



Faculty of Medicine
Leapfrogging the Galilee

Working Paper

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Donors

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- **Raya Strauss Ben-Dror**
- **The Russell Berrie Foundation**
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Partners

- We want to thank our friends from SIT (Systemic Innovative Thinking): Dana Horowitz, Nurit Shalev and Idit Biton, for their partnership and dedication in making this project succeed.



Reut Team Members

- The project was conducted by the Regional Development team lead by Amit Granek, and including team members Anat Horowitz-Harel, Yael Brendel and Abed Assli. Noa Ecker-Amrani, Talia Gorodess, Omri Zegen and Roy Keidar also contributed significantly to this effort.

Executive Summary

1. **The inauguration of the Faculty of Medicine at Bar-Ilan University's (BIU) Tsfat campus creates significant expectations** that the Faculty, and its adjacent future research center, will transform the area. These expectations are reflected in the words of Prime Minister Binyamin Netanyahu: "[The Faculty will give] a great boost to the development of the Galilee and to the development of the academic and medical establishment in Northern Israel." The idea of the Faculty dates back to Mr. Shimon Peres's tenure as Minister for Development of the Negev and the Galilee (MDNG) and was realized under Mr. Silvan Shalom's leadership.
2. The Government of Israel (GOI) offered to match donations received by BIU for construction of the campus. As a result, BIU turned to Jewish donors around the world, aiming to raise 200 million dollars to support the establishment of the Faculty's temporary building in the Tsfat city-center and for the forthcoming permanent campus in the city's outskirts.
3. **In order to meet the deadline of the beginning of the academic year, the GOI and BIU devoted the majority of their attention over the last year to the complex challenge of constructing the temporary building under ambitious timetables; this effort culminated in the building's successful opening in October, 2011.**
4. **Given the high expectations associated with the opening of the Faculty of Medicine, some stakeholders have posed the following questions: what conditions are necessary for the project to generate a sustainable change for the entire region? Does the Faculty of Medicine meet these conditions?** Historically, not all development projects (whether a factory, science park or a new highway), have met their expectations. Some projects become "white elephants" while others stay isolated from their surroundings (referred to as "cathedrals in the desert"). Two known examples of such projects are the Sofia Antipolis – a technology park in southern France, and the Akademgorodok – the Russian "Science City".

In this context, the Reut Institute was asked to address the aforementioned questions. This report reflects Reut's understanding of the potential regional impact of the Faculty of Medicine on the City of Tsfat the Galilee:

5. **Reut defines a sustainable regional change as regional leapfrogging, suggesting a significant improvement in all aspects of life – economy, society and environment. Leapfrogging requires a combination of (1) sustainable rapid growth that enlarges the pie of resources, (2) a component of 'inclusiveness' that distributes the pie more evenly, and (3) sustainability that preserves natural resources for the benefit of future generations.**
6. **Projects such as the Faculty of Medicine can stimulate regional leapfrogging provided they create economic clusters around them.** A cluster is a dense network of companies, research and education institutions, training centers and ~~non-governmental organizations which are organized around a unique asset (such~~

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as unique technical expertise or local knowledge). For example, in the United States, most of the biotechnology market is organized around nine metropolitan clusters, in which medical schools are a key part.

7. **It is clear that the Faculty alone will not create a leapfrog, not in Tsfat, nor in the greater Galilee region, unless a series of complementary measures are undertaken by the relevant actors.** These measures should aim to connect the project to the region and to the needs of the local community so that it may serve as a catalyst for change. **Studies emphasize the importance of the following measures:**
 - **Close collaboration with local leadership** in the planning and executing phases of the project;
 - **Investment in relevant human capital**, so local communities can be part of the project and enjoy its fruits;
 - **Connection between the project and its local urban surroundings;**
 - **Stimulate local businesses**, for example, through temporary subsidies to local contractors;
 - **Setting Key Performance Indicators (KPIs)** relating to expected external effects, with an emphasis on the projected geographic area of impact.
8. **The Faculty has the potential to be a unique model in terms of its vision for the medical education system in the Galilee (community medicine, culture-sensitive medicine, etc). However, the precondition for a greater change is for the project to act as a catalyst to promote health, in its broader sense, as a central pillar in the region's strategy.**
9. **Why health? A focus on health presents the region with a great opportunity for promoting inclusiveness.** Economic and social gaps between the Galilee and the center of Israel are clearly represented in health indicators such as life expectancy, availability of doctors, etc. The Faculty's focus on community medicine may reduce disparities in access to medical services, and a focus on promoting healthy lifestyles may reduce mortality rates. In addition, the health sector holds a wide variety of job opportunities and is particularly appealing to the Arab residents in the Galilee.
10. **Therefore, in order for the project to create a significant change, we call for a swift action** by the GOI and BIU, in cooperation with local authorities, **to make the Galilee a "Healthy Region" and to promote a health cluster. In particular, this requires a focus on the bio-medical and wellness sectors.**
11. **The health cluster would be based on two centers** combining medicine, science and education **in Western and Eastern Galilee.** Each Center will host **a medical institute** (The Faculty\Ziv in the east and Nahariya in the west), **an R&D institution, one or two regional colleges** (Western Galilee College and Tsfat and Tel Hai Colleges in the east), **and a leading regional high school** focusing on science.

12. **Below are recommendations for additional efforts:**

- **Upgrade the basic medical infrastructure in the Galilee**, based on reports such as "Tzafona," and invest a greater chunk of the budget in the early stages of the project, in order to increase its visibility;
- **Connect between Faculty institutions and regional colleges** through the joint use of infrastructure, dormitories and shared curriculum. The colleges should specialize in paramedical areas, such as physiotherapy, pharmacy, nursing, nutrition, alternative medicine, etc;
- **Enhance existing attempts to create business and economic networks** around the Faculty, and in particular in the bio-medical industry, especially by the MDNG;
- **Invest significant resources in the physical and social infrastructure of the city of Tsfat without delay**, in order to ensure a significant physical connection to the city and integrate students into urban life through schools, hospitals and community centers;
- **Establish a regional development forum that will include the forum of the 15 Eastern Galilee mayors, representatives of local authorities in the Galilee, BIU, and the MDNG. This forum should lead and coordinate the work of defining KPIs for the project.**

13. **The following is a list of several promising projects in the region, which should be taken into consideration only should the above recommendations advance. These projects were discussed in workshops held with the projects' key stakeholders:**

- **Establish a medical simulation center (M.S.R.), based on the Sheba hospital model** that will allow students to train in innovative ways through live simulations of medical emergencies. A specialization in emergency medicine is necessary in light of security realities that the region faces, and the proximity of medical institutions to the IDF's Northern Command;
- **Promote a regional research authority that integrates existing resources**, in order to create critical mass of research in the area and compete with leading medical institutions in the Tel Aviv area;
- **Establish a leading Regional High-School in Tsfat and Nahariya** focusing on science and art. This high-school should be adjacent to medical institutions (based on the prestigious Leyada high-school in Jerusalem);
- **Create a regional investment fund co-founded by the GOI and invest in bio-medical initiatives;**
- **Build a relocation center** to serve as a one-stop-shop for students and Faculty members and future families who wish to move to the Galilee region.

Working Paper**Faculty of Medicine: Leapfrogging the Galilee****Guidelines for Quick Reading**

This document can be skimmed by reading the bolded phrases. Each paragraph contains only one idea, captured in the bolded sentences. Footnotes do *not* contain new ideas, but examples, sources, and references. This document has been adapted for a non-Israeli (Hebrew speaking) audience.

Background

14. **In October 2011, Bar-Ilan University (BIU) launched the new Faculty of Medicine in Tsfat.** The project is the outcome of the vision of the President of Israel, Mr. Shimon Peres, and the efforts of the mayors in the Eastern Galilee, the Minister for the Development of the Negev and the Galilee and the Deputy Prime Minister, Mr. Silvan Shalom, as well as many others. The establishment of the Faculty is currently being led by the Ministry for the Development of the Negev and the Galilee (MDNG) and is generating great interest and expectations in Tsfat, and throughout the entire Galilee.
- **The Faculty operates in a different manner than other medical schools in Israel** – Ultimately, the Faculty will run a four-year program, recruiting Life Sciences BA holders. During the first two years, students will study on the Tsfat campus, and during the last two years rotate between five hospitals in Northern Israel (Ziv in Tsfat, Nahariya, Poria in Tiberias, Scottish Hospital, and Italian Hospital in Nazareth).
 - **The Faculty of Medicine will operate from a temporary building in Tsfat in its first years. Total cost of the temporary building is estimated at 140 million NIS.**¹ The Faculty will ultimately move to a permanent location. Costs are estimated at approximately 1.5 billion NIS.² The new campus is part of a wider effort to establish a new neighborhood in the Eastern outskirts of the City of Tsfat.
15. **The decision to establish the Faculty of Medicine in the Galilee is the result of a combination of two main needs:** First, the lack of expected graduates from

¹ Funded by Bar-Ilan University (hereinafter, BIU) private donors and the Government of Israel (hereinafter, GOI). For more information see [Government decision no. 2090](#) (in Hebrew), (15.7.2010).

² A committee led by the Ministry for the Development of the Negev and the Galilee (hereinafter, MDNG) has been formed to monitor the progress of the permanent structure.

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Medical schools in Israel³⁴ and second, the need to develop the geographical periphery of Israel. The latter received considerable weight in the decision to establish the Faculty in Tsfat, resulting in the triumph of Tsfat over the other two candidates, Maalot and Karmiel.⁵

16. **The Faculty of Medicine in the Galilee is promoted and presented as ‘a revolutionary project’.** According to the MDNG, ‘a revolutionary project’ is a project that affects multiple systems and is designed to create significant and long-term change in the region on a number of levels: housing, employment, education, culture, tourism and infrastructure.⁶ However, to date, the main emphasis was on establishing the Faculty of Medicine to meet its traditional role – medical education – but a systematic plan, which examines how to maximize the project’s potential impact on the region of Galilee, has not been laid out.⁷
17. Various⁸ philanthropic agencies, some of which are financial supporters of the Faculty’s temporary building, contacted the Reut Institute to assist in thinking about the following question: **Can the Faculty of Medicine, in its current form, produce a leapfrog⁹ in the Galilee? If not, what conditions are necessary to make this happen?**
18. **The Reut Institute joined this venture out of its commitment to the ISRAEL 15 Vision and in particular, due to its commitment to the Galilee.** Since September 2006, Reut has been devoting many resources to promoting the ISRAEL 15 Vision and the realization of a national social and economic leapfrog in Israel. In this context, Reut has identified the development of the periphery in Israel as a key strategy in leapfrogging Israel. As a result, Reut published a document titled 'The ISRAEL 15 Vision: Leapfrogging the Periphery', together with Elka of the JDC and Partnership 2Gether of the Jewish Agency. In a different work, titled 'The ISRAEL 15 Vision: Leapfrogging the Western Galilee' and created in collaboration with the Praxis Institute, the global potential of the Western Galilee’s unique assets was mapped and presented in the context of regional leapfrogging.
19. **The goals of this study are as follows:**

³ For more information: Fazi, A, [The Committee's Report for the Examination of the Need for Future Doctors](#), (in Hebrew), the Council for Higher Education, October 2002; the Halevi committee’s report on examining the need for the establishment of a new medical school in Israel.

