associations is building up an investment potential in the home regions. If mechanisms for linking information on investment potentials in the trade channels to investors in the diaspora channel can be established, this can be a powerful driver for targeted investments in the home regions. Promising indicators are the cooperative remittance systems, the micro credits through saving cooperatives and the diaspora investors. Added, this can be a powerful development motor.

With reference to Figure 6, it is also of interest to discuss the universities' role, considering that universities constitute a real multiregional and multicultural system. Traditionally, a university has three overlapping responsibilities:

- education
- research
- actor in its society for continued education and supplier of new knowledge and technology.

Seen in the context of an innovation framework for diaspora-home country development, it can be observed that universities have high-quality education and research in all areas related to diaspora, developing countries and associated social, economic and technical aspects. It is possible to add some mobility and multi-ethnic aspects:

- universities are involved in student and teacher mobility programmes, where students make part of their curriculum in other countries
- most universities are located in multicultural regions and have varying share of diaspora students.

Added together, this makes universities important actors in the innovation framework. If it is *realised that strong and dynamic diaspora home country relations are competitive tools for a host region*, it can not only enhance the universities' society actor role, but also increase the universities' role in recruiting national and international students. Means can be mobility programmes and new curriculum addressing the diaspora home country aspect.

#### **4 Expected benefits**

The innovation framework for diaspora-home country development is a tool for analysing and evaluating the complex system of home – diaspora – host in the context of

the transnational market and infrastructure. An effective realisation of an improved framework is also expected to give the stakeholders considerable benefits.

- Developing countries will have trade support programmes and strategies with more direct contact to external markets, mediated by migrants and especially SMEs, and cooperatives can have opportunities for joint enterprising with migrants in their target countries.
- Diaspora organisations and individuals are given alternative ways of self-employment, of support to their region of origin and are at the same time increasing their involvement and inclusion in the host society.
- The host societies can benefit from their area's increased involvement in international trade, and especially SMEs can benefit from globalisation of selling and buying services and goods.
- Public aid and NGOs involved in trade support in developing countries have a new channel for business data and possible new investment capital.
- The ICT community can, as ITC solutions and services will be essential, develop and offer sustainable ITC and knowledge sharing services and platforms.
- R&D and educational institutions can in relation to 'Diasporas' contribution to poverty reduction in developing countries' define fruitful research fields spanning over different faculties and include studies of diaspora/origin links, entrepreneurship and business management and methods for data and knowledge exchange. Cooperation between universities in developed and developing countries will also increase student and research exchange and student recruitment.

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