



133, Boulevard Davout, 75980 Paris Cedex 20 - France
Telephone: 33.1.56.06.20.19 - Fax: 33.1.56.06.21.65 - Web: <http://www.cicred.org> - E-mail: cicred@cicred.org

**INTERNATIONAL PROGRAMME FOR RESEARCH ON THE
INTERACTIONS BETWEEN POPULATION, DEVELOPMENT AND
THE ENVIRONMENT (PRIPODE)**

APPLICATION FORM

**Application deadline: 11 April 2003
(Electronic file)**

Dossier n°
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To complete the application form follow the instructions given in the instruction note

Title of the project
Policy tools towards sustainable land use and urban environmental management at municipal level under a transitional political context – The case of Bethlehem district, Palestine

Name of the person in charge
Dr. Eng. Nael A. Salman

Applicant Centre
Applied Research Institute-Jerusalem (ARIJ)

Country
Palestinian Territories (West Bank and Gaza Strip)

I - PROJECT SUMMARY

1. Project Title: Policy tools towards sustainable land use and urban environmental management at municipal level under a transitional political context - The case of Bethlehem district, Palestine
2. Name of person in charge: Dr. Eng. Nael A. Salman
3. Address of the person in charge: <i>Postal address: P.O.Box 860 Caritas St. Bethlehem, West Bank</i> <i>E-mail address: nsalman@arij.org</i> <i>Telephone: +972-2-2741889 Mobile: +972-(0) 50-200 723 Fax: +972-2-2776966</i>
4. Centres or teams involved in the project: Applied research Institute- Jerusalem (ARIJ)
5. Number of researchers involved in the project: 5
6. Disciplines concerned by the project: The urban environment, land-use, community participation, population trends, sustainable development, capacity building, national policies and tools for their implementation at local level.
7. Area(s) of research: Bethlehem District
8. Key words describing the project (between 2 and 4 per heading) : <i><u>Population:</u> demography, population growth, Public participation and action planning</i> <i><u>Development:</u> Tools for implementing urban policies, sustainable development</i> <i><u>Environment:</u> sustainable Land use and urban environmental management</i>

9. Summary of the project (no more than one page):

The research project is a pilot study attempting to develop policy tools and choices to implement the national urban and environmental policies at the local or municipality level through the integration of sustainable development concepts and public participation. The project will deal with the interaction between population, urban development and the environment with special emphasis given to demographic factors, land use and the urban environment at the main municipalities in Bethlehem district as the focus of this research project.

Policies have been formulated and proposed for physical development at the national level to ensure the sustainable use of resources and to direct urban development but was never implemented at the local level. The question remains on what Policy tools will be needed towards sustainable and optimal land-use and urban environmental management taking into consideration the demographic dimension at the local level under such a political context. The overall goal of this research project is to find out the possible routes that may reduce the poverty levels as the impact on the long term, through the analysis of the interaction between the demographic dynamics and the environment. There are clear linkages between environment, population and poverty and their impact on the sustainability of natural resources. A rapid growth of population adversely affects the environment, as more people consume more natural resources and produce more waste. In addition, poverty has an interrelationship with environment; the poor are considered both victims and agents of environmental damage. Since the poor are heavily dependent on nature for their livelihood, they are highly vulnerable to environmental degradation. And in their effort to survive, they also end up degrading the environment. At the policy level, policy options that make the population-environment linkage an issue of policy relevance have to be realized at an early stage if the long-term impact would be poverty alleviation. The research will investigate policy options linking population and environmental issues; presentation of resources needed and possibilities of technical assistance; environmental benefits from population related investments; and recommendations for action.

The project aims however at enhancing the role of local Palestinian community in decision-making and capacity building. The research project intends to argue that: If Bethlehem district ventures towards sustainable development; there is a need to reorient urban management approaches and develop policy tools to implement national urban and environmental policies at the local level.

The research intends to show that weak institutions, management deficiencies in coordinating urban development investments are hindering development. The question to guide this research is: "Can Bethlehem district become sustainable? If there is a possibility; what type of environmental instruments and demographic interventions, criteria and policy can be attempted towards sustainable urban development? This question is composed of: 1. Sustainable urban development and demographic change, 2. Environmental instruments and urban management policies and approaches. In order to answer those questions, concepts, current thrust, current debate and criticisms have to be highlighted.

Training of staff and enhancing their capacities to do actual training is main objective. The data needed are from those available at ARIJ, needed data are those to be collected during policy makers' interviews, roundtables and public participation workshops in order to include public opinion and overlook their needs. Successful comparative examples in other countries will be studied. Reviewing of existing land-use and environmental policies, plans, rules and regulations, applied and practiced in the municipalities of Bethlehem, Beit-Jala and Beit-

Sahour and their relevance to sustainable development. Assessments, argument, and criticism will be done in order to identify the deficiencies. The process is followed by the selection and design of sustainable urban environmental indicators, considering the interaction between population, development and the environment. Policy tools at Bethlehem District Municipal level will be defined. Choices and alternatives of policy tools with regard to land-use, attempted demographic change and urban environmental management followed by recommendations and guiding principles will be presented to policy makers. Tools and mechanisms for the implementation of policies are then developed at the municipal level in Bethlehem District. Results will be disseminated through a book that will be produced and directed to stakeholders based on the conducted research, public opinion and decision makers' recommendations. At the end of the project a general workshop will be held to discuss the final results and present enhanced policies and tools of implementation at the local level towards a sustainable land use and urban environmental management.