⁴ See the [article](#) (in Hebrew) referring to the Council for Higher Education's (Malag) decision to establish a fifth medical school and GOI [decision](#) no. 4541 (in Hebrew) to locate it in the Galilee.

⁵ Feitelson, Shilo and Jacobson, Architects: **Recommendations for Locating the Faculty of Medicine and the Science and Research Cluster in the Galilee**, submitted for the Ministry for the Development of the Negev and the Galilee, February 2009 (in Hebrew).

⁶ The Ministry for the Development of the Negev and the Galilee; [“Working Plan for 2010”](#) (in Hebrew), Ministries General Managers' Conference, November 2009.

⁷ Hayut Z., **Developing a Medical School & Research Center in the Galilee**, March 2011.

⁸ These bodies are: Raya Strauss- Ben Dror, The Russell Berrie Foundation, UJIA Israel and the Jewish Federation of Canada-UIA.

⁹ [See next chapter regarding regional leapfrogging.](#)

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- **Bring existing knowledge from Israel and around the world about conditions required for large-scale projects to produce a significant, long lasting change in a region;**
 - **Examine if, and under what conditions, the Faculty of Medicine may promote leapfrogging in the Galilee;**
 - **Offer recommendations and projects for implementation.**
20. **This paper relies on the following sources:**
- **Meetings with dozens of professionals and experts, including:** government entities, local authorities, NGO's, philanthropic foundations and members of the academia (see list of experts at the end of this document);
 - **Review of the main body of knowledge in this field,** and especially: 'Tzafona: Putting the North in the Center – Strategic Plan for Developing Northern Israel', August 2008 (hereinafter: Tzafona Report); 'Generating change in the Galilee area through science and research', Rashi Foundation, December 2010 (hereinafter the Rashi Foundation position paper); 'Development Strategy for the Eastern Galilee', Head-On Inc., July 2007 (Eastern Galilee Strategic Plan); 'The Galilee, Israel: Self-Evaluation Report', OECD Reviews of Higher Education in Regional and City Development, IMHE (hereinafter: The Report of Higher Education in the Galilee); 'Medical Education in the 21st Century' and many others;
 - **Case studies of projects in Israel and abroad,** and in particular medical schools that contributed to a major regional impact;
 - **Workshops on Systematic Inventive Thinking led by SIT,** a company specializing in innovation and creativity focused on collecting and analyzing applied projects (see Appendix A).

Structure of the Document

- **Introduction and Background;**
- **First chapter:** How may the project contribute to a regional leapfrog?
- **Second chapter:** Why the Faculty of Medicine, by itself, will not bring about a regional leapfrog;
- **Third chapter:** The untapped potential of the Faculty of Medicine;
- **Fourth chapter:** Recommendations;
- **Fifth chapter:** List of projects;
- **Sixth chapter:** Guidelines for measuring regional impact.

Chapter 1: How can a Given Project Promote Regional Leapfrogging?

Experience in Israel and the world, from wide-scale projects in general and medical schools in particular, indicates that projects of this kind can promote regional leapfrogging provided that economic clusters form around them. Generating such clusters requires taking complementary steps both in the context of the project and the region.

21. **Regional leapfrogging means a significant improvement in all aspects of quality of life** – economic, social and environmental – which translates into diverse opportunities, economic prosperity, improvement of services, and an overall improved environment. Ultimately, leapfrogging is meant to create a positive migration rate to the region.¹⁰
22. **Regional leapfrogging requires both regional and global thinking.** It is based on maximizing local assets and qualities, such as historical legacy, nature and landscape, human capital, technical expertise, or values and traditions associated with the region that cannot be easily transported or reproduced elsewhere. At the same time, the region must develop capabilities that will enable it to compete globally.
23. **There are several examples of development projects pursuing similar goals.** International research classifies these projects as large-scale efforts that usually involve the government and the private sectors. The projects differ in size, budget, geographic scope and range of impact. **In this context, the Tsfat Faculty of Medicine, which is perceived as a "high-impact project," is an enterprise on a relatively small budgetary and geographical scale** that aims to produce significant, long-term change in an entire region.
24. **The key to success is establishing a systematic interaction between the Faculty and its surroundings.** A single project – be it a research institute, a large factory, or even an infrastructure project – cannot produce systemic impact unless it creates a network of economic and social activities around it. Historically, "isolated" projects that were imposed on a given region have largely failed, and were later on described as "cathedrals in the desert."¹¹ One example is the attempt of former Soviet president Khrushchev to build a Science City (Akademgorodok), in a remote region in Russia, modeled after America's Silicone Valley. Other well-known failures are the Sophia Antipolis technology park in southern France and the

¹⁰ The Reut Institute, [ISRAEL 15 Vision: Leapfrogging the Periphery](#), conceptual framework, Version A, October 2010.

¹¹ Charbit C., & Davies A., [Building Competitive Regions: Strategies and Governance](#), 2005. p.9. (hereinafter: **Building Competitive Regions**).

Flanders Language Valley in Belgium, which failed mainly because they were unable to generate positive impact and innovation in the region at large.¹²

25. **Economic clusters are key for ensuring optimal connection between the project and the region.**¹³ An economic cluster is a concentration of companies, research and training institutions and civil society organizations in a defined geographical area that produce and sustain value chains and create between those chains supplier-customer relationships. They weave networks of knowledge and innovation and help in elevating social capital in the region.¹⁴ Such clusters are usually formed around unique advantages, assets or anchors. Some clusters have developed around knowledge and ancient expertise, such as the watch industry in the Jura Arc region in Switzerland;¹⁵ around a large enterprise like Philips in Eindhoven, Netherlands; or around physical infrastructure such as the port of Rotterdam, Netherlands.¹⁶ While studies show that the **development of clusters varies from one place to the other, there are nevertheless some similarities that can be pointed out: clusters are usually dependent on the local context and grow 'bottom up'. Therefore, local initiatives are the most effective way to promote clusters. It is important to note, however, that it takes about a decade to establish a significant competitive advantage.**¹⁷
26. **Successful clusters address significant socio-economic challenges** – New approaches in development economics indicate that optimal development is based on businesses that are focused on social and environmental challenges as part of their core business model.¹⁸ This is because these challenges provide an extensive and stable market over time and require the establishment of new and competitive products and services. Challenges of this kind include: clean energy production, food security and coping with the aging population.
27. **Academic institutions have a unique potential of forming clusters around them** because they combine research and training, community development and social

¹² For more information see: Longhi C., "Networks, Collective Learning and Technology Development in Innovative High Technology Regions: The Case of Sophia-Antipolis", Regional Studies, Vol. 33, No. 4, June 1999, pp. 333-342, and Hospers G. & Beugelsdijk S, [Regional Cluster Policies: Learning by Comparing?](#), KYKLOS, Vol. 55, 2002, pp. 381-402, 392-393 (Hereinafter: **Regional Cluster Policies**).

¹³ See: The Reut Institute, [Economic Cluster](#), 2009.

¹⁴ Social capital refers to an individual's social network that allows him to exploit his talent. The economic benefit of the social capital changes depending on trust between individuals and the quality of information that is passed through. For more information: The Reut Institute, [Social Capital](#) (in Hebrew), 2009.

¹⁵ See: Regional Cluster Policies.

¹⁶ Porter M. E., "Clusters and Competition: New Agendas for Companies, Governments, and Institutions", **On Competition**, p. 213. (Hereinafter: **Clusters and Competition**).

¹⁷ See: **Clusters and Competition**, p. 215.

¹⁸ Porter, M. E. and M. R. Kramer, [Creating Shared Value: How to Reinvent Capitalism - and Unleash a Wave of Innovation and Growth](#), Harvard Business Review, January/February 2011, pp. 62-77.

capital, innovation and relationships with surrounding industries. A well-known example is the formation of Silicon Valley in California and the knowledge base and research departments at Stanford University.¹⁹ Various studies show that a one dollar investment in academic institutions yields between 1.5 - 2.5 dollars in terms of regional GDP.²⁰

28. **Studies indicate that complementary actions need to take place in order to tie in the project with the region, thereby maximizing regional effect.**

Measures Focusing on the Region

29. **Mobilization of stakeholders in the region** – successful projects are characterized by regional mobilization that ties in a given project with the region's actual needs.²¹ For example, in Florida, a multi-sector effort was created to establish a medical school (Luna Lake Medical City), that was later on regarded as a catalyst for regional development.²² Effective regional organization is also important for the ongoing operation of the project. The main contribution is in creating a continuous dialogue and cooperation among stakeholders and tapping into regional resources. The Mayo Clinic in Minnesota, running a multi-sector biotechnological innovation center, is a good example of the above principle.²³
30. **Complementary mechanisms to promote local economic development** – mechanisms such as business loans, preferences to local suppliers or access to information regarding opportunities can be a first step in creating business connections that will eventually contribute to the creation of a cluster.²⁴ Once in place, these connections will likely create a broader economic effect on the region. If absent, funds invested in the project may flow to businesses in other areas.²⁵ A study by the Brookings Institution on the development of biotechnology clusters in the U.S. proves this point. The study concludes that fostering commercial capabilities and building infrastructure to create business ventures, is as important

¹⁹ Alley J., [The Heart of the Silicon Valley – Why Stanford is the Intellectual Incubator of the Digital Age?](#), *Fortune*, July 1997.

²⁰ Siegfried, John J., Sanderson, Allen R. and McHenry Peter, ["The Economic Impact Of Colleges And Universities"](#), Department Of Economics, Vanderbilt University, Working Paper No. 06-W12, May 2006; Appleseed Inc., [Investing in Innovation – Harvard University's Impact on The Economy of the Boston Area](#), January 2009, pp. 8.

²¹ Leonardi, R., "Regional Development in Italy: Social Capital and the Mezzogiorno", *Oxford Review of Economic Policy*, Vol. 11, No. 2, 1995, pp. 165-179.

²² Vatner, J., "Orlando's Newest Attraction Is Medical", [The New York Times](#), (7.9.2010).

²³ From the Mayo Clinic website: [Mayo Clinic Center for Innovation](#).

²⁴ From correspondence with Rao, V., Lead Economist, Development Research Group, *The World Bank*, (29.06.2011).

