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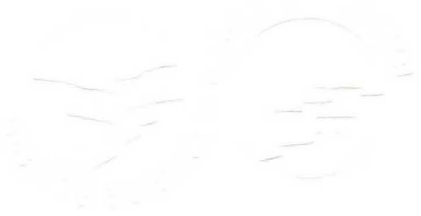
**BEN-GURION UNIVERSITY OF THE NEGEV**

**Report of A**

**Workshop**

**2-3 November 1992**

**The First Step In a Sustained  
Strategic Planning Process**



**MARINE SCIENCES RESEARCH CENTER**

STATE UNIVERSITY OF NEW YORK

**BEN-GURION UNIVERSITY OF THE NEGEV**

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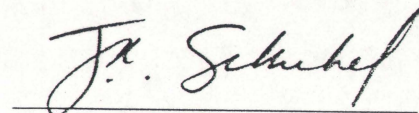
*Facilitators*

*J.R. Schubel*

*L.E. Noonan*

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Approval for Distribution

A handwritten signature in cursive script, appearing to read "J.R. Schubel", is written over a horizontal line.

J.R. Schubel, Director



## INTRODUCTION

On 2-3 November 1992, 28 of the leaders of Ben-Gurion University (see Appendix A) participated in a workshop that was the first step in a strategic planning process for the University. The agenda for the workshop is contained in Appendix B. The workshop was held at the Nirvana Hotel on the Dead Sea.

*Goal : Foster a renewed sense of commitment to a vision for the University*

After brief welcoming remarks by President Braverman and Rector Bahat, Professor Gelber gave a brief description of the events that led up to the workshop.

*Goal : Produce a draft of a vision statement.*

The goals of the workshop were:

*Goal : Develop scenarios that describe the range of plausible conditions that will affect the development of BGU*

(1) to strengthen existing partnerships and to forge new ones among the leaders of the University in a renewed sense of commitment to a vision for the University;

(2) to produce a draft of a vision statement that could be endorsed by the workshop participants;

*Goal : Identify the strategies that would be most effective in the continued development of Ben - Gurion University in ways congruent with the vision.*

(3) to begin the process of developing a strategic plan to transform the vision into action;

(4) to develop several brief scenarios, each of which is internally consistent and each of which describes the range of plausible conditions that will affect development of Ben-Gurion University;

(5) to explore and identify for each of these scenarios the general kinds of strategies that would be

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most effective in the continued development of Ben-Gurion University in ways congruent with the vision. The general workshop strategy was to use a variety of techniques to involve the participants in an exploration of the future of Ben-Gurion University. Most of the techniques were designed to maximize the number of ideas presented, rather than to explore any of them in detail.

The major focus of the workshop was to develop scenarios to examine alternative futures under varying social, political, cultural and economic conditions and to explore how these futures might affect BGU.

*Step 1 - Identify the driving forces that would most likely have an impact on BGU*

The first step in the workshop process was to identify the driving forces that were most likely to have the greatest impact on the future of Ben-Gurion University. Participants were asked several weeks before the workshop to submit lists of the critical uncertainties and predetermined elements that they thought would be most important in influencing the future of the University (Appendix C). Participants were also asked to submit short lists of the qualities and traits they would like to have characterize Ben-Gurion University in 2020 (Appendix D).



Analysis of these responses and a review of a number of the University's publications by the facilitators indicated that the development of the Negev would have a primary effect on the development of the University, with future enrollment levels having a secondary effect. The facilitators presented these conclusions to the participants with the suggestion that they could be the principal themes for development of scenarios

**ON THE RELATIONSHIP OF THE FUTURE OF BGU TO THE FUTURE OF THE NEGEV**

Because of the concerns a number of participants had about coupling the development of BGU as a major, international research university to the Negev region, the first question posed to the workshop was,

*To what extent is the future of BGU coupled to the future of the Negev ?*

*“ To what extent is the future of BGU coupled to the future of the Negev region?”*

The participants were asked to respond to this question on a scale of 0 - 10: where 0 represented complete uncoupling of BGU's future from that of the Negev, 10 represented complete coupling , 1 - 3 represented low coupling, 4-7 medium coupling and 8 - 10 high coupling. The number of responses are summarized in the matrix.

THE DEGREE OF COUPLING OF THE FUTURE OF BGU TO THE FUTURE OF THE NEGEV

<u>Medium</u>	<u>High</u>
10	17
<u>Zero</u>	<u>Low</u>
0	2



*The future of BGU and the Negev  
are related by some  
undefined functional relationship.*

From the responses, it is clear that most of the participants are convinced that the future of the BGU is related closely to the future of the Negev. The distribution of answers affirmed our earlier impressions and continued to be an important enough cause of concern among some participants that it warranted further discussion. There was discussion about the meaning of coupling, the desirability of coupling development of BGU to the region, and the importance of developing strategies to relax the degree of coupling. The inescapable conclusion, however, was that the future of BGU and the Negev are related by some undefined functional relationship. All of the comments are summarized in Exhibit A. Their order has been changed to facilitate review.



EXHIBIT A

COMMENTS ON THE COUPLING OF BGU TO THE NEGEV

- \*BGU is in the Negev.
  - \*BGU is BGU of the Negev.
  - \*BGU is Israel's only land grant institution; as such it has a mandate to serve the Negev.
  - \*BGU should exploit its special missions in the Negev to develop BGU and the region.
  - \*The Negev is rich with problems and opportunities; BGU should exploit these.
  - \*BGU's future is linked to the future of the Negev, but BGU can become an outstanding university even if the Negev does not develop at the same rate.
  - \*BGU should be a catalyst for development of the Negev.
  - \*Becoming an outstanding University will be BGU's biggest contribution to the Negev.
  - \*BGU should not project the image of a regional university.
  - \*The strategy should be to isolate BGU's future from the future of the Negev; linking it too closely could be dangerous.
  - \*BGU should take responsibility for its future into its own hands.
  - \*BGU's quest for excellence should be independent of the region.
  - \*BGU has a problem of image - - what others think of it - - and of identity - - what BGU thinks of itself .
  - \*Of BGU's roughly 20,000 graduates, only 20 -25% have remained in the region. This percentage should be increased by enhancing opportunities within the region.
  - \*There is no contradiction between commitment to excellence in service to the region and excellence in fundamental scholarship in the international arena; excellence is excellence.
  - \*Some BGU faculties were created specifically to serve the region, e.g. the health care faculty.
  - \*BGU already makes major contributions to the Negev: jobs, educational opportunities, culture, health care, advisors to industry, etc.
  - \*BGU should seize the moment and move boldly in its quest for excellence as a major research university.
  - \*Over the next 5 years there will be a significant immigration of Soviet Jews into Israel. BGU should try to attract students from throughout the country. This will require dormitories, fellowships, and other incentives all of which depend upon governmental support.
- \*Students select universities not only on the basis of their excellence, but for economic reasons (e.g. availability of part-time jobs) and other factors.



## ON EXPLOITING BGU'S MANDATE OF SERVICE TO THE NEGEV AND ITS GROWTH IN ENROLLMENT

Step 2. - Brainstorm the driving forces

In the next phase of the workshop participants brainstormed the following two questions

(1) "In how many ways can BGU convert its mandate to serve the region into a competitive advantage to enhance the development of BGU as an international center of excellence?"

(2) "In how many ways can BGU exploit the growth in its enrollment into a competitive advantage to enhance the development of BGU as an international center of excellence?"

Participants were reminded of the rules of brainstorming:

- (1) quantity counts
- (2) no value judgments
- (3) look for connections
- (4) wild ideas are encouraged

Rules of Brainstorming:

- \* Quality Counts
- \* Value Judgements  
don't count
- \* Look for  
connections
- \* Encourage wild  
ideas

About 20 minutes were devoted to each question. Ideas were recorded and posted around the room as rapidly as they were generated. Following completion of each brainstorming session, each participant was given 5 votes and instructed to cast them for the ideas that he/she believed would contribute most to the goal of developing BGU as an internationally renowned research university. Each person could cast all of his/her votes for one idea, or distribute them over up to 5 ideas. The total number of votes for each idea is



reported in [ ]

The responses to the first question are listed in Exhibit B. They have been rearranged to group similar ideas; all ideas are recorded.

*In how many ways can BGU convert its mandate to serve the region into a competitive advantage to enhance the development of BGU as an international center of excellence ?*

#### EXHIBIT B

A list of all ideas generated in response to the Question "In how many ways can BGU convert its mandate to serve the region into a competitive advantage to enhance the development of BGU as an international center of excellence? The numbers in brackets are the number of votes cast for each idea. Each participant had a total of five votes.