II – DESCRIPTION OF THE PROJECT (no more than 5 pages)

Problem studied

Thirty years of Israeli occupation have left the Palestinian Territories in a difficult situation. Lack of control over planning and implementation, and the fact that the occupation power neglected the development of Palestine, has led to the deterioration of the urban environment. Maintenance and rehabilitation of environment have been neglected, resulting in environmental degradation and a low standard of services. The development of urban and rural areas has been unrealistically restricted. This unlicensed and therefore unplanned construction has resulted in urban sprawl and misuse of valuable agricultural land. An important implication of demographic dynamics has been the increasing concentration of population in urban areas. Underlying this process of urbanization is the movement of people from rural to urban areas in search of employment, education and a better standard of living. Congestion, pollution, spread of slums and the rising numbers of the urban poor will feature prominently as formidable challenges to the region in the years ahead. To these one has to add the emerging social problems in the forms of human trafficking and exploitation of women and children associated with international migration, partly fostered by demographic factors such as social structure; trends in fertility, mortality, population growth, migration, distribution, and composition; population policy.

Without the ability to understand the effects caused by the political context and demographic dynamics, it would not be possible to regulate land uses or to develop efficient urban environmental management approaches over a contiguous piece of land, natural ecosystems cannot be maintained, the status of the environment cannot be properly monitored, and environmental protection cannot be implemented. For this research project, Bethlehem district shall be taken as a case study to investigate how the different elements can be integrated, analyzed and modeled to come out with a new integrated and a comprehensive approach that highlights the three corners of this pyramid that are -population, development, and the environment. Bethlehem due to its central geographical location and size of population represents a good case for study at the local level. In this study, the role of different demographic variables and environmental change shall be examined and the analysis will be carried beyond the traditional descriptions. The socioeconomic factors as well as other mediating factors influencing the relation between population and the environment shall be taken into consideration and analyzed as formulated in the research questions.

The project therefore will deal with interacting elements between the population, development, and the environment with special emphasis given to the urban environment in Bethlehem

district as the focus of this research project. The current unstable political conditions have led to much more damage on the community level where knowledge and experience are not oriented towards better planning under the harsh conditions the people are living. The ability within a society to analyze the importance and impact of policy decisions is crucial. The adequate implementation of national policies would have also a positive effect on the living conditions of the local community from all-prospective, but mainly sustainable development. Several policies and strategies were built after the Palestinian National Authority (PNA) started its authorities in parts of the West Bank and Gaza Strip and several studies were done in the field of development, demography, natural resources, and others to set up the most appropriate action plans to help alleviating the living conditions of local people and sustaining the natural resources. Common policies have been formulated and proposed by the Palestinian Ministry of Planning and International Cooperation for physical development at the national level to ensure the sustainable use of natural resources, to direct urban and rural development.

However, most of these policies were not implemented at the local level for mainly the political reason. The question remains on what Policy tools will be needed towards an efficient land-use and urban environmental management under such a political context. Therefore, the significance of this pioneer project lies in the answer and the feedback, which will be the outcome and the contribution of this project in such a way that shall guide the development at the local level and reorient policies designed at the national level.

Before they can start addressing the Palestinian conflicting needs over land and natural resources, the Palestinian decision-makers and planners will need a better understanding of recent development trends and of their impacts on resource use as well as their broader economic and social implications. However, policy analysis impacts decision-makers and citizens alike, without thorough, informed examination at the local level, a policy that may look like an excellent idea at the outset may actually cause more harm than good or entail social or financial costs, which are unacceptable. Thorough analysis of national policies related to urban environmental management, their impacts, results, and outcomes and through the identification of potentials and the necessary tools to their implementation at the local level, it would be possible to avoid the adverse effects that may occur as a result of misuse of natural resources and inefficient urban environmental management or by imposed threats or constraints to development by certain factors such as the Impact of Israeli colonies on the Palestinian communities or the control over land and the political classification of lands into areas A, B, and C.

It is therefore important to analyze the national policies related to development, population and environment and to critique them from the “outside”, unimpeded by internal government politics or bureaucratic constraints; to perceive, understand, and respond to the nuances and impact of a policy that addresses issues of the natural resources protection, development processes, or population trends; to recognize the policy aimed at assisting their particular constituency is actually riddled with pitfalls or hidden costs ; and to present an analysis of policy choices to their particular constituency and mobilize that constituency to be heard by decision-makers.