²⁵ This phenomenon is illustrated by the New Economic Foundation with the image of a Leaking Bucket. Resources that pore into a region spill aside i.e. eventually reach other regions. For more information see [The New Economic Foundation website](#).

to bringing economic prosperity as establishing an outstanding research institution.²⁶

31. **Cultivation of relevant human capital in the region** – Israeli and international experience shows that cultivating human capital, prior to the launching of the project, contributes to the possibility of leveraging its potential. One of the positive examples is what occurred in Migdal Haemek, a town in Northern Israel, in the 1970s. Local leaders placed a strong emphasis on instruction of the English language, in order to encourage employees to find employment in new factories that were introduced to the city at that time.²⁷ On the other hand, during the very same time, the government of Scotland provided incentives to attract electronics factories to some of the country's peripheral area but did not invest in complementary measures. This was part of the reason why the projects failed to trickle down to local communities.²⁸
32. **Investment in the 'receiving environment' as a basis for attracting new populations.** Many projects are designed to trigger positive immigration to a certain region. Studies in Israel show that investing in the target region, or 'the receiving environment' in areas like education, housing and employment is essential.²⁹ Similar conclusions were made in a study about the regional impact of the Faculty of Medicine at Ben-Gurion University in the Negev,³⁰ and in a recently published work regarding the planned move of IDF bases to the Negev.³¹

Measures Focusing on the Project

33. **Maximum connection between the project and urban centers** – the relative success of projects is often attributed to their ability to revive the city centers in which they are located. For example, the Guggenheim Museum in Bilbao, Spain led to the urban revival of a city center that had been abandoned by the heavy industry several years ago.³² The connection to city centers is becoming even more important

²⁶ Cortright J. and Mayer H., [Signs of Life: The Growth of Biotechnology Centers in the U.S.](#), The Brookings Institute, 2002, pp. 14, 33.

²⁷ Schwartz, D. "The Experience of Industrialization in Three Development Towns: Ofakim, Migdal Ha'emek and Ma'alot" in: Tzameret Z., Halamish, A. and Meir-Glitzstein, A., **The Development Towns**, Jerusalem: Yad Yitzhak Ben-Zvi, 2009 (in Hebrew).

²⁸ See: **Building Competitive Regions**, page 21.

²⁹ Zenovar Consultants, [Tools for Encouraging Settlement in National Priority Zones](#) (submitted to the Ministry of Construction and Housing, 2006), p. 83 (in Hebrew). (hereinafter: **Tznobar Report**).

³⁰ From a conversation with Prof. Jacob Gopas, Faculty of Health Science, Ben Gurion University, (25.08.2011).

³¹ Taken from a presentation (in Hebrew): **IDF Movement to the Negev – Preparedness and Social Leverage**, Or Movement.

³² Crawford, L., [Guggenheim, Bilbao and the 'hot banana'](#), Financial Times, (4.11.2001).

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when it comes to institutions of higher education.³³ Academic institutions that see themselves as having a significant role in developing local communities grant them access to buildings and other campus services.³⁴ In Israel, this trend is exemplified by the coming move of Bezalel Academy of Arts and Design from the Mount Scopus campus residence to downtown Jerusalem. The school aims to use historic buildings such as the ‘Russian Compound’, in order to bring about significant urban change.³⁵

34. **Harnessing stakeholders through ensuring high visibility of the project** – It is not enough to merely define a certain project as a ‘game changer’; it must also be perceived as such by local residents and key stakeholders. Therefore, the visibility of the project is very important. In other words, the fruits of the project ought to be tangible in its immediate surroundings as soon as possible.³⁶ For example, investments made prior to the Olympic Games in Barcelona in 1992 were felt throughout the city, while only 9% of these investments were referred to the establishment of sports facilities and the rest were referred directly to institutions having a direct effect quality of life for residents of the city (for example transportation). This feeling of engagement in the project contributed to the participation of hundreds of architects in planning for the Olympics, motivated by a sense of ownership and influence on their future.³⁷
35. **Finding a global comparative advantage.** Since medicine is a universal discipline, the Faculty of Medicine can easily serve as an “international bridge” to attract students, researchers and investors. For example, the Faculty of Medicine at the University of Maastricht in the Netherlands, which was initially established to address the shortage of doctors in the country in the 1970s, became a magnet for students from around the world who wished to study PBL (Problem Based Learning), then considered a unique technique. This success led to the rapid

³³ Glasson J., "The Widening Local and Regional Development Impacts of the Modern Universities – A Tale of Two Cities (and North-South Perspectives)", **Local Economy**, February 2003, Vol. 18, No. 1, pp. 22-37.

³⁴ Innovative Research Universities – Australia, [The Third Mission of Universities – Business and Community Engagement, Outreach, and Regional Development](#), Discussion Paper, August 2005.

³⁵ "Bezalel is exploring the possibility of building a somewhat smaller building in the Russian compound while using historic buildings in the area, thus creating a genuine urban change in the city center." Taken from the [Bezalel- Academy of Arts and Design](#) website, Jerusalem.

³⁶ In other words, it is critical to ensure that short term, tangible gains for the local community are considered as important as promoting long term goals. This is due to the fact that different investments yield fruits in different times. From a conversation with Prof. Amnon Frenkel and Dr. Idan Porat, Faculty of Architecture and Urban Planning, Technion-Israel Institute of Technology, Israel, (29.03.11).

³⁷ The Olympics is a unique project in terms of size and scale. However, this example reflects that even in projects of such magnitude, in which the probability impact on local communities is high to begin with, an emphasis on mobilization of local partners is needed. Taken from a conversation with David Mackay and Francesc Gual, MBM Architects, colleagues of Oriol Bohigas – Barcelona's City Architect during the 1992 Olympics (16.2.2011).

development (during the 1980s) of the entire university and to its fitting branding as ‘located in Europe, focuses on the world.’³⁸

36. **Strengthening links between academic institutions and communities in the region** – In the 1990s, higher education institutions around the world began to allocate more resources to the interface with communities around them. In England, for example, this trend is reflected in the fact that more and more higher education institutions (and in particular medical schools) incorporate regional development goals to their strategic plans.³⁹ Another example is the Northern Ontario School of Medicine in Canada, where steering committees were set up along with local civil society organizations in order to offer community-based internship opportunities for medical students. In so doing, the schools succeeded in converting their influence and prestige into real regional value, by addressing the needs of the population in the region.⁴⁰

³⁸ From a conversation with Dr. David Janner-Klausner, UJIA, Britain. See also: [University of Maastricht](#).

³⁹ See: Charles D., "Universities and Territorial Development: Reshaping the Regional Role of UK Universities", *Local Economy*, 2003, Vol. 18, no. 1, pp. 7-20.

⁴⁰ From the website of [Northern Ontario School of Medicine \(NOSM\) Faculty](#). In this context, the Faculty of Medicine in the Galilee is already encouraging a pro-community approach. From a conversation with Prof. Michael Weingarten, Vice Dean, BIU (16.8.2011).

Chapter 2: The Faculty Alone will not Necessarily Lead to Regional Leapfrogging

The establishment of the Faculty is an important step towards the development of the higher education system in the Galilee and for the region in general. However, in the short term, we should not expect to witness a substantial regional impact.

37. **The inauguration of the Faculty of Medicine at Bar-Ilan University's (BIU) Tsfat campus creates significant expectations in the Government of Israel and throughout the region** – These expectations are reflected in the words of Prime Minister Binyamin Netanyahu: "[The Faculty will give] a great boost to the development of the Galilee and to the development of the education and the medical system in the North."⁴¹
38. **The common assumption is that by itself, the Faculty is not likely to bring about a significant change to the Galilee:**
39. **In the short term, the direct effect of the temporary building is expected to be modest:**
 - **The budget for the project is relatively small** – the project benefits from 30 Million NIS for establishing the building and 20 Million more for additional teaching needs, such as classroom infrastructure. There are other governmental programs aiming to upgrade the medical infrastructure in the Galilee.⁴³ One program allocates 300 Million NIS to upgrade the physical infrastructure of hospitals⁴⁴ and a second program aims to create specializations amongst these hospitals.⁴⁵ These two programs have yet been executed.
 - **Compared to other projects, the investment (per capita) is relatively small**⁴⁶ – the Faculty is often discussed with projects such as the planned IDF move to the Negev.⁴⁷

⁴¹ Prime Minister Binyamin Netanyahu [speaking](#) at a Government meeting in February 2010 (in Hebrew).

⁴² We measure the direct impact by the employment of workers, resources and services added to the region as a result of the temporary building. See: Appleseed Inc., [Investing in Innovation – Harvard University's Impact on The Economy of the Boston Area](#), January 2009. pp. 4-7.

⁴³ GOI [announcement](#) (in Hebrew) (18.9.2011).

⁴⁴ This plan is pushed forward by the Ministry of Health and the MDNG. For more information [click here](#) (in Hebrew).

⁴⁵ This program is led by Prof. Shaul Shasha, former General Manager, Nahariya Hospital.

⁴⁶ The amounts mentioned are solely governmental. More resources are expected to be made relevant (mainly private and philanthropy as a result of this project).

⁴⁷ Based on our calculations, the total governmental investment per capita for the IDF bases move is ~~estimated at 45,000 NIS while for the faculty of medicine investment (including the permanent~~

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- **Direct economic impact of Faculty staff and students on the city and Galilee region is expected to be minor** – According to estimations the Faculty will create 200 jobs in the short term.⁴⁸ In addition, when the Faculty becomes fully operational, only 240 students, approximately, will be studying there. In comparison, the student-body of Tsfat Academic College is roughly 1,400 students, and 4,500 more attend Tel-Hai College.⁴⁹ Furthermore, medical students tend to have little time for other economic and/or social activities.
40. **As mentioned, research shows that economic clusters are key for regional development** – different studies, such as Tzafona, show that the Faculty should be seen as part of a future science cluster in the region, and as a basis for the development of a future 'University of the Galilee'.⁵⁰ The writers of the study estimate it will take 8-10 years to develop a cluster that is able to provide a significant number of jobs (10,000). Even these hopeful estimations rest on the assumption that an accompanying research center will be built.⁵¹
41. **In practice, however, there is not enough emphasis on the creation of an economic cluster** – even though the MDNG has undertaken several steps towards the creation of business networks around the Faculty, it has yet been translated to official policy instruments.
- **Mechanisms to ensure that residents of the Galilee are the main beneficiaries of the Faculty are limited.** Currently, there are no mechanisms in place providing the Faculty with incentives to work with local businesses. And so, most subcontractors hired in the construction of the temporary building came from outside the region.⁵² In contrast, the regional development center in the Ministry of Industry Trade and labor recommended

building) is estimated at 1,500 NIS. This calculation was done adding total investments (including philanthropic funds and government budgets not yet approved) divided by the number of local residents (based on [2011 Central Bureau Statistics](#) reports).

⁴⁸ They include 30 managerial positions and approximately 20 technicians, 20 lectures and researchers, 100 positions for PHD students in the new research labs and 50 clinical positions (part time, for example, in the mentoring program). From a conversation with Prof. Michael Weingarten, Vice Dean, BIU (16.8.2011).

⁴⁹ See Tsfat Academic College [website](#) (in Hebrew) and Tel Hai College [Website](#) (in Hebrew).

⁵⁰ See: [Zafona](#) strategic plan and [Government decision no. 3578](#) (in Hebrew) in which the government decided to examine the possibility for establishing a university in the Galilee as an engine for regional growth.

⁵¹ Based on conversations with Zeev Hayut, one of the writers of the Tzafona Report, and Prof. Shaul Shasha, former General Manager of the Nahariya Hospital (14.9.2011).