- [ 3] \*Reaffirm the commitment of faculty to health care.
  - \*Excel in science and technology to attract high technology industries to the Negev and to create spin-off companies from the University.
- [16] \*Assist in the recruitment and establishment of new industries to the Negev.
- [18] \*Develop one or two centers of excellence.
- [1] \*Identify and develop unique fields in which BGU has unusual opportunities.
- [14] \*Develop interdisciplinary programs focused on major global issues.
  - \*Develop special studies focused on the peace process.
  - \*Expand and enhance health care programs: health policy, education, research, gerontology, etc.
  - \*Plan now for a considerable increase in enrollment.
- [2] \*Get more involved in non-academic committees of the region.
- [3] \*Expand and enhance BGU's physical faculties.
- [4] \*Target special needs of different sub-populations of the region; part-time students, older students, Bedouins etc.
- [1] \*Enhance the quality of life for faculty: more and better housing, magnet schools, etc.
- [5] \*Work to influence political decision-making to help the University and the region.
- [14] \*Stimulate the development of unique educational attitudes throughout the BGU community.
  - \*Become a pioneer in developing, testing and incorporating novel teaching tools, techniques and technologies into the curricula.
- [11] \*Expand and enhance cultural activities in the Negev.
- [2] \*Attract young Jewish students from around the world to BGU.
  - \*Concentrate on arid zone research.
- [4] \*Concentrate on desert research, including human physiology.
- [1] \*Expand and enhance applied research.
  - \*Increase graduate studies related to the Negev.
  - \*Promote increase in the population of the Negev.



- [11] \*Enhance the image/face of Beer-Sheva.  
\*Enhance Beer-Sheva as a university town.
- [1] \*Recruit top flight graduate students from throughout the world.  
\*Develop international courses in preventative medicine, community medicine, etc.
- [1] \*Attend to the spiritual needs of students and the community.
- [1] \*Exploit te reputation of Ben-Gurion.

The responses to the second question are recorded in Exhibit C. Each participant was given an additional 5 votes to distribute over 1 to 5 ideas. The votes are recorded in [ ] at the left of each entry.

#### EXHIBIT C

A list of all ideas generated in response to the Question "In how many ways can BGU exploit the growth in its enrollment into a competitive advantage to enhance the development of BGU as an international center of excellence?" The numbers in brackets are the number of votes cast for each idea. Each participant had a total of five votes.

*In how many ways can BGU exploit the growth in its enrollment into a competitive advantage to enhance the development of BGU as an international center of excellence.*

- [15] \*Put greater stress on increasing graduate enrollments.
- [10] \*Recruit and reward excellent teachers who attract outstanding students.
- [8] \*Increase the number and size of scholarships.
- [6] \* Recruit top-flight students through incentives.
- [2] \*Provide more opportunities for immigrants.
- [14] \*Create new, unique, needed programs.
- [13] \*Create centers of excellence.
- [2] \*Emphasize the humanities, the arts and social and behavioral sciences.
- [6] \*Change the way students are selected; select them after their first year.  
\*Create work pools for students to enhance job opportunities.  
\*Absorb the colleges in the Negev.
- [2] \*Enhance continuous educational offerings in technology.
- [3] \*Enhance public relations and marketing of BGU to recruit better students, faculty and staff.
- [7] \*Don't compromise in hiring; hire only the best.  
\*Create a cultural center at BGU.  
\*Open new programs only if they lead to the Ph.D.
- [9] \*Change the organizational structure of the University to be more flexible, more responsive to innovation.
- [7] \*Develop a different organizational model for the University.  
\*Develop connections between educational programs and local industry for students; work-study programs, internships, etc.



- [11] \*expand and enhance multi-disciplinary studies, cross faculty studies.
- [17] \*Create more innovative curricula: modular curricula, interdisciplinary curricula.
  - \*Hire groups of critical size (2-3 people) in priority areas.
- [2] \*Start a law school.
  - \*Start a pharmacy school.
- [1] \*Develop mechanisms to attract visiting scholars to BGU for short stays.
  - \*Build a good hotel/conference center at, or near, the University.
  - \*Ensure that there are no obvious lacunae in the University's offerings.
- [2] \*Upgrade the quality of the faculty.
- [3] \*Set priorities.

Analysis of responses to the two questions clearly indicates that a number of the same strategies would be particularly important in exploiting both BGU's mission of service to the Negev and its projected growth in enrollment to promote the continued development of BGU as a major research university. The common strategies are summarized in Exhibit D.

#### EXHIBIT D

*The most Robust Strategies in Exploiting Both BGU's Mission of Service to the Negev and Its Projected Growth in Enrollment in the Continued Development of BGU as an Internationally Renowned Research University.*

\*Create centers of excellence; concentrate on fields in which BGU has unusual opportunities, hire outstanding new faculty in critical numbers in these priority areas.

\*Expand and enhance multi-disciplinary studies with special attention to global issues, Middle-East studies, the peace process, health care.

\*Enhance all aspects of the quality of life for the entire University community on campus and in Beer-Sheva: the aesthetics of the campus and the town, build a conference center-hotel, enhance cultural opportunities,...

\*Become a pioneer in the development and reward of innovative teaching approaches, attitudes, tools and techniques; in curricula development, modular curricula, interdisciplinary curricula.

\*Put a greater emphasis on graduate education: on increasing graduate enrollments, on the recruitment of outstanding students; on the development of new Ph.D. programs; on exploiting unusual opportunities such as desert studies of all kinds in the Middle East.

\*Raise the over-all quality of the student body through the selection process, through aggressive recruiting and through scholarships and other incentives such as part-time jobs with regional industry.

\*Expand and enhance educational opportunities for non-traditional students; part-time students, older students, immigrants, Bedouins.



## FORMULATING A VISION FOR BEN GURION UNIVERSITY IN 2020

A strategic plan has meaning only in the context of an institutional vision.

*A vision is a realistic, credible, attractive future for an organization. It describes one of many possible futures. It is the one chosen by the leaders of an organization.*

Each Workshop participant was asked to submit in advance of the workshop five words or phrases descriptive of the qualities he/she wanted BGU to have in the year 2020. A summary of these is presented in Exhibit E along with an assessment of the relative importance assigned to these by the workshop participants. The full set of responses is included in Appendix C.

*Step 3. - Discuss and rank the qualities that should distinguish this enterprise from other similar enterprises*

### EXHIBIT E

#### DESIRED DISTINGUISHING QUALITIES OF BGU IN 2020

*The numbers in brackets are the votes cast for each idea. Each participant had five votes.*

[34] \*Excellence through innovative organization al structure and functions to respond to change: to changing problems, opportunities, priorities, technology, enrollments, student expectations,...

[26] \*Excellence through specialization: centers of excellence, institutes, special programs, unifying themes.

[22] \*Excellence through stimulation of regional development: partnerships with the region in education, industry, economic development, cultural development, ...

[21] \*Excellence through financial stability and flexibility.

[16] \*Excellence through development of a traditional model of a research university with an emphasis on graduate education and research.

[5] \*Excellence through development of a comprehensive research university in the traditional departmental mode.

[16] \*Excellence through enhancement of quality of life: on campus, in the community, in the region.



These desired characteristics for BGU provided the basis for a stimulating discussion of what would constitute an appropriate vision for Ben-Gurion University to strive for in 2020. Following the discussion, President Braverman and Rector Bahat were asked to prepare a draft vision statement incorporating the group's views ( Exhibit F ) . The statement was presented the following morning by President Bravermann. With a few suggestions for minor changes, the vision statement was endorsed unanimously by the group.

Step 4. - Formulate the vision

**EXHIBIT F**

**VISION STATEMENT FOR BEN-GURION UNIVERSITY**

*Vision. At its minimum, it is the ability to see what is clearly before you. But at a higher level, it is the ability to project a view of a broader scope, of an expanse of activities, of the future. Without vision the University would stagnate and stagnation in today's world spells death. Ben-Gurion University of the Negev has vision and with a combination of carefully planned strategy and aggressive action, we can ensure that our vision becomes reality.*

*Vision:*

*Quality  
Centers of Excellence  
Magnitude  
Regionalism  
Aesthetic  
Welcoming*

*First and foremost, Ben-Gurion University has a vision of quality. If one pictures the University as a mountain range, one can see the vast base of the University as a plateau with mountain peaks rising up in key locations. These mountain peaks are what we call Centers of Excellence. The University must focus its energy and resources on helping to raise these Centers of Excellence to their greatest potential heights. By exploiting its natural advantage of location, Ben-Gurion University has already established itself as a top institution in Desert Research. With additional emphasis, the University can become number one in the world. Other areas*



which can be developed into world-class centers include Creative Writing and Natural Resource Management.

Ben-Gurion University also has a vision of magnitude. We have seen tremendous growth in the past several years. However, in order to truly excel and reach our potential, we must grow still more. We see a student body numbering 15-25,000 with each student actively working to improve the University.

Ben-Gurion University must also have regional vision, vision of our expanding sphere of responsibility and influence. We see a Negev of the future with industrial parks throughout the Beer Sheva region, taking advantage of the University's human and physical resources, employing University faculty as consultants and participating in mutually beneficial joint projects. We see the University as a model of community outreach - attending to the needs of the region's children through programs like the Perach Project, attending to the needs of the region's adults through continuing education programs and more. We see the University as a center of culture, attracting and enriching not only the local residents but people from all over Israel as well as visitors from abroad.