Scientific objectives

The project will address the need for an efficient land-use development and urban environmental management at the local level in Bethlehem district, under the debate of a transitional political context and recent demographic changes; propose policy choices and prospecting the necessary tools to their implementation in order to contribute at the

achievement of optimal use of land and natural resources by fostering the role of the local population in the development process as a necessary step towards a sustainable urban development and poverty alleviation. The project also aims at promoting sustainable development and environmental protection through enhancing the role of local Palestinian community in decision making and capacity building at people and decision makers' level.

In a changing and transitional political context, the role of political governance is normally limited or under certain circumstances even absent as in the case of Palestine, there becomes the role of population of crucial importance. An open participation process is an important feature to integrate urban and environmental planning (*Leitmann, 1993*) for the reason that the population is the source of information and ideas when engaged in the planning process. Active public participation in developing strategies has proven to be more efficient and effective than top-down approaches. In addition, environmental indicators generated at local level can contribute to the discussion by offering reference points on where environmental quality stands in a determined territory (*S.D. Vasconez, 1999*). The design and use of urban sustainability indicators has also proven to be an important tool in land-use planning and environmental management at the local level. In this pilot project, Bethlehem district shall be used as the geographical area to be investigated and study at the local level, in terms of demographical and environmental factors and their interrelated developmental debates and urban management. More attention will be given to the main urban areas in Bethlehem district, Bethlehem city and its surrounding vicinity including the towns of Beit Jala and Beit Sahour as target areas for the identification of the necessary policy tools towards sustainable development and efficient urban environmental management.

Research Hypothesis

In most third world countries as well as in the Palestinian Territories it is been increasingly understood that there is a relationship between demographic and socio-economic factors, development and environmental management. Given that the fact that these factors are intricately linked and that one affects the others, governments as well as NGO's and other agencies are also recognizing this vital nexus. Since the UN Stockholm Conference on Environment in 1972, the idea of developing a sustainable environmental policy, towards achieving partly the goals of sustainable urban development has gained currency in most countries. Given that the concept of sustainable urban development is a recent issue in national socio-economic development paradigms of most third world countries; the human dimensions of ecosystem management and public policy shall also be applied with focus on the social values activated within specific biophysical and social settings. Recognizing this phenomena, the research project intends to argue that: *"If Bethlehem district is to venture towards sustainable development, there is a need to reorient present urban management approaches for achieving the objectives of sustainable development and place population and environmental issues high on the agenda by generating more popular support to sustainability by using a number of developmental policies and at the same time, generating strategic interest"*. The research project will again argue that the epicentre of urban environmental problems in Bethlehem district is caused by:

- Inadequate availability and delivery of most basic urban services;
- Poor urban management approaches, unbalanced population distribution and lack of effective and enforceable Town Planning instruments to help revert the negative effects of urban development on the environment; and;

- Lack of knowledgeable human and technical capabilities and public awareness on issues regarding the urban environment,
- Increase in poverty levels due low income and unemployment that have increased as a result of political instability in the region

The research project will further support these assumptions by showing that all these are the result of weak institutions, organizational and management deficiencies, and lack of efficient urban development plans. To do this we intend to show that in order to achieve the goals of sustainable development there should be an enhanced relationship between the population, environment and urban development, because we will argue that optimal and efficient land-use cannot be supported in any given area when environmental externalities continue to increase.

Formulation of the research questions:

As the problems and issues take place in Bethlehem district, which is the geographical focus of this research project – the central question to guide this research project is: “Can district become sustainable? If there is a possibility; what type of environmental and demographical instruments, criteria and policy can be attempted towards sustainable urban development? This question is therefore composed of three main themes:

1. Sustainable urban development,
2. Environmental and demographical instruments,
3. Urban management policies and approaches.

Another set of questions are derived to support the main question, for finding appropriate solutions and to explore the necessary Policy tools. The discussion of these issues will serve as the secondary objectives of this research project as well as case materials may be evaluated by means of the following research questions:

- *What is **sustainable urban development** and what are its requirements?*
- *What are the **criteria for a sustainable city** and can the concept of sustainable urban development be operational in Bethlehem?*
- *What **type of choice** of environmental policy instruments can give a good combination to achieve sustainable urban development within a transitional political context taking the case of Bethlehem?*
- *Can **national development policies** function under lack of control over planning and implementation in Bethlehem?*
- *Under **what methodology** the national physical policies can be implemented in Bethlehem?*
- *Are the **current legislations, regulations and laws** being used in Bethlehem district relevant to deliver **optimal land-use and sound urban environmental management**?*
- *Are the demographic and population structures ready to carryout such a development within a transitional political context?*
- *Are the national land-use and environmental policies and strategies designed at the national level considered at the local level?*
- *Are the current legislations, regulations and laws being used at the local level consistent with national land-use and environmental policies and strategies designed at the national level?*
- *Are the current legislations, regulations and laws being used at the local level consistent with the **needs of Bethlehem population**?*
- *Do the development plans that are executed at the local level consider **the future needs of Bethlehem population**?*
- *Are there initiatives to implement or **to integrate the concepts of sustainable development at the local level** such as in Bethlehem in the Palestinian Territories?*

In order to answer those questions the various essential points in the concepts, **current thrust, current debate and criticisms have to be highlighted**. It will serve as a principal purpose of providing a background regarding the complex issues surrounding the concept of sustainable development **and the interaction between population, development and the environment**. Also some attempts will be made to identify the current set of urban - environmental policy instruments and tools for effective management.