⁵² De facto, only 4 out 18 contractors came from the North. The rest came from the greater Tel Aviv area, Jerusalem and the South. This issue is reflected in the words of Ilan Shohat, Mayor of Tsfat: "It is my duty to make sure that this huge leverage (the faculty) will not 'skip' over the city of Tsfat, and leave it alone, poor, and forgotten. For the full letter by the Mayor Ilan Shohat to Prime Minister Binyamin Netanyahu (in Hebrew), see the website ['New in the Galilee'](#) (19.09.2011).

allocating a certain amount of contracts to local businesses, as part of the planned move of IDF bases to the Negev.⁵³

- **No permanent regional forums for cooperation have been formed** – as far as we know, there is no formal forum aimed at creating an ongoing discourse between the Faculty and other institutions in the area, such as the case with Tel Hai College or with R&D centers in the region (such as the one in Shfaram).⁵⁴

42. **In the long term, it is not clear whether additional allocations that fall under permanent campus budget will be in conversation with other regional entities.** As mentioned above, it seems that most of the permanent campus budget will be devoted to the building's construction. As far as we know, this budget does not include resources devoted to investing in appropriate human capital for the Faculty or for strengthening relevant local authorities in the Galilee.

⁵³ This recommendation, however, is still in negotiation with the Ministry of Defense.

⁵⁴ It should be noted that in mid-September, BIU and Migal (the regional R&D Center in Kiryat Shmona) signed a preliminary agreement to establish a joint research fund. See Bar Ilan [press release](#) (in Hebrew).

Chapter 3: The Untapped Potential of the Faculty of Medicine

In general, the idea of establishing the Faculty corresponds with regional needs and could generate positive momentum to the region. However, before this idea could be materialized, a broader perspective for the project should be adopted – one that goes beyond medical training. The region should adopt a regional development approach based on promoting clusters in the field of health, thus turning the Galilee into a 'healthy region'. This effort, if taken, could influence the entire population of the Galilee, create new growth engines, contribute to the inclusion of marginalized population and promote regional resilience.

43. The Galilee region faces numerous challenges:

- **Wide socio-economic gaps** in areas such as income, quality of life and access to opportunities create alienation and even animosity between communities and individuals in the region. They also impede the development of an enabling environment that is crucial for growth.⁵⁵
- **Poor quality of public health as part of an overall problem of low standard of living** – one of the fundamental problems in the peripheral areas in Israel is the low level in the average standard of living, as reflected in the socio-economic indices.⁵⁶ Research shows that levels of health are correlated with standards of living. Levels of income, social capital and rates of crime all influence the individual health conditions.⁵⁷ Moreover, there is an inherent gap between the Galilee and central Israel in terms of provision of health services.⁵⁸ This gap is not met with additional resources and most health indices indicate the region lags behind the wealthier Tel Aviv area.⁵⁹
- Security realities in the Galilee require a united and resilient society and mandate preparing for future crises mainly from security/military aspects. However, in order to successfully cope with these threats, the region must become more resilient, i.e. – having the ability to go through a crisis and adapt

⁵⁵ From a conversation with Prof. Rassem Khamaisi, Department of Geography and Environmental Studies, University of Haifa (03.06.2010).

⁵⁶ For example, 32% of families in the Northern region are considered poor in comparison to only 13% in the Center. For more information see the report by the [National Insurance Institute of Israel](#), p. 28, 2009 (in Hebrew).

⁵⁷ See: "The Influence of Social Factors on Health" (in Hebrew), from the website of [The Association for Civil Rights](#) in Israel.

⁵⁸ See the report by: 'The Committee for the Examination of Gaps Between the Center and the Periphery in Health System', (hereinafter: **Examination of Gaps**), Dr. Oskar Ambon, 2008; Tzafona Report and others.

⁵⁹ For example, life expectancy at birth is much lower in the North in comparison to the rest of the country. From **Examination of Gaps**, Dr. Oskar Ambon, 2008.

while maintaining societal basic values, reasonable quality of life while bringing to a minimum the number of casualties. Poor resilience is one of the symptoms of the region's socio-economic condition.⁶⁰

44. Facing these challenges, the faculty of medicine has the opportunity to develop unique medical specializations:

- **Community medicine** – In recent years, the field of community medicine has been gaining momentum. Fortunately, BIU emphasized the Faculty will be oriented towards this specialization, thus expressing its commitment to the various communities in the region.⁶¹ From the Faculty's perspective, this presents a unique opportunity to address different medical needs in a single area.⁶²
- **Medicine from a distance/ long-distance medicine** – the spatial scattering of the population in the Galilee intensifies the need and the opportunity to develop distance medicine. This could be done, for example, through building unique communication networks between the relevant health institutions in the region.⁶³
- **Culturally based medicine** – the cultural variety that characterizes the Galilee could be the setting for research in the fields of genetics, developing unique cross-cultural capabilities and more.⁶⁴

45. **In addition, the inauguration of the Faculty has the potential to become a regional catalyst due to the following reasons:**

- **Connection between the Faculty and other regional assets**, such as hospitals, regional colleges, bio-medical companies and traditional knowledge in the fields on natural medicine and nutrition.
- **Connection to the Forum of the 15 mayors of the Eastern Galilee** that joined forces in order to ensure the Faculty is built in Tsfat and are invested in the success of the Faculty. **In addition, there might be a connection to the regional forum of mayors in the Western Galilee.**

⁶⁰ Hurricane Katrina demonstrated that marginalized communities or disadvantaged populations are more exposed to the danger of collapse in the event of a crisis. [Civil Resilience Network](#), The Reut Institute, 2009.

⁶¹ Student learning will be integrated in the community clinics and health funds in the North, to teach content related to the community, including family medicine, women and children. From a conversation with Prof. Michael Weingarten, Vice Dean for Medical Education (15.08.2011).

⁶² See: [OECD report](#) highlighting the characters of the Galilean population as leverage for establishing new models in community medicine.

⁶³ From a conversation with Prof. Shmuel Ries (29.08.2011).

⁶⁴ Cohen I. and Ziv. A., [Medical Education in the 21st Century](#), International Workshop Report, The Israel National Institute for Health Policy Research, July 2009.

- **Changes in the national public medical system** – a new agreement with the Doctors Association gives substantial incentives for those who move to the peripheral areas of Israel.⁶⁵
46. **We believe that the Faculty may realize its potential as part of a broader aim to promote the Galilee as a ‘Healthy Region’,** that is, a region that nurtures a healthy lifestyle and promotes economic clusters in the field of health.⁶⁶ Apart from creating engines of growth, **it will contribute to inclusiveness and improve community resilience.**
47. As noted, a thriving economic cluster is composed of a network of businesses and institutions that address a major global challenge, such as public health in the 21st century. The EU for example, also sees health not only as a service provided to citizens, but also as significant business sector with the potential of creating products, services and jobs across the continent.⁶⁷ In addition, The Bureau of Labor Statistics in the United States predicts that by the end of the current decade, the biggest increase in the number of jobs in the U.S. economy will take place in the healthcare sector.⁶⁸
48. Public health, therefore, has the potential to serve as a growth engine for the Galilee in the following ways:
- **Develop the biomedicine discipline,** via an economic cluster that will focus on life science, biotechnology, medicine and medical equipment.⁶⁹ In continuation to the Tzafona report, we believe that such cluster should reinforce existing actors, such as Migal⁷⁰, Meitav⁷¹, Meitag⁷², Tel Hai College, Tsfat College and factories, such as Migda, a subsidiary company of Teva located in Kiryat Shemona.

⁶⁵ According the latest treaty between the GOI and the Doctor's Union, signed in August 2011, doctors in the remote areas, such as the Galilee, will receive a significant increase in their wages; Specialists will receive an increase between 8.33% to 17% and medical residents will receive and increase between 10% to 25%.

⁶⁶ Today, the Ministry of Health already has several existing initiatives to promote public health at the county level, such as “The Galilee – A Smoke Free County”. From a conversation with Dr. Michal Cohen-Dar, the Northern District Chief Physician, Ministry of Health.

⁶⁷ The philosophy that lies in the heart of the program is that providing health services should not only be narrowed down to helping 'sick people' but that health has the potential to also be an engine for economic growth. For further details see [Healthy Regions of the EU](#).

⁶⁸ Projections are for an increase of about 4 million jobs by the year 2018. For more information see the [Bureau of Labor Statistics](#).

⁶⁹ See: [Eastern Galilee Strategic Plan](#) (in Hebrew), p. 41.

⁷⁰ [Migal](#), Upper Galilee Technology Center, is an applied research institute situated in Kiryat Shmona, working in the fields of biotechnology, environmental sciences and agriculture.

⁷¹ Meitav, a technology lab placed in Kiryat Shmona, focused on projects in the Life Sciences, has a portfolio of about 15 companies, working in the fields of medical devices and biotechnology.

⁷² Meitag, a technology incubator in the Golan, focused on developing inventions and entrepreneurship in biotechnology, medicine, chemistry, and engineering.

- **Promoting the Wellness sector**, now considered a growing market worldwide. This sector provides products and services that target healthy people in their quest for a better lifestyle.⁷³ The Galilee can be a leader in this market, as it offers a variety of services and expertise in the fields of herbal and traditional medicine, healthy nutrition, and natural cosmetics. In this context, the field of medical tourism should be examined, and in particular the ability of Galilean hospitals to become a viable alternative to the hospitals in Central Israel.⁷⁴
49. **Beyond that, focusing on health means creating an engine for inclusiveness.** Inclusiveness means that all sectors in society enjoy and benefit from the fruits of growth. Focusing on health could be a driver for inclusiveness in several ways: Narrow gaps in access to medical services; address cultural barriers associated with medicine; offers a wide variety of jobs compared with other industries.
- **In particular, focusing on health could address some of the needs of the Arab sector** – more than half on the Galilean population is Arab Israeli, among which are Muslims, Christians and Druze. All health indicators show that there are significant gaps between the Arab sector and the Jewish Sector. For example, infant mortality rate in the Arab sector is two times higher in comparison with the Jewish sector. Furthermore, the adoption of a Western lifestyle (i.e., in terms of nutrition), also creates unfortunate medical conditions and complications in the sector.⁷⁵ In this context, it has been proven that education for a healthy lifestyle is the most effective policy tool for reducing the average mortality rate in the sector.⁷⁶
 - **The health sector provides job opportunities for a variety of sectors and for the Arab sector in particular.** Opportunities range from working as doctors, scientists or laboratory technicians to business and tourist entrepreneurs.⁷⁷ In Israel, it has been proven that the health sector is favorable to the inclusion of Israeli Arab citizens, and they too turn to jobs in the medical and pharmaceutical fields in increasingly big numbers. Thus, this

⁷³ This field includes healthy eating, walking and cycling, yoga, and promoting healthy day to day habits. [The Austrians Alps](#) are renowned for being one of the world's leading wellness sectors. See: The Reut Institute and Praxis Institute document: [Leapfrogging in the Western Galilee](#) (in Hebrew).

⁷⁴ Today, it seems that the Galilee has no real competitive advantage over other regions in Israel. However, the establishment of the Faculty of Medicine may contribute to the creation of medical tourism in the area. For more information see: Tzafona, p.147.

⁷⁵ Tzafona, Health Chapter, pp. 29-32.