On a more basic level, the University must have aesthetic vision. New buildings are planned with a softer, more welcoming appearance. The University will turn its face to the city, presenting an attractive and inviting visage for the quality that rests within. There are plans for promenades, pergolas and cafes where people may stroll or sit as they take in the university's unique ambiance.



## SCENARIO PLANNING

Scenarios are a tool for enabling decision makers to take a long view in a world of uncertainty. Scenarios are stories about the way the environment in which we function might turn out in the future; they are stories that can help us to recognize and adapt to changing aspects of our environment.

Scenario planning is about making choices today with an understanding of how they might turn out. It is a tool for ordering one's perceptions about alternative future environments in which one's decisions might be played out.

The purpose of scenario development is to help one change one's view of reality, to match it more closely with reality as it is and as it is may become. The end result is not an accurate picture of tomorrow, but better decisions today about the future.

Scenario planning has two parts: (a) the construction of plots or stories that portray possible futures under varying conditions of uncertainty, and (b) the development of strategies that will assist in coping with the future under these varying conditions of uncertainty. Driving forces are those forces that move the plot. It is the interaction of driving forces, critical

*Scenario Planning:*

*A recipe for better decisions about the future*

*Step 5. - Develop Scenarios*

*Construct plots or stories that portray possible futures under varying conditions of uncertainty.*

*Develop strategies that will assist in coping with the future under these varying conditions of uncertainty.*

*The process of building scenarios starts by looking for driving forces, the forces that influence the outcome of events.*



uncertainties and predetermined elements that give texture and richness to scenarios. The driving forces identified by the participants are listed in Exhibit G.

*Driving forces can be:*

*Internal to the organization i.e. goals and composition and needs of the workforce*

*External to the organization i.e. governmental regulation*

**EXHIBIT G**

**DRIVING FORCES**

*Where do you look for driving forces ?*

*Environment*

*Society*

*Economy*

*Technology*

*Politics*

**\*Peace / Politics**

**\*Population / Demographics**

**\*Adoption of College System in Negev**

**\*Priorities at BGU**

**\*Dev. of Other Israeli Universities**

**\*Economic Policies ... (loss of subsidy at BGU)**

**\*Priorities of Negev**

**\*Leadership of Negev...of BGU**

**\*Financial Resources at BGU**

**\*Development of Negev/ Industry in Negev**

**\*Technological Charge**

**\*Social and Cultural Forces...to open enrollments to diverse groups**

**\*Priorities to Dev. the Center of Country vs. Peripheries**

*Predetermined Event :*

*Those events or happenings that seem certain to occur no matter what.*

In preparation for the development of scenarios at the workshop, each participant was asked to submit, prior to the workshop, the five critical uncertainties and the five predetermined elements which he/she believed would be most important in scenarios that would affect the development of Ben-Gurion University as an internationally ranked research university. The



complete lists of those pre-determined elements and critical uncertainties are contained in Appendix D.

Building on the previous conclusions regarding the linkage of the future of BGU and the future of the Negev, four scenario themes (Exhibit H) were selected by the group for development. Each theme was briefly discussed to make a preliminary identification of driving forces, key critical uncertainties and predetermined elements.

#### EXHIBIT H

##### A BRIEF SUMMARY OF SCENARIO THEMES

(The Planning Horizon For All Scenarios was 2020)  
Theme 1: Nothing New In The Negev: No New Formal National Policies Regarding the Negev.

Theme 2: Halcyon Days in the Desert: A New National Policy to Develop the Negev.

Theme 3: Dog Days in the Desert: A Low National Priority For the Negev.

Theme 4 . All Aboard, Next Stop Beer-Sheva: A Modest Investment in the Negev's Infrastructure, Particularly Its Transportation System

A team was formed by selection of members at random to develop each scenario theme. Each team was given the assignment of (1) developing the scenario, (2) testing the vision of BGU against the scenario to determine whether or not the described attractive future for BGU in 2020 was "realistic and credible" and (3) identifying general classes of strategies that would be effective in the continued

*Critical Uncertainties:*

*Can be ascertained by questioning the assumptions that were made in defining the predetermined elements*

*In building scenarios what are some questions to ask ?*

*What are the driving forces ?*

*What do I feel is uncertain ?*

*What appears inevitable ?*

*What about this plot , what about that plot ?*

*In designing scenarios you should design at least one that frightens management enough to think - but not enough that they shut down*



development of BGU under the environmental conditions described by the scenario.

The scenarios are summarized in Exhibits I through L along with the strategies identified to maximize fulfillment of the vision under the environmental conditions described by the scenario.

### **SCENARIO 1: NOTHING NEW IN THE NEGEV**

#### Team Members

Avishai Hennig	Lechaim Naggan
Haim Huber	Aharon Yadlin
Benjamin Machnes	Zvi Zurr

#### Theme 1:

*Nothing New In The Negev: No  
New Formal National Policies  
Regarding the Negev.*

In the year 2020, there has been a stable peace in the Middle East for more than two decades. The population of Israel has grown to 10 million. The population of the Negev has grown to 1 million, of which about 25% are Bedouins. Beer-Sheva has a population of about 250,000. Ben-Gurion University's enrollment has grown to 20,000 students.

The college-university system in Israel is thriving. Governmental support for BGU has increased in real terms by 30% and now accounts for 78% of the



University's base support. The general priority given to the Negev by the Federal government has changed little over the past three decades.

Under this scenario the strategies identified by the scenario team as being most effective in pursuit of BGU's vision - -i.e. the strategies that will have moved BGU closest to its vision - - are those summarized in Exhibit I.

#### **EXHIBIT I**

##### **STRATEGIES FOR DEVELOPMENT OF BGU UNDER CONDITIONS OF SCENARIO 1**

###### **\*Increase the number of students by**

-Building more dormitories and apartments  
(increase the number of beds by 8,500 to 12,000)

-Increasing the number of scholarships.

-Increasing the number and size of pre-academic classes, including perhaps opportunities for completion of the high school degree.

-Attracting Bedouin students and making it possible for them to thrive in the BGU culture.

-Pioneering the design, development and demonstration of imaginative teaching techniques and materials.

###### **\*Increase the proportion of graduate students to 30%**

**by**

-Creating multi-disciplinary centers of excellence in research and teaching (e.g. desert studies and ecology, communication, business, environmental studies, neuroscience, health services,

-Promoting colleges in the Negev and forming partnerships with them.



-Creating new centers of excellence in research and capitalizing on existing excellence. (e.g. arid areas,

community health); work to establish cooperative international centers for Mid-East countries.

**\*Attract more outstanding students from around the world.**

**\*Change the ratio of natural science and engineering faculty to arts and social sciences faculty to more closely reflect the distribution of students.**

**\*Increase BGU's research capability and capacity by attracting scientists of international stature and leadership.**

**\*Increase the rewards for research productivity by BGU scholars.**

**\*Capitalize on BGU's unique research opportunities because of its location and expertise (e.g. arid zone research, arid agriculture, water, Middle East Studies); special emphasis should be placed on developing collaborative programs with scholars throughout the Middle East and , indeed, throughout the world.**

**\*Expand BGU's physical plant from 80,000 to 200,000 m<sup>2</sup> by 2020. This will require \$10 million/yr. for the next 25 years, including infrastructure and equipment for laboratories.**

**\*Strengthen the Negev's political position through appropriate lobbying.**

**\*Enhance BGU's involvement in development of the Negev in all aspects: economics, educational, cultural,...**



## SCENARIO 2: HALCYON DAYS IN THE DESERT

### Team Members

Colette Antal	Dan Meyerstein
Israel German	Zvi Peleg
Rachel Lazin	Noun Shavit

*Theme 2: Halcyon Days  
in the Desert: A New National  
Policy to Develop the Negev.*

There is a new national policy to develop the Negev. It becomes what Ben-Gurion envisioned. The conditions described in Scenario 2 for the year 2020 can occur only in a sustained period of peace and general prosperity for all of Israel. This implies that other universities will also benefit from this prosperity and that even under these halcyon conditions, BGU must enhance its competitive position in the Israel higher education system relative to that in 1992. BGU will have to gain a competitive advantage in recruiting and retaining outstanding students and faculty.

The strategies that will be most effective in pursuit of the University's vision under the conditions of affluence that are described in Exhibit J.

### EXHIBIT J

#### STRATEGIES FOR DEVELOPMENT OF BGU UNDER CONDITIONS OF SCENARIO 2

\*Develop incentives to attract outstanding students from throughout Israel and from around the world.

\*Develop new and innovative academic programs to attract outstanding students.