- **Training and capacity building**

Training and capacity building in urban environmental management is lacking and crucially needed in the Palestinian Territories. Training of staff and their engagement in research studies and enhancing their capacities to do actual training is another main objective of this research project. The researchers participating in this project will be trained by professional experts in the fields of urban environmental management and action planning through public participation. Two professional experts will be contracted by ARIJ within the project frame to conduct a training course whereby both will carry out 12 intensive lectures on a time span of 3 months on the subject, which will be an important exercise to gain more knowledge and to develop new methodologies on the issue. The trainees in return shall be able by the end of the course to do further training to the **Palestinian public through public participation workshops** and through the training of municipality personnel on urban environmental management.

- **Data collection**

The needed data are those available or to be collected to fulfil the objectives of the project are related to **demographical factors, including** Population numbers by sex, population growth, household composition, families, social deprivation, age structure and ethnicity, income, migration, population density, health, **Socio-economic, land use inventories, environmental indicators (biodiversity, land, water, green coverage and air quality), and Palestinian policies and development plans**. The research project will be based mostly on the collected data and the resource materials available at ARIJ with regard to land use and urban environmental management in general in addition to the specific materials and data available with regard to the Palestinian Territories and Bethlehem district, there will be also a need to collect complimentary data with regard to specific topics that are lacking in the Palestine case but can be collected from the Bethlehem district municipalities and in coordination with the Palestinian Ministry of Local government.

- **Methodology:** The adopted methodology to be through the implementation of the project:
 - 1. Classification, optimization and filtering of the selected data of concern and collection of missing data, studies, experiences from projects** done in the Palestinian Territories and other countries in particular countries neighboring to Palestine related to sustainable land-use and urban environmental management and policies for implementation at the local or municipal level. These materials will be the scientific background study using a variety of references related to the mentioned topics, in this section argument and comparisons will be done on whether certain issues could be applicable in Bethlehem district,
 - 2. Review of existing land-use and environmental policies, plans, rules and regulations,** applied and practiced at the local level in the Palestinian Territories and specifically at the municipalities of Bethlehem, Beit-Jala and Beit-Sahour and their relevance to sustainable development. This part will include assessments, argument, and criticism, identification of

deficiencies and weakness and / or embedded potentials that have negative or positive effect on the efficient land-use and environmental management,

3. Analysis of existing demographic and environmental data and selection and design of sustainable urban environmental indicators: By attending to the changing demographic structure of the population – its size, distribution, composition, economical activities and living conditions – an improved understanding can be reached of how population shapes the environmental problems faced today and likely to be faced tomorrow. Concerns about the effects of environmental conditions on people can be better addressed through an improved understanding of population size, distribution, composition, current economical activities and living conditions. Issues of environmental equity and justice are concerned. The location, timing, and magnitude of environmental problems and issues, and the types of problems that emerge, are greatly affected by these population components. There is a need to select and specify the indicators that shall be used as the measurements of sustainability and the efficient use of land and resources considering the interaction between the three themes - population, development and the environment in Bethlehem. Mechanisms and relationships between the themes will be developed for example the effect of population growth on the land needed, where the demand for new housing becomes crucial and therefore, the side effects are reflected in problems such as urban sprawl and the degradation of the environment and natural resources. The section will deal with the concepts and its relevance and non- relevance to the Palestinian question under a transitional political context,

4. Definition of different Policy tools & instruments at Bethlehem District Municipal level. **Comparative examples** related to urban environmental managements from selected Arab cities such as sustainable Alexandria, Tunis and Sana'a will be reviewed in order to gain more knowledge on the subject. Successive examples will be helpful to explore the deficiencies or efficiencies of the Palestinian plans and Policies,

4. In order to identify, regulate, evaluate and validate the Policy tools in this pilot study of Bethlehem, **fieldwork testing** in terms of those tools will be required in order to make a link between **policy and practice**, on this basis it will be important to do the following:

- *To identify the necessary Policy tools at the local level and perceive or collect necessary **lacking data with regard to regulations, laws or control measures** through, **field surveys and observations, citizens questioning, direct interviews and roundtable meetings** with policy makers acting at both local and national levels by making a link between the two levels since no policies are done at the regional level, such as mayors and policy makers at the Palestinian Ministries. Special **questionnaire** will be prepared by the working group to be filled by communities leaders on the local legislations and their relations with national legislations and policies, their implementations and needs for development,*
- *To investigate the Policy tools and local policies, concepts and urban environmental management **through population participation workshop by conducting certain action planning exercises and propose enhanced tools** for implementation of policies at local level,*