⁷⁶ For example, in order for Arab women with diabetes to engage in physical activities and maintain a low-sugar diet, these lifestyle changes must be complimented with educational empowerment programs that raise awareness of normative change. From a conversation with Bishara Bisharat, Manager of the Scottish Hospital in Nazareth (11.08.2011).

⁷⁷ While biotechnology produces valuable knowledge, money and quality jobs are rather limited and focus on very specific segments of the population. Therefore, it is important to broaden the scope of activities of the cluster. Cortright J. and Mayer H., [Signs of Life: The Growth of Biotechnology Centers in the U.S.](#), The Brookings Institute, 2002, pp. 35.

report concludes that health could serve as a catalyst for inclusiveness.⁷⁸ Moreover, different ethnic groups in the Galilee possess knowledge and expertise in traditional medicine. A well-known example is 'Grandma Jamila' – a soap factory that sprung from a local Arab tradition. Turning the Galilee into a healthy region also means exposing and celebrating such traditions.⁷⁹

50. **In addition, focusing on health could contribute to improving regional resilience** – preparing for a crisis is key for regional resilience, and it is clear that medical facilities play a critical role in coping and recovering from crises quickly. This is especially true in the case of Northern hospitals, which have accumulated a considerable amount of expertise in addressing emergency situations as a result of their proximity to Lebanon. Furthermore, this knowledge could help restore citizens' trust in their own capabilities, trust that has been severely undermined following the second Lebanon war. Looking into the future, this knowledge could aid the region in the next crisis, be it natural or man-made.

⁷⁸ Reznik R., "[The Integration of Arab- Israelis in the Health Sector in Israel](#)" (in Hebrew), The Abraham Fund Initiatives, February 2011. This idea was also raised by Ronit Segelman, VP for Partnership, the Rashi Foundation, (11.07.2011).

⁷⁹ ~~Taken from a conversation with Baker Awawdy, CEO of the Galilee Society (07.07.2011)~~
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Chapter 4: Recommendations for Short-Term Implementation

In order for the Faculty to become an effective catalyst for leapfrogging the Galilee, development efforts should be concentrated in two centers. The centers, in the Eastern and Western Galilee, will form the basis for a health cluster in the region. These efforts include improving medical infrastructure, strengthening business networks around the Faculty, raising the quality of human capital and investing in Research & Development. Implementing these recommendations and integrating relevant actors and sectors, will create the necessary conditions for renewed growth, thus ensuring the region's competitive advantage.

Targeting Development Efforts in the Eastern and Western Galilee

51. **The first step is to develop the health cluster by concentrating efforts in two geographic locations: in the Eastern and Western Galilee.** In addition, the possibility of establishing a third center in the area of Nazareth (located in the middle) should be examined.⁸⁰ The selection of the Western Galilee is based on the importance of the Hospital in Nahariya. This hospital will host a significant percent of the clinical studies, carried during the last two years of the program. Therefore, targeting the Western Galilee is meant to leverage the opportunity created by the increased and improved human capital available in the region.

These Two centers should include Research and Development institutions, aiming to provide employment corresponding to medical expertise developed in the Faculty. Each center should also include a college that will provide Para-medical training courses, a high school and an R & D center/specialized industrial park.

52. **In the Eastern Center, special attention should be given to the city of Tsfat –** Tsfat is the ecosystem surrounding the Faculty and providing it with necessary infrastructure and municipal services. At the same time, Tsfat itself depends on the Faculty, which is seen as a one-time opportunity for strengthening the local economy, improving the city's human capital and creating a better brand for the city. The city of Tsfat has undergone a positive change in municipal management in recent years, but its social and physical infrastructure still require a major upgrade. For Tsfat to seize this opportunity, and become a favorite tourist destination, it needs to further strengthen all aspects of its urban infrastructure.

⁸⁰ These borders are only a suggested basis for discussion and should not be seen as final recommendation.

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53. **In addition, it is critical to ensure a connection between the building of the Faculty and the city of Tsfat.** The temporary building of the Faculty of Medicine was inaugurated recently in the heart of Tsfat. However, according to the government's decision, the Faculty's permanent structure is scheduled to be built in a few years in Ramat Razim, a new neighborhood in the Eastern part of Tsfat removed from the city center. Many government agencies involved in planning the Faculty's permanent structure (such as the Ministry of Housing), emphasize the need to make sure the compound corresponds with the urban fabric surrounding it. This approach fits well with the current trend in academic institutions worldwide.⁸¹ Accordingly, BIU has indicated its willingness to create a space that is integrated into community life in the Galilee.⁸² This connection should be expressed in the following ways:
- **Accessibility of Faculty facilities to the residents of the region** – aside from campus areas that are not necessarily of interest to the public, sports or cultural facilities, for example, must be made accessible to the public.⁸³
 - **Building roads that connect the Faculty to the city** in the form of a system of 'green streets' for pedestrians and cyclists. These should connect the Faculty to residential areas and public institutions, education and community institutions in the city.⁸⁴
54. **At the same time, an effort should be made to leverage the opportunity in Nahariya and its surrounding area, focusing on encouraging students to stay in the Western Galilee region** as this region is relatively accessible to the Tel Aviv area. Absent a conscious effort to improve quality of life in the region, it is likely to assume that many students and doctors will end up commuting to the region. It is therefore critical to provide attractive housing solutions for students or examine the establishment of new dormitories in the vicinity of the hospital. Furthermore, in the medium and long-term, the connection between local expertise in the wellness and engineering sectors with industries related to medicine should be explored. In this context, the Technion (Israel Institute of Technology) in Haifa should play a significant role in the region's future development.

Upgrading the Medical and Health Infrastructure

Creating a health cluster requires upgrading much of the medical infrastructure in the Galilee. In this context, we offer the following recommendations:

⁸¹ In other universities around Israel this same concept is becoming prevalent. For example, Betzalel's new building in the center of Jerusalem will allocate some of its facilities for public use. This same logic applies to the campus of the port of Haifa.

⁸² See: the [Faculty of Medicine](#) website.

⁸³ For example, the [Mayo Clinic](#) built a medical library for patient use and [Case Western University School of Medicine](#), in downtown Cleveland, operates a 'Mini Med School', offering evening classes for people in the community. These practices also exist at Tel Aviv University, The Hebrew University and the Weizmann Institute.

⁸⁴ [Urban Public Spaces, Strategic Guide of the Ministry for Environmental Protection](#), p. 9 (Hebrew).
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55. **Implement past government recommendations for upgrading the medical infrastructure**, including adding patient beds, surgery posts, adding Para-medical services, etc. Moreover, it has been suggested to set up professional units shared by hospitals in the North and invest in preventive medicine in order to reduce the gap in mortality rates between the region and the Tel Aviv area and between Jews and Arabs (for more details, see Appendix D).
56. **Upgrade hospitals in a way that creates visibility in the early stages of the process** – One of the stated objectives in the establishment of the Faculty is upgrading the hospital infrastructure in the Galilee across a 5 year period.⁸⁵ Learning from international experience, we recommend investing a greater chunk of the budget in the early stages of the project, in order to increase its visibility.

Strengthening Economic Networks Around the Faculty

57. **Promote R & D in fields related to health** – The strategic plan Tzafona emphasizes that the Faculty of Medicine has to be seen as part of a future cluster in science and research, and as an anchor for a future research university in the Galilee.⁸⁶ Some argue it is necessary to establish a research institute by a major national player, while others believe in strengthening Migal through additional budgets designed to transform it into a university research institute.⁸⁷ It is not within the mandate of this report to settle this issue. However, in the short term, we recommend considering Migal a central target for future governmental funding related to the Faculty, building on its strong ties to regional colleges such as Tel Hai College. In addition, an effort should be made to establish additional R&D centers, industrial areas or business and technology incubators in the Western Galilee. This should be done in collaboration with the Nahariya hospital, Western Galilee College and vocational training colleges such as Erez College.
58. **Promote the field of bio-medicine in the Galilee.** It should be examined how the region may compete with other bio-medicine centers in Israel (The Weizmann Institute in Rehovot and Jerusalem). A next possible step would be giving incentives to research branches of existing companies or new companies to settle their operations in the vicinity to the Faculty. In addition, it should be examined how other industries, such the cutting-tool industry, may form links with the bio-medicine field. To this end, there should be a joint effort that includes the MDNG, the Agency for Small Businesses and the center for Regional Development at the Ministry of Industry Trade and Labor.

⁸⁵ See: [Announcement](#) of the GOI secretary (in Hebrew) (18.9. 2011).

⁸⁶ Health Chapter, Tzafona.

⁸⁷ See: **Government Decision no. 3578** (in Hebrew) on the possibility of establishing a university in the Galilee as an engine for the development of the region.

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Strengthening Local Leadership

59. **Turning regional mobilization efforts in Eastern Galilee into the coordinator of regional projects** – international experience shows that the institutional organization of stakeholders from different sectors in the region is of great importance to regional development. In particular, this form of organizing serves as a link between the government and the region's needs.⁸⁸ Therefore, strengthening regional institutions is essential to maximizing the regional impact of the Faculty. In fact, the Eastern Galilee region is home to a mobilization of 15 local authorities which initially formed around the Faculty of Medicine, and is now active around a variety of topics, such as education, transportation and research. We recommend that planning for the final phases of the project also includes the allocation of funds to the regional forum and its appointment as the official coordinator for regional development efforts. This effort should be carried out in cooperation with representatives from other parts of Galilee.

Cultivation of Relevant Human Capital

60. **Joining forces with colleges across the region** – The Faculty will be attended by roughly 240 students at its permanent stage. At Tel Hai College, for example, 1,500 students are enrolled today in undergraduate and graduate programs, majoring mainly in Life Sciences. In addition, the college enjoys an annual ten per cent increase in enrollment rates. In this context, we recommend the following:
- **Specialize in a variety of health professions** – The Faculty may position the region as a healthy region and contribute to the specialization of regional colleges in Para-medical professions, such as speech therapy, physiotherapy and nursing. Such a process may address the shortage of these professions in the Galilee, especially among the non-Jewish sector.
 - **Encourage the shared use of infrastructure**, such as dormitories or laboratories, and institutionalize cooperation across programs (as in the case with Sapir College and Ben-Gurion University). Such an integration of capabilities will contribute to the region through proper utilization of resources and create a critical mass of students studying medical and Para-medical professions in the Galilee.
 - **Motivate lecturers from the Faculty of Medicine to also teach at regional colleges** – lecturers of life sciences and medicine should be encouraged to teach at regional colleges. This may encourage them to give up the commute and instead settle in the region.
61. **Promoting and improving science instruction in Northern Israel.** An adequate background in science is necessary for students who wish to integrate into the economic cluster that should be formed. Scientific literacy is not only an indicator for academic success, but a necessary condition for advancing a career in medicine.

⁸⁸ See: [Israel 15 VISION: Leapfrogging the Periphery](#).
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In this area we recommend strengthening existing efforts, such as Rashi Foundation's science education programs. Also, we should learn from best practices, such as the Science Education Center for Youth at Tel Hai College,⁸⁹ and collaborate with regional institutions such as the Ministry of Industry Trade and labor vocational training center in Karmiel, or the 'youth centers' run by JDC-Israel.