**\*Improve the level of teaching laboratories for undergraduate and graduate students.**

**\*Develop a rich array of cultural activities on campus.**

**\*Modify the structure of the curriculum of technology and perhaps of the curriculum of the sciences.**

-The first two years will be devoted to basic studies; the third and fourth years each student will be able to choose an academic program specially designed to equip him/her to deal effectively with rapid changes in technology.

-The changes in curriculum will lead to the progressive disappearance of the classical departmental structure and facilitate multi-disciplinary activities of the faculty.

-Interactions and collaborations of faculties across disciplines throughout the University should be promoted.

**\*Create centers of excellence.**

**\*Increase the ratio of graduate to undergraduate students with particular emphasis on increasing the ratio of Ph.D. students to undergraduate students. Achieve a ratio characteristic of the world's most distinguished research universities.**

**\*Enhance opportunities for continuing education for engineers employed by regional industries.**

**\*Attract outstanding faculty to BGU; aim high and include Nobel Laureates.**

**\*Create new departments in the Arts (e.g. music, cinematography,...).**

**\*Create a law school, but only if a very high quality faculty can be recruited.**

**\*Increase the number of students up to 20,000... and even consider targets of 30,000 and 40,000.**

**\*Encourage and expand research in fields essential to development of the Negev: water, energy, desert agriculture, and ecology.**

**\*Give priority to multi-disciplinary topics in Science and Engineering including:**

- Environment
- Energy
- Biotechnology



- Biomedicine
- Genetic Engineering
- Robotics
- Quality Control/Quality Assurance
- Systems Engineering
- Information Engineering.

### **SCENARIO 3: DOG DAYS IN THE DESERT**

#### Team Members

Abraham Bar-On                      Michael Lin  
Yaakov Blidstein                      Shimon Moses  
Marek Glaserman Zvi Priel

*Theme 3: Dog Days in the Desert: A Low National Priority For the Negev.*

The Negev has been neglected for more than two decades. The Negev region becomes the site for major military installations and for obnoxious industries. As a result, poorly educated people make up an increasingly large percentage of the region's population.

In the face of general sustained deterioration of the economy and quality of life in the Negev, it will become increasingly difficult for BGU to recruit and retain outstanding faculty and students. Because of the loss of key faculty and the growing awareness of the low priority given to the region by the National government, the ability of BGU scholars to compete successfully for grants at the national and international levels dwindles. Morale drops, accelerating the process of deterioration of BGU.



Under these extremely bleak conditions, what strategies would be most effective for BGU to utilize in its quest to become an outstanding research university. The strategies are summarized in Exhibit K.

#### **EXHIBIT K**

##### **STRATEGIES FOR DEVELOPMENT OF BGU UNDER CONDITIONS OF SCENARIO 3.**

**\*Create new and innovative education and training programs for military personnel (e.g. Create a military academy or special programs for Air Force, artillery, computers and communication).**

**\*Exploit new research opportunities associated with the military (e.g. Physiology of the soldier in the desert, desert medicine, triage, psychology and sociology of people in groups under stress).**

**\*Train people for careers in all areas of waste management (e.g. pollution control and abatement; municipal solid waste management; environmental monitoring and remediation).**

**\*Train industrial personnel to control environmental contamination.**

**\*Develop academic-industry cooperative programs in waste management.**

**\*Exploit new research opportunities in waste management and environmental management.**

**\*Develop new innovative educational programs responsive to the special needs of the changing population.**

**\*Reorganize the University to minimize the impacts of the loss of resources: merge some units; eliminate some others; develop new multi-disciplinary units involved in undergraduate and graduate education which develop and utilize innovative teaching methods. Areas to be taught will be determined by priorities as conditioned by the budgetary constraints and options (e.g. availability of teachers).**

**\*Develop or maintain, one or two centers of excellence**



in areas which DO NOT require major investment in infrastructure or equipment. These areas must receive adequate funding to be competitive.

**\*Promote institutional relations with well-established universities, primarily for joint experimental research.**

**\*Initiate development of multi-disciplinary research groups with an emphasis on areas of applied research and industry-related research.**

**\*Launch and sustain a major fund-raising campaign and an active marketing strategy for BGU.**

**\*Create special incentives such as housing and subsidies to attract students.**

**\*Capitalize on special existing and area-related programs such as the Ben Gurion Heritage and the Blaustein Desert Research Institute.**

**\*Develop educational centers and teaching programs for continuing education of graduates including physicians, administrators, engineers, military personnel. Utilize local housing for special intensive programs.**

**\*Create contracts to sell educational information to other universities (e.g. to Third World universities with international financing and the Arab World, if peace has been secured.)**

**\*Increase specialized educational opportunities for students from the Western World such as the Boston course in administration and economics.**

**\*The need for the medical services of Health Sciences faculty will continue regardless of economic conditions. Most receive most of their salaries from special funds, and get only limited financial support from the University.**

**\*Lead the campaign to change the attitudes of the government toward the Negev and enhance the region's priority.**

**\*Promote absorption of immigration in the Negev.**

**\*Exploit the scientific and technical potential of the University to attract industry to the Negev.**

**\*Influence the Planning and Grants Committee to increase its allocation to maintain and expand the University's Educational and Research Programs.**



## SCENARIO 4: ALL ABOARD, NEXT STOP BEER-SHEVA

### Team Members

Ron Apte	Amos Richmond
David Bareket	Avia Spirak
Nahum Finger	Gideon Witkon

*Theme 4 . All Aboard, Next Stop Beer-Sheva: A Modest Investment in the Negev's Infrastructure, Particularly Its Transportation System.*

A modest investment is made in the Negev, primarily in its transportation infrastructure. In 2020, Israel has a population of 10 million. The college and university student population is between 200,000 and 250,000. BGU has about 20,000 students.

Because of advances in transportation throughout Israel, distance is no longer a limiting factor. Because of high speed trains and better highways, the Negev is no longer disadvantaged because of distance. Communication methods have been greatly advanced contributing to overcoming the effects of distance on conducting human transactions, including education. The Negev has a distinct advantage because of the availability of space for expansion.

Because of these advances, there are no geographic constraints on the selection by Israeli students of one college or university over another. The main centers of population will be within a 30 - 50 minute ride; the



competitive advantage of location, while not zero, has been reduced significantly.

The strategies that would be most effective under these conditions in continued development of BGU or a major research university are summarized in Exhibit L.

**EXHIBIT L  
STRATEGIES FOR DEVELOPMENT OF BGU UNDER  
CONDITIONS OF SCENARIO 4**

**\*Maintain and expand enrollment through the development of unique and attractive programs that will make BGU a priority institution while continuously expanding and enhancing its research capability and excellence.**

**\*Become a comprehensive research university with satellite campuses throughout the Negev; each specializing in unique fields relying on the excellence and expertise of the Flagship Campus in Beer-Sheva.**

**\*Provide professional/specialized programs as well as broad/general education programs.**

**\*Create articulation agreements between BGU and colleges to develop a pool of potential candidates for juniors and seniors for BGU.**

**\*Change the academic administrative structure of BGU from a classic faculty/departmental model towards clearly identified centers of specialization that will act as "Profit Centers" with close and direct client/supplier relationships. Develop a structure that is responsive to**

**-Mobility: staff, students, reserves; decentralization; promotion of entrepreneurship.**

**\*Become more competitive through development of unique and innovative programs and incentives for faculty and students. This will become necessary because of the emergence of a "Free Market Type" competition in higher education through the creation of private institutions and possible reduced central controls.**



**Strategies should include:**

- Stress on marketing
- Recruitment of international students
- Expanded and enhanced teaching services:  
colleges, industry, continuing education
- Development of modularized, customized programs tailored to the specific needs of individuals and groups
- Addition of new fields
- Retention of BGU's student friendly atmosphere

**\*Enhance the quality of life on campus and in Beer-Sheva. At present, the image and the reality of the quality of life in Beer-Sheva are among the greatest impediments to the attraction of outstanding students to BGU.**

**\*Develop unique centers of excellence, multi-disciplinary groups with emphasis on applied areas and issues with linkages to regional development.**

**AN IDENTIFICATION OF THE MOST ROBUST STRATEGIES FOR DEVELOPMENT OF BGU**

In analysis of the strategies identified by the scenario teams to continue development of BGU as a major research university under a wide range of external conditions reveals that a number of strategies are robust: participants believe they would work well under all scenarios. These strategies are summarized in Exhibit M.