6. Choices and alternatives of Policy tools with regard to land-use and urban environmental management followed by recommendations and guiding principles will be presented **for policy makers** through discussion meetings in order to gain their feedback,

7. Setting up the tools and mechanisms for the implementation of policies at the municipal level in Bethlehem District,

8. Dissemination of results through a book that will be produced on the subject and disseminated to policy makers.

Preliminary bibliography:

- National policies for physical development –the West Bank and Gaza Governorates - The Palestinian Ministry of Planning and International cooperation – December 1998
- The regional plan for the West Bank and Gaza - The Palestinian Ministry of Planning and International cooperation – December 1998The social monitor – Palestine Economic Policy Research Institute.
- Town planning under Military Occupation – by Anthony Coon 1992
- Reconstruction of Palestine – PECDAR 1995
- Environment and urbanization – selected journals April, October 1992, October 2002
- The global Partnership on environment and development – a guide to Agenda 21, UN, New York 1993
- Integrating City Planning and Environmental Improvement, practicable strategies for sustainable urban development, Donald Miller and Gert de Roo, 1999
- Localizing Agenda 21, Jad Isaac *et al*, ARIJ, 2000
- The Architecture of Empowerment, People, Shelter, and Livable Cities, Ismail Serageldin, 1997
- Policy aspects for Urban Poverty Alleviation, UrbaNeth, 1991
- Infrastructure for Sustainable Development, Trialog 48, 1996
- Palestinian Central Bureau of Statistics, selected statistics 2001
- The Status of the Environment in the West Bank, ARIJ, 1997

III - THE TEAM

1. Person in charge

Name: Dr. Eng. Nael Anton Salman.... First name: Nael

Sex: Male Date of birth: 02/12/1963

Nationality: Palestinian

Current position: Research Director

Dr. Nael Anton Salman

2. The Centre

(the Centre is the institution which will receive the funds if the project is selected)

Name: The Applied Research Institute - Jerusalem

Acronym: ARIJ

Postal address: *P.O.Box 860
Caritas St.
Bethlehem, West Bank*

Telephone: +972-2-2741889 Fax: +972-2-2776966
E-mail: *E-mail address: nsalman@arij.org*

Give the complete name and position of the person representing the organisation:

*Name: Dr. Jad Issac
Position: General Director*

3. Table of the members of the team

Name	First name	Parent organisation	Proportion (a)
Salman	Nael	ARIJ	8%
Kubi	Majed	ARIJ	8%
Murad	Helen	ARIJ	8%
Ghattas	Roubina	ARIJ	11%
Zboun	Issa	ARIJ	10%

(a): proportion (in %) of working time dedicated to the project

4. Individual forms

Researchers taking part in the project for more than 30% of their working time must each fill out an individual form (model attached: cf. p. 11).

INDIVIDUAL FORM 1 (one for each member of the research team)

Name: Salman **First name: Nael**

Sex: Male Date of birth: 02/12/1963

Nationality: Palestinian

Organisation: Applied Research Institute - Jerusalem

Complete address: P.O. Box 860, Caritas St.

Bethlehem - Palestine

City: Bethlehem Country: Palestine

Telephone: +972-2-2741889..... Fax: +972-2-2776966

E-mail address: nsalman@arij.org

Current position: Research Director

Main degrees (title, University, year):

1982-1984 Diploma in Architecture, Arab college, Amman, Jordan

1986-1989 Bachelor in the science in Architecture, Far Easter University, Manila , Philippines

1993-1995 Master in Infrastructure Planning, centre for Infrastructure Planning, Stuttgart University, Germany ; Master Thesis : Promoting Ecologically Oriented Infrastructure Planning for Urban Development in the Developing Countries- case study

1996 – 2000 PhD in Regional planning and Urban Studies, Urban Planning faculty, University of Stuttgart, Germany

Dissertation entitled “Concepts and Spatial Strategies with reference to Land-use and housing towards a Sustainable City Development”. A published book

Professional Experience in Architecture and Town Planning, Team Leader, National Physical Planning, Ministry of Planning and international Cooperation, Ramallah, Palestine in addition to contribution in updating the Palestinian National Policies for physical development, and experiences in Geopolitics

Publications in addition to Master thesis and Dissertation

1. Co-author: The Palestinian National Policies for Physical Development
2. Co-author f: The Geopolitical Situation In Palestine
3. Co-author: Undermining Peace, The Israeli Segregation Plans in the Occupied Palestinian territories

INDIVIDUAL FORM 2 (one for each member of the research team)

Name: **Mrs. Ghattas** First name: **Roubina**.....

Sex: Female..... Date of birth: 16/12/1973

Nationality: Palestinian

Organisation: The Applied Research Institute –Jerusalem (ARIJ).....

Complete address: P.O.Box 860, Caritas St., Bethlehem, West Bank.....

City: Bethlehem..... Country: Palestinian Territories.....