⁸⁹ From its establishment in 2008 until today, the number of students that are undertaking research projects in the sciences for matriculation has increased from 5 to 55. From a conversation with Eran David, UIA, Israel.

Table 1: Key Actors and institutions to Promote a ‘Healthy Region’

	Tsfat and Eastern Galilee	Western Galilee	Lower Galilee
Practice	Emphasis on community medicine, emergency medicine, long-distance medicine and complementary and integrative medicine		
Major academic institutions	Tsfat Academic College, Tel Hai College	Western Galilee College, ORT – Braude*	Jezreel Valley College, Nazareth College
Major hospitals	Rivka Siv Medical Center, Tsfat; Poriya hospital, Tiberias	Western Galilee Hospital - Nahariya	Two hospitals in Nazareth; Haemek Medical Center - Afula
Region	Tsfat - Rosh Pinna - Hazor - Kiryat Shmona - Tiberias - Katzrin	Shlomi - Nahariya - Acre – Ma'alot Tarshiha - Karmiel	Nazareth – Afula*
Research center	Migal, Kiryat Shmona	---	The Galilee Society, Shfaram,
Science instruction	A cross-regional high school		
Regional mobilization	Forum of the 15 mayors	Western Galilee cluster	---

* Institutions that are not part of the project in its current form, but may be part of the future health cluster.

Chapter 5: Projects for Implementation

During our work, we met with dozens of experts, entrepreneurs, government officials and residents of the area, and conducted four workshops and dozens of meetings. At these meetings, people raised ideas for projects related to the Faculty of Medicine, which have the potential to affect the quality of life of residents of the Galilee. **This chapter maps out five major projects that have been selected** (among dozens of other projects - for further details see Appendix A). **These projects should be reviewed in the context of the previous recommendations made in this report.**

62. Health – M. S. R. – **Galilee Center for Medical Simulation.** We call to establish a medical simulation center in the Galilee, on the basis of the center already operating at Sheba Medical Center (near Tel Aviv). The center will train medical professionals and paramedics from Israel and abroad through clinical procedures and communication skills simulating a real medical environment. Such An experiential environment enables effective learning, while recording, investigating and providing instant feedback to trainees, without unnecessary risk to patients. It is proposed that the center will cooperate with the Chief Medical Officer (Mekarpar) and will specialize in issues like preparedness for emergencies of various kinds.
63. Research – **A united research authority for all hospitals in the Galilee** which will bring together existing infrastructure currently scattered in hospitals in Northern Israel. Such synergy between institutions will create a critical mass that will allow the region to compete with the big medical centers in central Israel. the research authority will lure excellent doctors and researchers and encourage them to initiate innovative research and mentor them through the process, up until the pre-clinical and clinical phases.⁹⁰
64. Human capital development – **The Galilee High School for Arts and Sciences** – Following Rashi Foundation's efforts to establish centers of excellence, we propose establishing a high school that will have a close interface with the academia, particularly in the fields of arts and sciences. The High School will offer, by using the unique resources of the Galilee, specialization in sciences and arts and will be considered a role model nationwide. The model will be based on the experience of the Hebrew University Secondary School (Leyada), or the Arts and Science Magnet High School in Jerusalem, considered two of the best secondary schools in Israel.
65. Employment / Industry – **Regional Investment Fund** – we recommend establishing an investment fund to be jointly funded by the government and the private sector, with the aim of investing in regional initiatives and R & D efforts in health and medicine. The regional investment fund will be modeled after the fund

⁹⁰ From an internal report regarding the potential establishment of a research facility in the Galilee, prepared in collaboration by Migal Biomedical Association and other bodies working on the topic.
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used to encourage business in the Arab Israeli sector.⁹¹ We suggest the fund is established by the MDNG, in partnership with the Ministry of Finance and the Ministry of Industry, Trade and Labor, for a period of ten years.

66. **Re-location support** is crucial to absorb families and individuals who choose to move and live in the Galilee. In general, individuals and their partners should be supported during the adjustment period and receive help in finding employment, housing and education solutions.

⁹¹ See: [Al Bawader – The investment fund for the Arab private sector in Israel](#), in partnership with the Prime Minister's Office.
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Chapter 6: Guiding Principles for Measuring Regional Impact

This chapter offers guidelines to evaluate the future regional effect of the Faculty of Medicine.⁹² The focus is on areas directly related to the medical school that together, may form a health cluster. Every field contains a long term goal and interim objectives.

67. **The proxy for Regional Leapfrogging: positive immigration.** As mentioned, the Faculty of Medicine may become a catalyst for a leapfrog in the quality of life of the residents of the Galilee. Measuring such a leapfrog can be done through an observed change in the immigration indices, i.e., stopping negative emigration, and the arrival of new populations and businesses into the region. **A proposed interim measure** can be the number of medical graduates who stay after they graduate or the arrival of returning residents, as an indication to a significant increase in quality of life.
68. **A necessary stage for leapfrogging: Creating a Galilee health cluster** – Many strategic plans, such as Tzafona, defined several fields whose development is essential for the Galilee: employment, education, research, health, environment, community, infrastructure, transportation and housing.⁹³ Chapter 4 in this document presented a number of areas which are directly related to the Faculty of Medicine and recommendations for their advancement in a way that may lead to the formation of a health cluster. We propose to measure the change in each of these fields based on a long term goal and intermediate objectives:
- **Medical Services.** The long term goal is to compare the quality and availability of medical services in the Galilee in relation to the Tel Aviv area. **This goal necessitates agreement on a number of interim objectives**, for example: ensuring the availability of medical personnel, paramedical services and additional patient beds (the full list appears in Appendix D).
 - **Employment.** The long term goal is a significant change in the quantity and quality of health-related jobs in the region. **An intermediate objective** is a significant increase in number of jobs associated with the various medical fields, such as bio-medicine and wellness in the next five years.
 - **Research.** The long term goal is to create a community of scholars specializing in basic and applied research in the area of health. In order to achieve this goal, **several intermediate objectives** should be adopted: an

⁹² For more on the theoretical foundation of guiding principle at the heart of these criteria, see: Glasson, J., “**The Widening Local and Regional Development Impacts of the Modern Universities – A Tale of Two Cities (and North-South Perspectives)**”, *Local Economy*, February 2003, Vol. 18, No. 1, pp. 4 and 7.

⁹³ See: Tzafona report and the Tznobar Report, [Tools to Encourage Settlement in National Priority Areas](#) (in Hebrew), submitted to the Ministry of Construction and Housing, 2006.

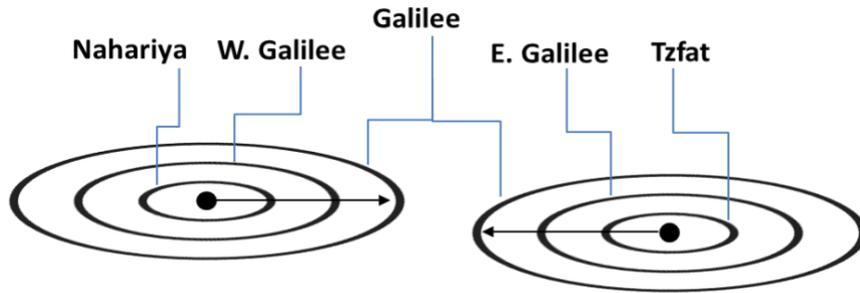
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increase in the number of placements for researchers in the region, a significant increase in the number of graduate students and a growing number of requests for funding by companies in the bio-medicine field (e.g. through the Chief Scientist funding scheme).

- **Human capital.** The long term goal is to turn the Galilee region into Israel's leading region in science education. Achieving this goal rests on the **intermediate objective** of raising the rate of high school graduates from the Galilee in general, emphasizing scientific literacy in particular.⁹⁴
 - **Local leadership.** The long term goal is the establishment of an active forum to address the challenge of regional development and ensure synergies between the main stakeholders. This forum should begin by defining Key Performance Indicators (KPIs) based on this report. **The intermediate objective** is to strengthen existing regional frameworks, such as the regional forum of mayors in Eastern Galilee and establish an interaction with similar forums in the Western Galilee while cooperating closely with civil society organizations such as ELKA/JDC.
69. **The ripple effect: starting in Tsfat and Nahariya** – The impact of a revolutionary project could be seen as the ripples created by a stone thrown into a lake: the strongest impact is felt closest to the stone, or the source of energy.⁹⁵ In accordance with our recommendation to form two anchors of development, in the Eastern Galilee and Western Galilee, we expect to witness initial effects in these locations first, and then observe these effects moving gradually to the rest of the Galilee:
- **Cities** – it is reasonable to expect improved quality of life in the cities that will benefit directly from the proximity to Faculty of Medicine school or one of its affiliated hospitals. This is especially true to the cities of Tsfat and Nahariya, and less so to Nazareth, Acre and Tiberias.
 - **Eastern Galilee / Western Galilee** – in the medium run, one should mainly expect to see effects on the sub-regional level with an emphasis on the Eastern Galilee and Western Galilee, and to a lesser extent in the area around Nazareth.
 - **Galilee region** – provided that the above recommendations are implemented, we expect to see an improvement in the positioning of the Galilee, and positive migration rates into the area.

⁹⁴ Only 40% of high school students earn diplomas in the Northern District, compared to 49.5% in Tel Aviv, and 56% in the Central District. See: Konor-Attias, E. and Abu-Khala, H., Report on [Percentage of Students Passing Matriculation Exams](#) 2008-2009, Adva Center, December 2010.

⁹⁵ A similar approach was taken when Tsfat was chosen to house the new medical school. Its remote location was seen as an advantage, as it could serve as a magnet in its own right, balancing the appeal of the city of Haifa.



End.

Appendices

Appendix A: Projects for Implementation

70. **In the course of our work we met with dozens of experts, entrepreneurs, government officials and other relevant individuals from the Galilee, in four major workshops and dozens of private meetings.** Many ideas for possible projects that have the potential to affect the quality of life of residents of the Galilee were generated during these meetings. Some of these projects have already been implemented while others are completely new. We believe that these ideas deserve consideration only if they address the needs of different sectors, as described in chapter 4.

Criteria for the Selection of Projects

71. **Projects were selected based on their potential to enhance regional change.** The criteria listed below are also important in determining priorities for investment and in obtaining measures of success.
- **'Low hanging fruit'** – In order to create commitment and to harness relevant stakeholders it is necessary to achieve significant and wide-reaching positive effects as quickly as possible;
 - **Outputs** – In any large-scale project, 'outputs' must be measured and assessed. Visible outputs that show that the project is bearing fruit tend to increase the commitment and motivation of relevant stakeholders;
 - **Sustainability** – In order for the effects of the project to continue over time, ideas that are chosen must be based upon available infrastructure and resources.
 - **Leveraging existing efforts** – there are a number of different organizations that work to create change in the Galilee. The projects selected should aim to partner with the various stakeholders in order to achieve not only quick implementation in the short run, but also, a greater impact on the region in the long run;
 - **Feasibility** – This is dependent upon the availability of local leadership regarding the project, the commitment of the government to undertake the project, funding, and the use of other existing resources.
72. **In each of areas listed below, we propose one main project and several smaller ones.** Each of the major projects should be groundbreaking, involve various parties, and should produce a relatively large impact in a short period of time. The complementary projects are smaller but also important, as many of them are 'low hanging fruit' that can be easily implemented and do not require recruiting many stakeholders in order to make them a reality. The combination of these projects would lead to greater and more effective impact. The projects identified are unique

to the area, but in some cases, similar projects have already been implemented successfully elsewhere.