*Are there any strategies that will work well under all scenarios ?*

**EXHIBIT M**

**A SUMMARY OF THE MOST ROBUST STRATEGIES FOR DEVELOPMENT OF BEN-GURION UNIVERSITY AS A PREMIER RESEARCH UNIVERSITY. (THE STRATEGIES ARE BASED ON THE FOUR SCENARIOS).**



**\*Develop BGU as a comprehensive research university of international stature that exploits the special needs and opportunities of the Negev region; that stimulates the economic, educational and cultural development of the region through a rich array of programs; that promotes the development of satellite campuses and remote-learning sites throughout the Negev, each with a special mission.**

**\*Increase enrollment, particularly through the development of unique and attractive programs, and increase the proportion of graduate students, particularly those pursuing the Ph. D. Develop rich and diverse incentives to raise the quality of the student body as its quantity is increased. Develop and sustain the infrastructure necessary to meet the needs and expectations of this expanded student body.**

**\*Develop centers of excellence that are recognized throughout the world for their research and education; exploit unique and unusual opportunities of the region in selecting themes for some of these centers of excellence, stress multi- disciplinary approaches to problem solving.**

**\*Expand and enhance educational opportunities for non-traditional students and markets: part-time students, Bedouin students, older students. Offer intensive short courses, both on and off campus, tailored to the special needs of government and industry.**

**\*Develop a more flexible organizational structure for the University, one that can respond better to rapidly changing needs and opportunities throughout the Negev, throughout Israel, and throughout the world.**

**\*Recruit outstanding scholars to Ben-Gurion University for full-time faculty positions, for part-time positions, and for visiting appointments.**

**\*Develop new, innovative approaches to education at all levels: stress the importance of all kinds and levels of teaching and reward excellence in teaching; pioneer the development of new multi-disciplinary and modular curricula to enable programs to be tailored to the special needs of individuals.**



## NEXT STEPS IN THE STRATEGIC PLANNING PROCESS

Phase II of the process:

Strategic Planning involves a four-step process:

- \* Vision formulation
- \* Developing strategies
- \* Tactical planning
- \* Implementation and Operations

After formulating the vision statement, the next step in developing a strategic plan is to clearly articulate and communicate the vision to the campus community. It is important that there is a clear understanding at all levels of the key concepts in the vision for the University. Communication, by the highest levels of management, at each step of the process is critical for creating a culture that encourages strategic thinking and strategic action. When strategic planning is performed properly and the plans communicated effectively, it becomes woven into the very fabric of the organization. It should be possible for the people throughout the organization to immediately see the vision and to visualize where they fit within the overall strategic plans of the organization.

*Step 7. - Clearly articulate and communicate the vision to the campus community*

The next step in the process of developing a strategic



action plan to guide the future development of Ben-Gurion University is to carry the vision forward and develop from it a mission statement that serves as a guide in enabling the University:

*Step 8. - Carry the vision statement forward and develop from the vision statement a mission statement*

- \* To articulate organizational goals,
- \* To develop a clearly defined set of strategies to achieve the goals,
- \* To identify strategic opportunities by which the strategies can be realized and,
- \* To identify the information channels that are required to complement and manage the strategic plan.

(In this process it is important that no assumptions be made about the types of strategies that will be required for success in tomorrow's environment.)

Strategy requires vision, but implementation requires leadership. Tactics are the bridge between strategy and implementation. On one side of the bridge the senior leadership of the University is responsible for translating the vision into strategies that can serve to chart the future course of the University. On the other side of the bridge, operational management formulates tactical plans to implement the strategies.



*Step 9. - Develop a process that  
Validates or modifies the strategies  
and which results in faculty and staff  
buying into the process.*

It is therefore incumbent on the leadership of the University to translate the vision statement into a mission statement and into strategies from which an action plan can be crafted. In the course of the workshop a number of classes of strategies were identified as outcomes of the scenario process. The leadership the "Committee of the Whole" must assume responsibility for validating or modifying those University-wide strategies, reproduced elsewhere in this document, and for implementing a process that results in a faculty buy-in to the vision, to the mission statement, into strategies and finally into an action plan.

*Step 10. - Develop work groups  
cwithin the various faculties and  
institutes charged with replicating the  
workshop process to formulate a  
vision for their own units and to  
identify strategies to achieve the vision*

During the planning process, the participants were asked to identify the driving forces and determine the role that the driving forces could play in the development of the University. The next step in the process is to develop work groups within the various faculties and institutes that are led by the appropriate dean or director. These work groups should be charged with replicating the workshop process using the tools (vision statement, scenarios, strategies etc.) applied during the workshop to formulate a vision for their own units, and to identify strategies to achieve that vision. The working groups should be reminded that they must bring to the planning session no



preconceived notions regarding the organization of the internal environment, and that they must focus on what is important in their own environment. The leaders of the working groups should also indicate that the emphasis of the sessions is on substance rather than form and that there are no "bad ideas," just ideas. The important question to be asked in evaluating ideas is "how will this idea help us to achieve and sustain the vision."

Once each working group has completed these tasks for its own environment, it should identify two to three strategic opportunities by which the strategies can be realized and from which an action plan can be created. The narrative statement supporting each strategic opportunity should address the following points:

- \* Name of organizational unit proposing the strategic opportunity,
- \* Description of the proposed strategic opportunity,
- \* Identify the strategy or strategies that the opportunity is designed to support? How will it serve to support and sustain the vision for the University?
- \* Why should implementation of the opportunity be considered strategically important to the University?
- \* How might the University be threatened

*Step 11. - Have the working groups identify two to three strategic opportunities by which the strategies can be realized and from which an action plan can be crafted.*



(potential exposures) if it does not pursue a strategic advantage in this area?

\* Document any future benefits and opportunities (future enhancements) that might accrue at a later date by pursuing this opportunity.

\* Are there any multi-disciplinary aspects to the proposal? Please explain and indicate if there is support from other units for this proposal.

\* Are there any quality of life issues for either students or faculty that are addressed by this opportunity?

\* What are the recurring costs associated with implementation of the opportunity? What are the one-time non-recurring costs? Can any of these costs be met by internal reallocation within the unit?

While the identification of possible strategies was developed through a scenario process, the identification of the strategies and strategic opportunities that are most important to achieving the vision will be developed through linkage analysis. Linkage analysis is a planning tool that helps to determine if the proposed strategic opportunity will raise the overall effectiveness of the University and the extent to which it will assist in achieving the vision of the University. At a workshop to be conducted early next year, the strategies and strategic opportunities will be analyzed using the linkage analysis technique. From this analysis it is expected that the University will be able to produce a strategic plan that has the following elements:



- \* An overall strategy statement,
- \* Linkage charts for both internal and external linkage analysis,
- \* Summaries of approved action plans, potential exposures and future enhancements,
- \* Documentation of critical implementation linkages that must be managed to ensure success,
- \* Assignments of individuals and or work groups to each action item in the strategic plan.

The creation of an action plan requires the involvement not only of the senior leadership of the University, but also the faculty and staff as well as the Board of Governors and, if possible, the Planning and Grants Committee. It is expected that a process will be implemented for sharing the action plan with these bodies prior to actual implementation.



## APPENDIX A

### WORKSHOP PARTICIPANTS

#### University Administration:

Dr. Avishay Braverman	-	President (Economist)
Prof. Dov Bahat	-	Rector (Geologist)
Prof. Lehaim Naggan	-	Vice-President and Dean of Research & Development (Epidemiologist)
Prof. Dan Meyerstein	-	Deputy-Rector (Chemist)
Gideon Witkon	-	Director-General
Dr. Israel German	-	Head of the Division for Budgeting, Planning and Economics (Economist)
David Bareket	-	Head of the Finance Department (Accountant)

#### University Staff:

Avraham Bar-On	-	Academic Secretary
Yoram Hurvitz	-	Head of the Department of Public Affairs
Rachel Lazin	-	Senior Assistant to the President

#### Faculty of Humanities and Social Sciences:

Prof. Avia Spivak	-	Dean (Economist)
Prof. Avishay Hennig	-	Deputy Dean (Psychologist)
Prof. Yaakov Blidstein	-	Former Dean (Historian)

#### Faculty of Natural Sciences:

Prof. Noun Shavit	-	Dean (Life Sciences)
Prof. Zvi Priel	-	Chairman of the Committee for Research students (Chemist)
Prof. Michael Linn	-	Mathematician



### **Faculty of Engineering Sciences:**

- Prof. Nahum Finger - Dean (Industrial Engineering & Management)  
Prof. Yehoshua Pelleg - (Materials Engineering)  
Prof. Yigal Ronen - Director of the Aranne Library (Nuclear Engineering)

### **Heads of Institutes:**

- Prof. Amos Richmond - Director of Blaustein Institute for Desert Research

### **Faculty of Health Sciences:**

- Prof. Shimon Moses - Dean (Pediatrician)  
Prof. Mark Glazerman - Deputy Dean for Academic Staff (Gynecologist)  
Prof. Ron Apte - (Immunologist)

### **Public Members of the Executive Committee:**

- Aharon Yadlin - Vice-Chairman of the Executive Committee  
Dr. Haim Huber - Chairman of the Finance Committee  
Zvi Zurr - Chairman of the Committee for Physical Planning and Construction  
Benjamin Machnes - Member of the Committee for Physical Planning and Construction  
Collette Zeruya - Director, R & D Negev Arava (Jewish Agency)

### **Students:**

- Moshe Fisher - Chairman of the Student Association  
Ronit Ben Simon - Responsible for the Academic Committee