Telephone: 2741889..... Fax: 2776966

E-mail address: Roubina@arij.org.....

Current position: Researcher at the Biodiversity and Agriculture Research Unit at ARIJ.....

Main degrees (title, University, year):

Masters Degree in the Utilization and Conservation of Plant Genetic Resources from Birmingham University, year 1998.....

Discipline(s) specialised in: Biological Sciences.....

Professional experience, notably in research:

Experience in constructing and running databases related to biodiversity (flora & fauna), and in promoting biodiversity sustainability in Palestine, mainly through preparing national strategies related to biodiversity and agrobiodiversity in Palestinian territories, studying the biodiversity indicators and documenting the Oral plant History in Palestine.

Coordinated several projects but mainly “Landuse of Rainfed Areas, Implications of Poverty and Marginality project”, “ Promoting Irrigation Management System for the Optimization of Land and Water resources in Palestinian Irrigated Agriculture project ”, “Assessing the Palestinian Farmers Conditions in the Southern Part of the West Bank project”, and others. Also, working in the field of biotechnology through micropropagation and callus induction of several species but mainly *Matricaria spp.*

Five main publications during the last five years relating to PRIPODE:

1. Roubina G., et-al 2000. “Landuse of Rainfed Areas, Implications of Poverty and Marginality”, Welfare association.
2. Roubina, G. et-al 2002. Mediterranean Forests and People, Towards Total Economic Value: Status of Forests in Palestine. Padua University, Italy.
3. Research team of ARIJ 2002. Oral Plant History in Palestine. ARIJ. Palestine.
4. Research team of ARIJ 1999. National Biodiversity Strategy and Action Plan of Palestine. Palestinian Environmental Agency (PEnA). Palestine.
5. Research team of ARIJ 2002. National Agrobiodiversity strategy. Ministry of Agriculture (MOA). Palestine.

INDIVIDUAL FORM 3 (one for each member of the research team)

Name: Mourad..... First name: Helen.....

Sex: Female..... Date of birth: 20th July 1970.....

Nationality: Palestinian.....

Organisation: Applied Research Institute - Jerusalem.....

Complete address: P.O. Box 860, Caritas St.....
Bethlehem - Palestine

City: Bethlehem..... Country: Palestine.....

Telephone: +972-2-2741889..... Fax: +972-2-2776966

E-mail address: Helen@arij.org.....

Current position: Financial Director

Main degrees (title, University, year):
1990-1994 Bethlehem University, Bethlehem, Palestine.....
Business Administration

1997-1998 Montpellier 1 University, Montpellier, France
Master degree in Economie Rural et Gestion d'Entreprise Agro Alimentaire.....

Discipline(s) specialised in:
Administration & Economics.....

Professional experience, notably in research: **Water demand Management, Natural resources Management allocation. Worked on The Model (Palestinian System for Environmental Resource Management (PSERM)).**

The model PSERM tends to find the optimum use of water and land for a better production in the irrigated agricultural sector. Also worked on The Water Optimization and Allocation Model, the model is a water optimization and allocation model developed to allocate the optimal water amounts for the different demanding sectors (domestic, agriculture, industry and tourism) from the available water resources in the Jordan Valley given that the cost of water use is minimal.

INDIVIDUAL FORM 4 (one for each member of the research team)

Name: **Abu Kubi** First name: **Majed**.....
Sex: Male Date of birth: 03-04-1975
Nationality: Palestinian

Organisation: Applied Research Institute - Jerusalem
Complete address: P.O. Box 860, Cartas Str.....
Bethlehem - Palestine

City: Bethlehem Country: Palestine

Telephone: +972-2-2741889..... Fax: +972-2-2776966
E-mail address: Majed@arij.org

Current position: Geographical Information System & Remote Sensing Unit Director
Main degrees (title, University, year):

- 1993 - 1997 Bethlehem University Bethlehem, Palestine
Bachelor of Science - Major Biology
- 1999 - 2000 Portsmouth University United Kingdom
Master of Science in Geographical Information Systems

Discipline(s) specialised in: More than five years of progressive experience in the field of Geographical Information System and Remote Sensing.

Professional experience, notably in research:

- Manage coordinate the implementation of Artas project entitled “***Building an Integrated GIS and Environmental profile of Artas village***”. The aim of the project is to study Artas village simultaneously from many different points of view in order to gain deeper understanding of its past, present and future. The areas of interest range from scientific studies of physical environment to anthropology, archaeology, architecture, economy, social structures and many other subjects.
- Participate in the implementation of the Land use project entitled, “***Promoting Natural Resource Management in Palestine***”. The project was aiming to classify the West Bank and Gaza into different land use classes using Landsat TM and SPOT Satellite images and aerial photographs.
- “***Impact of Urbanization on Land Use and Local Communities in the West Bank***”. As part of the first phase the study was carried out over the southern part of the West Bank (Bethlehem and Hebron). Implicitly, the main objective was to assess the impacts of rapid urbanization in the West Bank on the availability of land and water resources and its likely implications on the Palestinian economy and communities.