Health Projects

73. **The goal: To Turn the Galilee into a 'healthy region'**
- Short-term goal – to rebrand the Galilee as a 'healthy region'. This process requires marketing and media work as well as practical projects. Listed below are a number of long-term processes that can help to build this new brand.
 - Long-term goal – to use health as an engine for leapfrogging the region by creating new engines of growth that include the local population and contribute to community resilience.
74. **Main project: M.S.R – Medical Simulation Center in the Galilee**, based on the model of the Sheba Medical Center at Tel Hashomer. The center will train medical and paramedical professionals in clinical procedures and communication skills, using a wide variety of simulators that imitate real medical environments. An experiential environment such as this enables a structured, safe and effective learning process, with instant feedback for trainees, and no unnecessary risk to patients. The proposed center could cooperate with the Faculty of Medicine and the Chief Medical Officer of the Israeli army. The center will specialize in emergencies and related issues.⁹⁶
- **The center should have an impact on a national level** by improving the quality of healthcare through the reduction of human error and the maintenance of patient safety.
 - **M.S.R is well known in the medical simulation market.** The center already serves as a model for leading centers across the world such as the Mayo Clinic, McGill University in Montreal - Canada and Albert Einstein in Brazil and also collaborates with them in order to establish similar centers. **Establishing a similar venture in the Galilee, which specializes in emergency medicine and community medicine, would help brand the region and make it a center for unique knowledge.**
 - **The center will be designed to be of value to a range of different professionals** such as: practicing physicians, nurses, medical students, social workers, paramedics, medics, etc.
 - **The establishment of the center in the Galilee will require the following organizations:** the investment of a significant medical institution in the project – this could be one of the hospitals in the Galilee or the Kupot Holim, and a professional consultant team for M.S.R. This team will supervise the establishment of the center beginning with the planning stage and advising

⁹⁶ Prof. Amitai Ziv, Deputy CEO of Sheba Center and CEO of M.S.R center, (30.08.2011).
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both in logistic areas (planning the structure, purchase of equipment, recruiting team coaches) and in professional content (the working model and curriculum). Other relevant stakeholders include medical equipment suppliers and the IDF.

- **The daily operation of the center will require the medical institution staff, team trainers and doctors.** It is therefore important to position the center close to a hospital that is affiliated to the Faculty.
- **The initial cost of establishing an M.S.R center is estimated to be roughly ten million dollars.**⁹⁷ The budget will vary depending on the variety and scope of the medical areas (e.g. emergency medicine, trauma management, anesthesia, simulated military units and fire departments). We recommend the establishing of an M.S.R. center be implemented gradually.
- The budget includes the following elements:
 - Locating an appropriate site, planning and designing the building (minimum size of 1,500 square meters);
 - Buying / renting equipment, including simulators, medical equipment, audio and video devices;
 - Hiring and training staff: administrative personnel, technicians, trainers, actors. A minimum of ten people are needed in the first phase;
 - The consulting services of M.S.R staff;
 - The first year operating expenses.
- **Getting started:** the initial implementation of the project requires the following the investment of a medical institution; meeting with M.S.R. staff and visiting their facilities; building a development plan and raising capital, deciding on the location of the center and on the primary areas of expertise. At a later stage, implementation will require purchasing a building, cooperating with medical suppliers and recruiting staff.

It is estimated that **within six months of building the facility, the Center will become operational.**

75. Complementary health projects in the Galilee

- **Establishing a Hospitals Community Forum** – A similar forum managed by the Ministry of Health currently works to promote public health in the

⁹⁷ This estimation is based on M.S.R's experience in establishing similar projects abroad.
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region.⁹⁸ This forum should be strengthened and opened to other relevant stakeholders, such as health-related third sector organizations, representatives of community leadership and others. Such engagement is crucial as public participation in health is essential for understanding community needs and providing necessary health services;⁹⁹

- **Establishing an Alternative Medical Research Institute** that will specialize in integrative and complementary medicine in order to leverage the expertise that already exists in the region (e.g. herbal medicine, traditional medicine, and homeopathy);¹⁰⁰
- **Adopting the model of a Health Promoting University** – this model focuses on building working and educational environments that promote health and sustainability among students, faculties and visitors (e.g. a non-smoking university). At the same time, the model requires the implementation of health promotion projects on a wider scale among communities in the region. This model is scheduled to be implemented at the School of Public Health at the Hebrew University of Jerusalem;¹⁰¹
- **Tsfat, Acre and Nahariya as regional leaders in emergency preparedness** – this can be forwarded by: strengthening collaborations between the army and the Tsfat Academic College, the Faculty of Medicine and local civil society organizations in order to promote regional emergency preparedness; building a volunteer program for emergencies based on the availability of medical and paramedical students; raising awareness in relevant academic institutions; participation in the national emergency drills; encouraging research on the connection between health and civilian preparedness; creating a platform for better communication between civilian agencies responsible for local resilience; providing courses and training in first aid;
- **"Galilean Health Blog"** – Opening a Faculty of Medicine blog where students and Faculty members will take questions, and give tips for a healthy lifestyle;
- **Healthy City / Region** – as part of the transition of the Galilee into a 'healthy region', we recommend the development of a 'healthy cities' index (based on

⁹⁸ Taken from a conversation with Dr. Michal Cohen Dar, Chief Physician of the Northern District, Ministry of Health, (13.9.2011).

⁹⁹ Taken from a conversation with Dr. Nadav Davidovich, School for Public Health, Ben Gurion University (29.08.2011).

¹⁰⁰ Taken from a conversation with Dr. Ofer Caspi, Head of The Integrative Medicine Unit, Beilinson Hospital and Erik Moyal, CEO of Western Galilee cluster (5.9.2011).

¹⁰¹ Taken from a conversation with Dr. Milka Dunahin, School for Public Health, Hebrew University of Jerusalem (5.9.2011).

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work done by the Healthy Cities Network)¹⁰², in which cities of the Galilee should rank high and serve as a role model to other cities. In addition, activities such as the following could be promoted: health festivals hosting various audiences; the establishment of alternative medicine systems, including academic institutions, in the region; exploring the specific medical issues in the region and promoting an applied research effort to reduce the mortality rate of local residents;

- **Medical Cadets** – offering training for selected high school students in relevant courses in order to help improve their chances for admission to medical schools or other medicine related professions such as paramedics, nursing or alternative medicine;
- **Museum of Health and Medicine** – The first Medical Museum in Israel could present different inventions and health related issues and include simulations, an information center, etc. This museum could potentially be established in the temporary building of the Faculty of medicine, or within one of the hospitals collaborating with the Faculty of Medicine.¹⁰³

Research Projects

76. **The long term goal: creating a community of researchers in the field of health in the Galilee.**
- Short-term goals – to strengthen existing research and to institutionalize additional areas within the Faculty of Medicine.
 - Long-term goals – to create a community that conducts research that has a unique national and even global, contribution, while improving the quality of life of residents in the region.
 - It should be noted that there are a number of stakeholders working to promoting the bio-medical industry in the Galilee, for example: The MDNG, Migal Research Institute and others. The following suggestions aim to reinforce these existing efforts and not to replace them.
77. **Main project: a unified research authority for all hospitals in the Galilee** – the project requires the establishment of research infrastructure that integrates the existing infrastructure in hospitals in the region. The authority should help to attract excellent physicians and researchers and encourage them to perform their research locally. Cooperation between institutions will allow the cluster to compete with major medical centers in central Israel. This project has been endorsed by several stakeholders including the MDNG.

¹⁰² For more information see the [Israeli Healthy City Index](#).

¹⁰³ For example, the [Mayo Clinic Heritage Hall](#) in Minnesota.

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- **The unit will support and assist researchers conducting innovative research up until the implementation phase.**¹⁰⁴ The central authority will support the medical research chain of basic research, transitional research¹⁰⁵ and clinical research. Priority will be given to studies in which local researchers are the entrepreneurs and not just subcontractors of commercial companies. The unit will operate in full synchronization with sub-units in hospitals and colleges. One of the project goals is an expected increase in annual revenues for the major hospitals located North of areas where clinical trials take place.
 - **Public involvement:** Special attention will be given to patients and public involvement. This requires examining strategies to increase patient and public involvement by selecting research topics, designing the study, building joint management teams of each study and focusing on the dissemination of results to the general population.
 - **The stakeholders involved in the promotion and establishment of the Research Authority should include:** Hospitals in the Galilee; the Migal Research Institute, Meytav and Mitag incubators; regional academic colleges, the Faculty of Medicine, the government (led by the MDNG), life sciences and bio-medical companies etc.
 - **Costs:** It is estimated that the operating budget for the first three years will range from 6 to 12 million NIS.¹⁰⁶ The research authority is expected to acquire overhead revenues from clinical trials and research grants. Revenues will serve to further develop the research authority and will ultimately become the main source of funding.
78. **Additional possible project: Focused Faculty research on the needs of the local population** – The Faculty of Medicine will focus on conducting 'Translational Research'. Unlike basic research or R&D, this will target the needs of the population. This project has already been endorsed by the heads of the Faculty of Medicine.

Projects Promoting Human Capital

¹⁰⁴ Taken from a white paper prepared by Migal.

¹⁰⁵ Transitional research is held and conducted in a way that makes it most applicable to the population tested.