APPENDIX B

**BEN-GURION UNIVERSITY IN 2020:  
WHO AND WHAT WILL SHAPE ITS FUTURE?**

**The First Step In a Sustained  
Strategic Planning Process**

**MONDAY  
2 November 1992**

1030 Welcome and Introductions

An Overview of Why & How We Got Here;      Sidney Gelber  
Selection of the Participants and the      President Bravermann  
Facilitators; What We Intend to Accomplish      Rector Bahat

1100 An Overview of the Workshop  
Process and Products

Goals and Objectives; Our Roles and Yours;      J.R. Schubel  
Process and Products      L.E. Noonan

[A Brief Time For Comments and Response]

1130 *A Warm-Up*

Brainstorming of Two or Three Major Issues

Including:

*\*In how many ways can BGU convert the mandate to increase its enrollment into a competitive advantage to enhance the development of BGU as an international center of excellence?*

*\*In how many ways can BGU convert its mandate to serve the region into a competitive advantage to enhance the development of BGU as an international center of excellence?*

1230 A Clarification of the Vision for BGU to Guide the Selection of  
Tactics and Strategies



On Formulation of A Vision—  
Your Vision for BGU

*\*Identification of the Elements of that Vision*

*\*Integration of the Critical Elements into a Powerful and  
Persuasive Vision Statement.*

1300-1400 Lunch

Break and Voting to Select the Most Important Tactics to  
Integrate Into a Strategic Plan

1400-1500 Vision Session Continued

1500-1600 Scenario Planning Session

*\*A Brief Overview of Scenario Planning*

*\*Review of Lists of Pre-Determined Events and Critical  
Uncertainties Submitted by Participants*

*\*Selection of the Appropriate Set*

*\*Identification of Driving Forces*

1630-1700 Break

1630 Scenario Planning Session Continued

*\*Identification of Scenario Themes*

*\*Formulation of Scenario Teams*

*\*Scenario Spinning - - Starting the Process*

1730 The Evening's Assignment

The Scenario Planning Groups will meet separately over dinner and continue their deliberations throughout the evening. Each group will develop a short 2-3 page scenario that will be typed and duplicated for distribution

Sidney Gelber  
J.R. Schubel  
L.E. Noonan



and discussion first thing Tuesday morning.

Each scenario team will explore the implication of that scenario for the vision of BGU and will make recommendation to strengthen the vision and for strategies to achieve it.

2030 Working Dinner

**TUESDAY  
3 November**

0830 A Brief Status Report & An Overview J.R. Schubel  
of the Day's Work

0845 Brief Reports of the Scenarios  
Planning Groups

Reports By:  
Planning Group  
Chairs; J.R.  
Schubel  
Facilitator

1045-1100 Break

1100-1200 Completion of Reports &  
Discussion of the Scenarios

1200-1230 From Vision to Scenarios to Strategic  
Planning

L.E. Noonan  
J.R. Schubel

1230-1300 Wrap-Up; Summary

J.R. Schubel

1300-1345 Next Steps

Rector Bahat  
Sidney Gelber

1345 Closing Observations

President  
Bravermann



## APPENDIX C

### DESIRABLE CHARACTERISTICS FOR BGU IN 2020 (IDENTIFIED BY PARTICIPANTS BEFORE THE WORKSHOP)

<u>Year</u>	<u>Key Word/Phrase</u>	<u>Desirable Characteristic</u>
2020	Dynamic	*Young, Exciting, Interesting
2020	Econ.	*Less Dependent on Government Financing of Operating Budget
2020	Econ. Decent	*Economic Freedom to Various Units
2020	Econ. Indep.	*Economic Independence
2020	Env./Tech.	*To Cope with Events to Occur e.g. Environmental Changes
2020	Excellence/Collab./Int.	*Many Strong International Projects
2020	Excellence/Collab./Univ.	*Many Strong Multi- Departmental Activities
2020	Excellence/Collab./Univ.	*Interdisciplinary Research and Teaching
2020	Excellence/Comp./Grad.	*Graduate Programs Across the Board (All Departments)
2020	Excellence/Creativity	*Most Progressive University in Israel
2020	Excellence/Creativity	*The Progressive University in Israel
2020	Excellence/Envir.	*Contribution to Saving Our Planet (Water, Air, Soil, Population)
2020	Excellence/Gen.	*Academic Rating Comparable to One of 30 Best US Universities
2020	Excellence/Gen.	*Highest International Reputation
2020	Excellence/Gen./Res.	*Planning the Use of Spare Time Resulting From the Scientific and Technological Revolution



2020	Excellence/Gen./Res.	*Larger Relative Weight in Research and in Influence in Israel's Academic Establishment
2020	Excellence/Gen./Sci.	*Scientific Excellence
2020	Excellence/General	*A Magnet for Foreign Students in General and Israeli Students in Particular
2020	Excellence/General	*An Environmental Academically/Socially/Economically Attractive to Scholars from over the World
2020	Excellence/Grad.	*For Graduate (Ph.D) and Post Doc. Activity Enhancement
2020	Excellence/Grad./Res.	*The proportion of Masters and Doctoral students to undergraduates will increase significantly, in line with the University's role as a research institution
2020	Excellence/Image	*The Preferred Institution by Israeli Students
2020	Excellence/Innov. Reorg.	*Physical, financial and other barriers to interdisciplinary teaching and research programs at BGU will be minimal, to allow response to rapid changes in the world and to make the most of the human resources of the University.
2020	Excellence/National	*Having Definite Impact on Israeli Culture and Thinking
2020	Excellence/Regional	*Having Unique Specializations Relevant to Geographical Location
2020	Excellence/Relevance	*Relevance
2020	Excellence/Res./Grad.	*Academic Excellence of Research, Competitive with Other Israeli Universities
2020	Excellence/Res./Grad.	*Research Exchanges,



Including Foreign Graduate and Postdoctoral Students in

BGU 2020	Excellence/Select.	*There will be a number of Internationally recognized centers of excellence in the University with creditable quality in every Department.
2020	Excellence/Select.	*BGU will have active multi-disciplinary centers for research in fields at the frontier of science at a given time (for example, and without any attempt to be inclusive: Materials Science, Protein Engineering, Neurosciences, Non-Linear Optics, etc.)
2020	Excellence/Spec./Appl.	*Applied to Policy & Theoretical Basis
2020	Excellence/Spec./Reg. Dev.	*International Center for Desert Studies
2020	Excellence/Spec./Reg. Dev.	*International Center-Community Health Studies
2020	Excellence/Spec./Reg. Dev.	*Industries for Advanced Studies Areas of Extreme Excellence
2020	Excellence/Spec./Reg. Dev.	*A World Known Place for Desert Studies
2020	Excellence/Specializ.	*National Leader in a Number of Specific Fields
2020	Excellence/Specializ.	*An Internationally Recognized Center for State-of-the Art Scientific Development
2020	Excellence/Specializ.	*Develop Several Unique and Internationally Recognized Programs
2020	Excellence/Specializ.	*Become a Leader in Selected Fields to Attract Students and Scholars
2020	Excellence/Specializ.	*Specialization of Universities as Academic Teaching Institutions
2020	Excellence/Specializ./ Reg.	*Specialization of Applied



		Research and Basic Research Institutes as Separate Entities in Affiliation with Universities
2020	Excellence/Specializ./ Reg. Dev.	*Specialization of BGU in Issues Connected to the Development of the Negev
2020	For. Rel.	*Cooperation with Neighboring Arab Universities
2020	Innov. Organ. Structure	*Division of Departments & Faculties by New Lines & New Structures
2020	Innov. Reorg.	*I predict, a possible split of BGU into 3 Separate Institutions: Experimental Studies, Social Studies and Applied Research
2020	Innov. Reorg.	*Possibility of Intra-Faculty Majors
2020	Nat. Pol./Edn.	*Growth of BGU to a Level of 30,000 40,000 students
2020	Nat. Pol./Edn.	*My prediction is that by the Year 2020 most "first degree" student education will be by Regional Colleges and Schools. Universities will specialize in Basic Research and Advanced Education
2020	Pop./Demog.	*More than 10 billion People on Earth
2020	Quality of Life	*Intimate and Pleasant
2020	Quality of Life	*Cultural Center for the Area
2020	Quality of Life	*Relative Intimacy of Students & Faculty
2020	Reg. Dev.	*Strong Interaction with Negev Industries
2020	Reg. Dev.	*Leading Role in Regional Development
2020	Reg. Dev.	*Cooperation with Other Institutions Involved in Regional Development
2020	Reg. Dev.	*Desert Development, With Engineering and



Desalination, Solar Energy  
should be Central  
Characteristic.