Publications during the last five years relating to PRIPODE:

1. Publish scientific paper in the Palestinian Israeli Journal entitled “***Israel’s Land Colonization policy and the viability of the Palestinian State***”.
2. Publish scientific paper in the International Center for Advanced Mediterranean Agronomic Studies CHIAM Journal entitled “***Detecting and Mapping the Land Use / Land Cover (LULC) Changes in the Jordan Valley using Landsat Imageries***”.

INDIVIDUAL FORM 5 (one for each member of the research team)

Name: **Zboun** First name: **Issa**
Sex: Male Date of birth: 08\11\1970
Nationality: Palestinian

Organisation: Applied Research Institute - Jerusalem
Complete address: P.O. Box 860, Cartas Str.
Bethlehem - Palestine

City: Bethlehem Country: Palestine
Telephone: +972-2-2741889..... Fax: +972-2-2776966
E-mail address: Issa@arij.orj

Current position: Geographical Information System & Remote Sensing Unit
Research Assistant

Main degrees (title, University, year):

- Jerusalem University, West Bank, Palestine 1997 – Present
Major: Computer Science
- Mohawk College, Hamilton Canada 1998 – 2000
Diploma: Municipal Planning and Development Technology.
- Palestinian Institute for Professional Training 1994
Certificate of Diploma: **Administration and Management**

Discipline(s) specialised in:

A well-rounded individual with a diverse background and a proven track of success. Has co-authored several publications and participated in various training programs and workshops.

Professional experience, notably in research:

Responsible for data entry, collecting and analyzing data such as environmental, industrial, agricultural and population. Created database for the collections through the Geographical Information System (GIS) using ARC-View and ARC-Info. Monitored and analyzed the satellite images and aerial photos (converting from Raster data into Vector data). Performed map design, road system, land use, soil, geological, demographical maps. Co-author of several publications.

5. Presentation of the team (no more than 2 pages)

Since the research project is a multidisciplinary in nature, the working group was selected to cover different fields, such as urban planning, environment, sociology, geography and management. The project experiences in the project will be an important exercise to directly develop the capacity of the researchers involved through a special training course by experts in the field and will contribute to enhance their capabilities and consequently the research project will enhance the Applied Research Institute – Jerusalem (ARIJ) institutional capability and capacity to further and sustain its research in similar research areas. The research will be done through close cooperation and as a joint work between the 3 main units at ARIJ, therefore the working group for this research project is formed from professionals working at those 3 research units and who have special interest in the project and dedicated to work on it and willing to develop their capacities. The three units are:

1. The Geographical information System GIS and remote sensing Unit:

The unit is using up to date data and mapping technology for analysis, planning of land use, environment, and modeling of sustainable development in Palestine. Over the past five years, ARIJ has diligently worked on promoting its technical and human resources capabilities in the field of GIS. ARIJ has a well developed GIS unit based on ARC/INFO 8.1 and PAMAP 5.1, and has recently acquired professional image processing software ERDAS Imagine 8.4 and PCI 6.3 which makes it possible to accurately analyze and interpret satellite images and aerial photos to extract valuable Land use\Land cover data (LULC).

2. Water & Environment Research Unit (WERU):

The unit is working on identifying existing environmental problems, locate sources of environmental pollutants, and measure the extent of their impact; analysis the current development trends and their impact on the environment, and synthesis projections for the future; evaluate the feasibility of new technologies to solve environmental problems; create awareness programs to inform policy makers and the public of environmental problems and means of remedy; develop computer-based programs for environmental modeling strategies for the Palestinian environment.

3. Biodiversity & Agricultural Research Unit (BARU)

The unit works with farmers to improve their socio-economic conditions and the sector in general through research on agricultural techniques, technology adaptation, planning and policy. The unit is also working in irrigated agriculture, biodiversity and IPM. A special emphasis is given to find solutions to hinder desertification and to conserve Palestinian natural resources, in particular Palestinian flora & fauna.

Dr. Nael Salman: Research team leader at ARIJ, a graduate of Stuttgart University with a master degree in infrastructure planning (social and physical infrastructure) who was trained to be a generalist in interdisciplinary subjects, such as urban planning, environment & ecology, sociology, and management (please see www.infrastrucure-planning.de and holds a PhD in Regional planning and urban studies from same university, his dissertation was entitled “Concepts and Spatial Strategies with reference to Land-use and housing towards a Sustainable City Development”. Dr. Nael has worked under the Norwegian Project for Institutional and Capacity Building at the Palestinian Ministry of Planning and International Cooperation for 2 years and worked as the team leader for the development of the National physical plan in addition to his contribution in updating the Palestinian National Policies for Physical

Development (see www.mopic.gov.ps. Dr. Nael Salman will be the work group leader and will contribute and guide the research in all its aspects and phases.