¹⁰⁶ Based on estimations made by Migal Research Center and Tel Chai Academic College.
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79. **The aim of these projects is to improve the standard of education in the Galilee, in particular, in the sciences.**
- Short-term goals – development of specific programs to improve scientific excellence.
 - Long-term goals – increasing the number of high school graduates with qualifications and in particular, those in science or related subjects.
80. **Main project: Establishing a High School for Arts and Sciences** – following the Rashi Foundation's recommendations to establish centers of excellence, we propose the establishment of a secondary school either near the Faculty of Medicine or near one of the affiliated hospitals. The model should be inspired by similar schools in Jerusalem (for example, Leyada, or the Arts and Science Academy in Jerusalem), that are considered some of the most prestigious schools in Israel. The new school will use the unique assets of the regions, such as the Faculty, and will specialize in sciences and arts. The school will aim to be a national role model. The students will be local residents, and if necessary, accommodation will be offered to them. The presence of an institution of this kind will allow students to have excellent high quality education in the Galilee, and will promote the perception of the region as a leader in education as well as forwarding the creation of leaders, scholars and artists.
- **Stakeholders involved in implementing the idea:** entrepreneurs (a group of parents, educators, and an institution/a leading schooling network), the government (the Ministry of Education), one or many local authorities, philanthropists and NGOs.
 - **The day to day operations of the school will require the involvement of:** the Ministry of Education, entrepreneurs and a network of philanthropists. It is important that teachers and management will either come from Northern Israel or move to housing in the region.
 - **Getting started** - the initiation of the project involves: forming a task force and creating a sense of ownership, establishing a Board of Directors, recruiting partners, identifying a potential location, choosing a pedagogical strategy and finding relevant staff, applying for a budget from the Ministry of Education, and following on from that, applying for a license. We estimate that once a suitable location and building have been found, the high school could be operational within a year.
 - **Cost:** the estimated cost for the establishment and operation of the school in the first year is 100 Million NIS. The cost includes the following components: building (classrooms, an auditorium, library, offices, sports hall, laboratories, and equipment), recruiting and training teachers, core activities and ongoing

operating expenses (director, dean of education, secretary, program developers, project coordinators, transportation and equipment).¹⁰⁷

81. **Proposals for additional education projects:**

- **Strengthening the relationship between colleges in the region** (Tsfat Academic College, Tel Hai College and other colleges in the area) **and the Faculty** by sharing dormitories and sports facilities and through an academic collaboration with colleges that teach paramedic courses.
- **Hospital Leadership Project** – training the next generation of leaders in hospitals in the north.¹⁰⁸ Opening a prestigious leadership development program could influence high quality personnel to stay in the region. The program may be implemented in the first stage in Nahariya Hospital and be expanded later on to other hospitals.
- **Additional upgrades to the mobile classrooms project 'Ofanim'** – the 'Ofanim' project operates mobile high-tech classrooms (located in designated buses converted for this purpose) that drive around the Galilee making academic knowledge more accessible to children in Israel's peripheral areas. The recommended changes involve upgrading this successful model to the new context of the Faculty of Medicine by offering science and medicine classes to children. This project could be operated by students from the Faculty of Medicine.¹⁰⁹
- **Cooperation with the 'Perach' initiative operating in universities in order to tutoring of children for scholarships** with a focus on the Sciences, an introduction to the medical profession, first aid, and English.
- **The Faculty of Medicine and relevant Colleges**, that teach paramedics, life sciences and alternative medicine, **will offer courses in fields related to the world of health and wellbeing**. These courses should be open to residents of the Galilee and allow them to expand their knowledge while connecting them to ongoing activities in the Faculty of Medicine.
- **Preparing students for admission to medical schools or other medical professions** (e.g. nursing or paramedics) as part of the training in the provided by the Faculty of Medicine.
- **"Medical Scouts" youth movement** – the establishment of a youth movement whose vision and activities relate to medicine. Similar to the Sea

¹⁰⁷ Estimations made with Ofer Zafrani, Principal of Menhem Begin High School in Tsfat.

¹⁰⁸ Based on [the Talpiot Leadership Program](#) in Sheba. The program aims to create Israel's next generation of medical leadership in Israel by grooming highly skilled and motivated doctors. The program offers scholarships, mentoring, assistance in research, etc.

¹⁰⁹ For more information see Ofanim's [website](#) (in Hebrew).

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Scouts movement, a youth movement such as this could promote awareness of healthy lifestyles and contribute to the learning process of talented youths who will later be accepted to the Faculty.

Projects in the Field of Employment

82. **The goal of these projects is to increase the quantity and quality of jobs in the Galilee** by leveraging the Faculty of Medicine to create a solid foundation for growth of quality jobs in the Galilee. We estimate that impact will only be fully seen in a decade.
83. **Major project: a regional investment fund** – Initiating a private equity investment fund jointly held by the government and the private sector, aimed at investing in regional initiatives and in research and development in health and medicine in the Galilee. This fund will be based on the model used to enhance economic activity in the Arab sector in Israel.¹¹⁰
- **This fund could be led by the MDNG, in partnership with the Ministry of Finance and Ministry of Industry, Trade and Labor**, for a period of ten years. For a successful project, these ministries should commit to invest a total of approximately 15-25 million USD,¹¹¹ and there should be a similar commitment from private investors. In addition, the government will be declared a limited partner in the fund, and investment decisions will be managed by professional fund managers.
 - **The fund will invest in businesses, project incubators and researchers in applied life sciences**, including: medical devices, bio-technology, medicine, pharmaceuticals and alternative medicine. The fund will carry out capital investment within five years of its inception.
 - **The fund will provide various services** such as: finding new business opportunities for selected companies, helping secure additional resources and assisting in strategic and day to day management and planning.
84. **Suggestions for additional projects:**
- **Young medical entrepreneurship initiative** – Cooperating with young entrepreneur forums in the Galilee to develop initiatives in bio-medical and medical devices. This should be conducted together with the Faculty of Medicine.

¹¹⁰ For more information see '[Al-Bawader](#)' – the first investment fund in Israel that focuses on the Arab Sector.

¹¹¹ ~~This amount is based on calculation made in the '[Eastern Galilee Strategy](#)' report (in Hebrew), p.39.~~
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- **Center for entrepreneurship focusing on small and medium business (SMBs)** – The center will focus on Faculty-related areas, in fields like remote medicine, emergency medicine or community medicine.
- **Scholarships fund for applied research in partnership with the Faculty of Medicine** – This fund will focus on applied research that could lead to the development of new start-up companies. Entrepreneurs, pharmaceutical companies, additional companies and doctors will be able to apply for a scholarship provided that they live or work in the area. The fund will assist in making additional professional connections and securing future funding opportunities.

Additional Projects

85. **Relocation support** – As with moving to another country, relocating to the Galilee requires rigorous preparation in order to make a successful move. Some of the factors that require planning are: finding a job for partners, finding housing, finding education for children etc. It has been shown that in order to ensure a successful and permanent transition each of these factors should be long term and special attention should be given to the family's preferences. Research shows the following elements should also be taken into consideration:¹¹²
- **Establishment of a relocation center** – there is a need for a 'one stop shop' that will address not only the students moving to the north, but also those moving to the Faculty, and later, entrepreneurs moving North. It is possible for this center to be integrated with the center currently endorsed by the Or Movement (NGO) or by the MDNG.
 - **Rewarding families that move to the Galilee and choose permanent housing.** This could be done through additional mortgage subsidies or by building designated housing for Faculty members etc.
86. **Employment assistance provided in cooperation** with national or regional placement centers. Additionally, relevant professional training would be provided by the Ministry of Industry, Trade and Labor, and by regional colleges and private institutions.

¹¹² Based on a conversation with Israel Fruman, CEO of [ORI](#), relocation and human resource services company.

Appendix B: Government Decisions

87. Malag's¹¹³ decision dated 11.07.2006:
- **By 2011 there will be no need to establish an additional university in Israel** – this decision was made following a government decision dated 05.16.2005 that suggested that there is a need to explore the establishment of another university in Israel.
 - **Examining the establishment of an applied research institute in the Eastern Upper Galilee** that will address the following sectors: biotechnology, life sciences and environmental science.
88. Malag's decision dated 17.7.2007 to **establish a new medical school in the Galilee.**
89. Government Decision No. 4541 dated 8.3.2009: **The location of Israel's fifth Faculty of medicine will be Tsfat.** In addition, the government's decision calls for the establishment of an inter-departmental steering committee whose role will be to promote the building of the school and its future resources.
90. Government Decision No. 1351 dated 7.2.2010: **The Faculty of Medicine in Tsfat will be a branch of BIU.**
91. Government Decision No. 2090 dated 15.7.2010:
- **The government will transfer 30 million NIS to the temporary building.** BIU will raise the rest of the funds.
 - **Funding for the permanent site will be divided equally between the government and BIU** – The exact amount will be determined by the steering committee by 06.01.2011.
92. Government Decision No. 3719 dated 18.09.2011:
93. **Upgrading medical infrastructure in hospitals affiliated with the Faculty of Medicine.** A total of 20 Million NIS will be transferred from the following government ministries: 5 million from the Ministry of Health; 5 million from the MDNG; 5 million from the Ministry of Finance. BIU has also pledged to provide 20 million NIS. In addition, the university will invest a further 15 million NIS in research equipment required for the establishment of the Faculty. **In addition, the Ministry of Health and the MDNG are currently promoting a 300 million NIS program to upgrade hospitals in the North.**

¹¹³ Hebrew for 'the Council for Higher Education'.
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Appendix C: Summary of Budgetary Allocation

Item	Governmental Budgeting	BIU Budgeting	Remarks
Cost of establishing the temporary building	30 Million NIS	Matching through private donations	The cost of the entire temporary building is estimated at about 140 million NIS
Cost of establishing the permanent campus¹¹⁴	Up to 750 Million NIS	750 Million NIS	A governmental steering committee will decide upon the final allocation for the project. To the best of our knowledge, it has been decided that BIU and the government will equally co-sponsor the campus
Cost of upgrading hospitals in the Galilee	300 Million NIS in total (80 Million per year for 5 years)		To the best of our knowledge this plan has not yet been approved
Cost of upgrading academic medical programs in hospitals	20 Million NIS	20 Million NIS+ 15 Million NIS for research equipment	

¹¹⁴ These estimates were made by BIU and published in the media.
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Appendix D: Medical Services in the North – What Needs to Happen?

In order to transform the health sector into an engine of growth and inclusiveness, medical infrastructure in the Galilee must undergo a series of changes. The following are the main recommendations taken from recent reports:¹¹⁵

94. **Additional medical personnel** – the doctors per capita rate in Northern Israel is the lowest in comparison to other regions in Israel. All Kupot Holim (HMOs) have difficulty recruiting physicians, especially in family medicine. It should be noted that as a result of the doctors' strike in September 2011, physicians in the Galilee will receive a significant increase in their wages. It is hoped that this will encourage more doctors to work in the region.
95. **Establishment of Imaging Centers** – due to the population distribution of the North, HMOs have difficulties in establishing their own Imaging Centers and are forced to purchase services from commercial entities that do not follow the required standards.
96. **Paramedic services** – a lack of medical personnel along with the population distribution in the Galilee makes it difficult for HMOs to provide unique services such as occupational therapy, speech therapy, nutrition and more. There is therefore a need to work towards reducing the gaps in the provision of such services.
97. **Additional beds** – by 2020, there will be an acute need for an additional 1200 beds, especially in the districts of Acre and Jezreel Valley.
98. **Hospital bomb-proofing** – add Ziv Hospital in Tsfat to the list of hospitals that require bomb-proofing, due its sensitive location near the border with Lebanon.
99. **A Regional Health Forum** needs to be established in order to allow the continuous development of health infrastructure, in accordance with the needs of the local population. This should be carried out through dialogue with the different stakeholders in the area such as: hospitals, HMOs, public health providers, businesses and the general public.
100. **Establishment of additional medical centers** that specialize in cardiological, neurological and orthopedic rehabilitation, inpatient nursing, complex and chronic respiratory disorders, radio-therapy and more.
101. **Reducing gaps in mortality rates among the Israeli-Arab population** by implementing treatments for diabetes, heart disorders, breast cancer and psychiatric disorders. The aim is to create more accessible services and to develop a better preventative health system in these areas.

¹¹⁵ See: “The Committee for the examination of gaps in health system between the Center and the Periphery” (in Hebrew), Dr. Oskar Ambon, 2008, Tzafona, Health Chapter, pp.29-32, and others.
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