2020 Reg. Dev./Tech.

\*Research Cooperation with  
Industry

2020 Reg. Dev./Tech.

\*Strong Relations with New and  
Existing Industries in the  
Region

2020 Size  
2020 Tech.

\*Number of Students 15,000

\*Development of Faculty  
Technology in relation to the  
Major Increase in Industry in  
the Area

2020 Tech./Reg. Dev.

\*A Highly Technological Society  
Some Countries, Including  
Israel

2020

\*Exploitation of Our Experience  
on International Level

2020

\*High Research Quality, Large  
Proportion of Graduate  
Students

2020

\*I believe BGU will remain and  
perhaps will increasingly  
become a  
technology—centered  
University.



## APPENDIX D

### LIST OF CRITICAL UNCERTAINTIES AND PREDETERMINED ELEMENTS IDENTIFIED BY PARTICIPANTS BEFORE THE WORKSHOP

<u>Critical Uncertainties</u>		
Critical Uncertainty	BGU	*Availability of Leadership
Critical Uncertainty	BGU	*Leadership
Critical Uncertainty	BGU	*There are Good Young Israeli Faculty Available — Will We Get Them?
Critical Uncertainty	BGU	*Recruiting Many Stars to BGU National & International Fame
Critical Uncertainty	BGU	*Physical Space Requirements (Size) of the Future Campus
Critical Uncertainty	BGU/\$	*Donations to BGU
Critical Uncertainty	BGU/\$	*Increased Endowments Allowing Greater Independence to the University
Critical Uncertainty	BGU/\$	*Substantial Increase in Amount of Money Raised for BGU
Critical Uncertainty	BGU/\$	*Fundraising Breakthroughs for Projects Making BGU Competitive with Other Institutions in Israel
Critical Uncertainty	Econ./BGU/\$	*Before Realization of any Substantial Increase in the Amount of Money Raised for BGU, there will be a Period of Constraint Requiring Consolidation
Critical Uncertainty	Econ./Nat. Prior.	*Overall Economic Performance of Israel and its Impact on Higher Education
Critical Uncertainty	Env./Edn.	*Probability of Major Earth Quakes in the Arava Requiring Scientific and Geotechnical Research



Critical Uncertainty	Envir./Reg. Dis.	*Discovery of Presently Unknown Natural Resources or Archeological Treasures.
Critical Uncertainty	For. Rel.	*Peace in the Region
Critical Uncertainty	For. Rel.	*Future Relations with Arab World
Critical Uncertainty	For. Rel.	*Peace with Neighboring Countries
Critical Uncertainty	For. Rel.	*Peace in the Middle East
Critical Uncertainty	For. Rel.	*Peace with Jordan and Syria
Critical Uncertainty	For. Rel.	*Returning Occupied Territories
Critical Uncertainty	For. Rel.	*Not Returning Occupied Territories (i.e. No Peace)
Critical Uncertainty	For. Rel.	*Peace in the Area
Critical Uncertainty	For. Rel.	*Economic Situation
Critical Uncertainty	For. Rel./Nat. Pol./Edn.	*The Impact of a Possible Peace on the Consumption of Education
Critical Uncertainty	For. Rel./Nat. Prior.	*Creation of a Regional Center for Study of Desertic Areas and Fight Against Desertification, in Egypt for example.
Critical Uncertainty	For. Rel./Peace	*The rate and extent of progress towards settlement of Israel- Arab conflict(s) This will critically affect government budgets, investment climate, regional cooperation, and the mood/goals of Israeli youth.
Critical Uncertainty	Nat. Pol.	*Success of Government Reforms
Critical Uncertainty	Nat. Pol./Edn.	*The Opening of Israel and Israeli Universities to Foreign Students
Critical Uncertainty	Nat. Pol./Edn.	*Open Enrollment in Some Disciplines
Critical Uncertainty	Nat. Pol./Edn.	*Level of Intervention; Government, Committee (Level of Subsidy to Education)
Critical Uncertainty	Nat. Pol./Edn.	*Meeting the Challenge of the Colleges
Critical Uncertainty	Nat. Pol./Edn.	*High Rate of Student



Critical Uncertainty	Nat. Pol./Edn.	Exchange
Critical Uncertainty	Nat. Pol./Edn.	*Status of Colleges in Israel
Critical Uncertainty	Nat. Pol./Edn.	*Influence of Political Decision Making
Critical Uncertainty	Nat. Pol./Edn.	*The Development (and Hence the Need to Control) New Disciplines in Studies
Critical Uncertainty	Nat. Pol./Edn.	*"Proliferation" of Undergraduate Colleges in Israel
Critical Uncertainty	Nat. Pol./Edn.	*Increased Importance of Graduate Teaching Shift of Government Subsidies and Change of Attitude of the Large Israeli Universities
Critical Uncertainty	Nat. Pol./Edn.	*Level of Government Subsidies (Influenced by Political and Security Conditions)
Critical Uncertainty	Nat. Pol./Edn.	*Continued Increase in the Number of Students at BGU
Critical Uncertainty	Nat. Pol./Edn.	*The Impact of Colleges on University Structure
Critical Uncertainty	Nat. Pol./Edn.	*Increase in the Polarity between Universities and Colleges in Terms of Subjects Taught and Researched, Specialization and Quality vs. Quantity
Critical Uncertainty	Nat. Pol./Edn.	*Structure of Higher Education in Israel -College System Versus Universities - Independent Research Centers Versus Research as Part of Academics
Critical Uncertainty	Nat. Pol./Edn.	*The Development of Other Competitive Institutions
Critical Uncertainty	Nat. Pol./Edn./BGU	*Reform of the Appointments and Promotions Procedure
Critical Uncertainty	Nat. Pol./Edn./BGU	*Creation of Instruments to Attract Good Young Faculty
Critical Uncertainty	Nat. Prior.	*National Priority of Negev
Critical Uncertainty	Nat. Prior.	*Government Science Spendi
Critical Uncertainty	Nat. Prior.	*Development of other



Critical Uncertainty	Nat. Prior.	Institutions for Higher Education *Resources Allocated to Higher Education
Critical Uncertainty	Nat. Prior.	*Government Involved in Higher Education
Critical Uncertainty	Nat. Prior./\$	*Funding
Critical Uncertainty	Nat. Prior./Edn.	*Will the public and government in Israel recognize the crucial role of, and give support to maintenance of, the infrastructure for scientific and technical education and for basic research?
Critical Uncertainty	Nat. Prior./Reg. Dev.	*How will Israeli political social developments affect attitudes toward the Negev? Will the government encourage settlement and industrial development in the Negev? Will Beer Sheva and it environs be able to attract and hold the talented staff and students the University needs and wants?
Critical Uncertainty	Pop./Demog.	*Demography Size of Population
Critical Uncertainty	Pop./Demog.	*Continued Immigration
Critical Uncertainty	Pop./Demog.	*Increase in Arab Population Due to High Birth Rate
Critical Uncertainty	Pop./Demog.	*Increase of Absolute and Relative Size of the Negrev
Critical Uncertainty	Pop./Demog.	*Immigration from Russia and Other Countries (South and North America)
Critical Uncertainty	Pop./Demog.	*Rate of Immigration ALIA (The Attractiveness of Israel)
Critical Uncertainty	Pop./Demog.	*Extent of immigration from f former USSR if is of course a critical unknown.
Critical Uncertainty	Prior.	*Order of Priorities
Critical Uncertainty	Reg. Dev.	*The Negev as future Agricultural and Industrial Zone
Critical Uncertainty	Reg. Dev.	*Transfer of Major Industry Including High-Tech to the



Critical Uncertainty	Reg. Dev.	Negev
Critical Uncertainty	Reg. Dev.	*Beer-Sheva a City?
Critical Uncertainty	Reg. Dev.	*Future Development of the Area
Critical Uncertainty	Reg. Dev.	*Development of High-Tech Industries in the Negev
Critical Uncertainty	Reg. Dev.	*The Negev will Change and Achieve Greater Prominence
Critical Uncertainty	Reg. Dev.	*Creation of Positive Image for City of Beer-Sheva
Critical Uncertainty	Reg. Dev./Nat. Prior.	*Decision, at National Level, of a Major Project, vast enough to significantly modify the economy of the whole southern area: for example, an international medical center combined with hydrothermal therapy.
Critical Uncertainty	Reg. Dev./Pop.	*Potential Dispersal Towards Negev and Galilee
Critical Uncertainty	Reg. Dev./Pop.	*Demographic Development of Negev
Critical Uncertainty	Reg. Develop.	*Development of Negev (Industrialization; Job Opportunities for Students)
Critical Uncertainty	Tech.	*Replacements of Existing Methods of Education (Techniques to Transfer Knowledge)
Critical Uncertainty	Tech.	*What new technologies will have the greatest economic and social impact in the next three decades, and at what speed will they develop?
Critical Uncertainty	Tech.	*In which new technologies will Israel manage to play a leading role in the future?
Critical Uncertainty	Tech./Edn.	*New Technologies in Desertic Agriculture and/or Brackish water Desalination
Critical Uncertainty	Tech./For. Rel.	*The willingness of foreign investors put their money



Critical Uncertainty

in Israeli High Tech  
Industries?