The research project will also be **supervised by Dr. Jad Issac** ARIJ's General Director, who is an author of many books related to the environment in Palestine such as the Status of the Environment and Localizing Agenda 21 (see ARIJ publications on www.arij.org). Dr. Jad will act as a top supervisor by giving his remarks, hints, and advice to the research project working group throughout its implementation phases.

Majed abu Kubie: A master in Geographical Information System and Remote Sensing, he has managed and participated in several projects related to the development of land use and environmental profiles in the areas of the historical distribution and trends of the population and social structures in addition to his participation Land use project entitled, *“Promoting Natural Resource Management in Palestine” and the impact of Urbanization on Land Use and Local Communities in the West Bank will be able to contribute to the research project through the analysis of population distribution and the social structure in relation to land use and the environment.*

Issa Zboun: A research assistant at ARIJ with back ground in computer science, Municipal Planning and development technology, and management in addition to his professional experience in data entry and analysis of environmental and demographic data using GIS will contribute to the research project in data entry, analysis of municipal development, environmental and demographic data.

Roubina Ghattas: Researcher at the Biodiversity and Agriculture Research Unit at ARIJ, Masters Degree in the Utilization and Conservation of Plant Genetic Resources from Birmingham University with experience in constructing and running databases related to biodiversity (flora & fauna), and in promoting biodiversity sustainability in Palestine, mainly through preparing national strategies related to biodiversity and agrobiodiversity in Palestinian territories being a Coordinator of several projects “Landuse of Rainfed Areas, Implications of Poverty and Marginality project”, “ Promoting Irrigation Management System for the Optimization of Land and Water resources in Palestinian Irrigated Agriculture project ”, Roubina will contribute mainly and defining policy tools for the utilization of land, implications of poverty, sustainable development and effect of development on biodiversity.

Helen Murad: Master degree in Economie Rural et Gestion d’Entreprise Agro Alimentaire, a graduate of Montpellier 1 University, Montpellier, France. Her professional experiences in Water demand Management, Natural resources Management and allocation and has worked on the Model -Palestinian System for Environmental Resource Management (PSERM)- will contribute mainly on management and economic issues related to the research project and on the defining necessary tools for the management of the urban environment.


IV - WORK SCHEDULE

- a) Research work carried out before the mid-term evaluation (from September 2003 to May 2004)
- b) Research work carried out after the mid-term evaluation (from June 2004 to May 2005)

The proposed duration of this project is two years, starting from the date of approval of funding. The time period is divided according to the different project phases as follows:

Year One	Year 2003					Year 2004						
	Research work before mid-term evaluation											
Task	S	O	N	D	J	F	M	A	M	J	J	A
1. Reviewing the formulated policies and legislations on the national level	X	X	X									
2. Review all the available cases and studies related to the project objectives			X	X								
3. Developing the project team experiences				X	X	X						
4. Preparing special questionnaire for the communities leaders on the local legislations and their relations with national legislations and policies, their implementations and needs for development						X	X					
5. Interviewing the leaders of different municipalities of the target areas								X				
6. Population participation workshop (one day workshop) (action planning exercises and propose enhanced tools for implementation of policies at local level)								O N E D A Y				
7. Data entry and data analysis									X	X	X	X
8. Round table meeting to discuss with decision makers and takers on the local and national levels								O N E D A Y				
9. Drafting the mid-term report									X			
10. Reformulate and develop the current policies and legislations to become more applicable on both local and national levels												X

 Research work before mid-term evaluation September 2003 – May 2004

 Research work carried out after the mid-term evaluation (from June 2004 to May 2005)

Year Two

Year 2004

Year 2005

Task	Research work carried out after the mid-term evaluation (from June 2004 to May 2005)											
	S	O	N	D	J	F	M	A	M	J	J	A
11. Reformulate and develop the current policies and legislations to become more applicable on both local and national levels, choices and alternatives	X	X	X	X								
12. Round table meeting to discuss with decision makers and takers to discuss the first draft of the reformulated and updated regulation and policies					O N E D A Y							
13. Update the drafted regulation and policies based on the round table meeting,					X	X	X					
14. Public participation Workshop two to discuss the drafted regulations and policies							X					
15. Finalizing the updated policies and legislation and setting up the tools and mechanisms for the implementation of policies at the municipal level in Bethlehem District							X	X	X	X		
16. Drafting of the pre-report (for June 2005)										X		

Research work carried out after the mid-term evaluation
(from June 2004 to May 2005)

Year Two

Year 2005

Year 2006

Task	Finalization of report and publication (from September 2005 to December 2005)											
	S	O	N	D	J	F	M	A	M	J	J	A
17. Meeting of centers	X											
18. Final drafting of the provisional report (for October 2005)		X										
19. Revision of report after evaluation by the scientific Committee (October-November 2005)		X	X									
20. preparing, montage and printing book including the finalized policies and legislation to be distributed to all other Palestinian localities and to the PNA Ministries and dissemination to policy makers			X									
21. Publication and dissemination of report				X								

Finalization of report and publication
(from September 2005 to December 2005)