\*The Competition between  
"Basic Sciences" will be  
resolved into Curves of  
Periodic Shapes, with  
Service Sciences  
"Winning First", in  
the Near Future

Critical Uncertainty

\*If there is Peace in the  
Middle East, Bedouin will  
be likely to demand and  
receive increasing  
integration and  
access to higher education  
in Israel.



## Predetermined Events

Predetermined Event	BGU	*Increased Interdisciplinary; Modularization of Degrees; Tailored/ Unique Degrees; High Demand Degrees Offered by all Universities
Predetermined Event	BGU	*We bear the Name of David Ben Gurion
Predetermined Event	BGU	*All Senior faculty now at BGU will be Retired
Predetermined Event	BGU/Reg. Dev.	*Increase in Local Importance of Middle East Studies, Theatre and Music, "Further Complementary Education" for Adults
Predetermined Event	Env.	*Deterioration of the environment and an increased public awareness of the problem, and in some areas action will be imperative.
Predetermined Event	Env./BGU	*Increase in World-wide Importance of Environmental and Desert Specialization, Bio-Med- Engin, Computer Based Sciences and Technologies and Communication, Far-East and Central Asia Studies
Predetermined Event	Env./Reg. Dev.	*A solution for the shortage in water resources in the Negev is mandatory, (The Mediterranean Dead-Sea Canal?)
Predetermined Event	Env./Tech.	*Food Production
Predetermined Event	Envir.	*Ecological Pollution Problems
Predetermined Event	Envir.	*Water Crisis in Israel
Predetermined Event	Envir.	*Ecological Correctness Part of Human Ethic as the 11th Commandment
Predetermined Event	Envir.	*The Global Energy Problem
Predetermined Event	Envir.	*Ecological Considerations
Predetermined Event	Envir.	*Environmental Changes



Predetermined Event	Envir.	*Energy Shortage
Predetermined Event	Envir.	*Ecological and Environmental Issues Become Dominant
Predetermined Event	Envir.	*An Increasing Demand for Expertise in Dealing with Arid Zones Global Problems such as; Food; Shelter; Environment etc.
Predetermined Event	Envir.	*Significant Developments in Environmental Research.
Predetermined Event	Envir./Tech.	*Substantial Investments in Water Research
Predetermined Event	For. Rel.	*Breakdown of Communism
Predetermined Event	For. Rel.	*Free Market Economy Coupled with Peace in Middle East
Predetermined Event	For. Rel.	*Peace Treaty with Jordan and Saudia: Cooperation with Scholars from These Two Countries and from Egypt
Predetermined Event	For. Rel./Globaliz.	*Greater Influence of World Events on BGU's Directions
Predetermined Event	Nat. Pol./Edn.	*The Accreditation as Degree (BA, BS) Granting Institutions of Many Community/Technical Colleges
Predetermined Event	Nat. Pol./Edn.	*Increase in the number of Students (up to 2,000)
Predetermined Event	Nat. Pol./Edn.	*Expansion of College System in Israel
Predetermined Event	Nat. Pol./Edn.	*Increase in Size of Student Body
Predetermined Event	Nat. Pol./Nat. Prior./Edn.	*Increased Demand for High Education (Partly Because of Lower Level of High School Graduates)
Predetermined Event	Nat. Prior.	*Increase in the Number of Students
Predetermined Event	Nat. Prior./Edn.	*Changes of goals in the Universities in particular in the scope of M. Sc. and Ph.D. programs. It is expected that industry will put more



emphasis on hiring M. Sc.'s. There will be a broadening of research horizons to embrace not just research in the core areas but also research in problem domains that fall in nontraditional categories.

Predetermined Event	Nat. Prior./Edn.	*The number of Mikhlalot ("Colleges") will grow and the Universities will be responsible for the development and support of their programs.
Predetermined Event	Nat. Prior./Edn./BGU	*BGU A Comprehensive Institution
Predetermined Event	Nat. Prior./Reg. Dev.	*Priorities of the Government Vis-A-Vis the Negev and Higher Education
Predetermined Event	Pop./Demog.	*Accelerated Growth of Israel's Population
Predetermined Event	Pop./Demog.	*Immigration to Israel from USSR & US
Predetermined Event	Pop./Demog.	*Overpopulation and Tragedy in Many Locations all of the Time
Predetermined Event	Pop./Demog.	*Tripling of the Negev Population Population Within 25 Years
Predetermined Event	Pop./Demog.	*Change in Density of Population
Predetermined Event	Pop./Demog.	*Population Growth Continues, But Increase Share of Minorities, Older Population
Predetermined Event	Pop./Demog.	*Increase in Human Longevity
Predetermined Event	Pop./Demog.	*Population Growth and Increasing Demand for Education.
Predetermined Event	Pop./Demog.	*Significant Increase of Population, requiring inventive solutions in the domains of town planning, architecture, human physiology and and so on.
Predetermined Event	Pop./Demog.	*Increasing population of Bedouin in the Negev. Twenty-five percent of births are now Bedouin; by 2020 over 25% of young adults will be Bedouin.



Predetermined Event	Pop./Demog.	*Increase of the population in the Negev due to Alia and natural population growth.
Predetermined Event	Pop./Demog.	*As a consequence a parallel increase in the number of eligible students at BGU is to be expected (also due to lower barriers to matriculation).
Predetermined Event	Pop./Demog./Edn.	*The composition of the student body will change. It will be more and more heterogeneous in background and preparation, due to immigration, upward mobility of Bedouin and other populations formerly outside the student pool (this could extend over two decades).
Predetermined Event	Pop./Demog./Reg. Dev.	*Demographic Character of Beer-Sheva and the Area
Predetermined Event	Reg. Dev.	*The Negev Accounts for Over 50% of the Land of Israel
Predetermined Event	Reg. Dev.	*The Development of Beer Sheva
Predetermined Event	Reg. Dev.	*Industrialization of the Negev
Predetermined Event	Reg. Dev.	*The Negev is the Primary Land Reserve for Urban and Industrial Development
Predetermined Event	Reg. Dev.	*National Growth and Development will Reach the Negev
Predetermined Event	Reg. Dev.	*Heavy chemical industries, based on Dead Sea and Negev raw materials or serving arms industries will play an important role in the economy of the Negev.
Predetermined Event	Reg. Dev./Nat. Prior.	*Priority, at national level, to the development of the southern region of Israel: increased involvement of BGU in fields of region of Israel: increased involvement of BGU in fields of research related to this endeavor.



Predetermined Event	Tech.	*An Increase in the Importance of Technology
Predetermined Event	Tech.	*The Rapid Change of Technology
Predetermined Event	Tech.	*Scientific and Technological Revolution
Predetermined Event	Tech.	*Use of Mathematical and Computational Modeling in all of the Social Sciences, Engineering, and Medicine (Because of Rapid Technological Changes)
Predetermined Event	Tech./Edn.	*Academization of Technical Occupations
Predetermined Event	Tech./Edn.	*Universities will focus more and more on technology and competitiveness, on interdisciplinary and application-oriented problems, on continuing-education programs for the scientific/technical population, including on campus programs funded by industries. Tele-education by video either simultaneous or by delayed broadcasts will become widespread.
Predetermined Event	Tech./Edn.	*There will be increased use of computational modeling, simulation, and control in all spheres of activities that will require more appropriately trained manpower.
Predetermined Event	Tech./Edn.	*New developments in biotechnology. The approach to medical, environmental and agricultural problems will be more dynamic, requiring more monitoring, analysis and specifically tailored solutions changing in time.



Predetermined Event	Tech./Reg. Dev./Edn.	*Push Toward More High-Tech Based Industrialization New Engineering, Technological Processes; Resurgence of Primacy of Manufacturing and Industrial Management Leading to Increased Demand for Engineering and Managerial Skills
Predetermined Event		*Increased Demand for University Degree
Predetermined Event		*Increasing Role of European Science
Predetermined Event		*Globalization of Higher Education, Penetration of American Universities and the Rise of Some Private Institutions
Predetermined Event		*Decline in Demand in Humanities and Some Social Sciences; Further Move Towards Professions.
Predetermined Event		*The "Dream" of Israelis to be Managers; Sophisticated
Predetermined Event		*The Availability of Young Faculty in Popular Subjects
Predetermined Event		*Better-off Regions are Nations and Tribes in Regional Agreement. Worse-off Regions are Hostile Nations and Tribes Without Regional Agreement
Predetermined Event		*Distance from Tel-Aviv and Surrounding
Predetermined Event		*Political, Economic, and Social Changes
Predetermined Event		*The Classic Competition to Proper Influence Between the "Basic Sciences" (Natural, Engineering, Medicine) and the "Service Sciences" (Management, Economy, Law etc.) will Need More Special Assistance.



Predetermined Event

Predetermined Event

\*Increasing Demand for Adult Education

\*The growing enrollment of students from local minorities will require special study programs. A demand for education leading to definite salable skills/credentials at the end of the B. Sc. degree is to be expected.