**Facilitating the Profit Potential for 100000 Poor Gazan Farmers Who Want to Develop Biofertilizer Farms (Azolla Farms) for Profit**

Disaster management experts are expected to focus on the needs of small subsistence farmers in Gaza to make money during the “reconstruction phase” following a disaster. One cannot ignore the small farmer’s need to make money if one wants to succeed in the reconstruction of Gaza. Growing azolla in Gaza following the advice of CIMMYT in Zimbabwe and the Azolla Foundation is one technique that small subsistence farmers can use to make money. See <https://www.cimmyt.org/news/exploring-azolla-farming-as-a-sustainable-feed-source-for-poultry-in-murehwa-zimbabwe/> and <https://theazollafoundation.org/>

In this paper I will provide a Business Process Reengineering (BPR) method that NGOs and Government agencies might use to facilitate Gaza small subsistence farmers making money growing azolla fertilizer. I will suggest using BPR and change management concepts that I used in my earlier US work. These change management concepts were used extensively to help many major US corporations that were failing in some manner as well as for Government agencies that felt that they were not accomplishing their mission. I have attached three graphics that describes the detailed business information that needs to be collected. The first graphic describes what information business process engineers might collect to identify what is needed to start a new business. The second graphic describes how business process engineers identify in detail what changes need to be made. The third graphic describes how business process engineers identify what is lacking from an existing agriculture business.

Initially business process engineers would ask Gaza residents as well as Government agencies and NGOs to supply them with a "business visions" at the "conceptual level" of what they wanted. In this case I will assume that the NGOs or Government agencies want to facilitate the business processes required so that 100,000 poor farmers can make a living by starting biofertilizer farms (azolla farms). They might develop their plans using the business processes analysis procedures described in the first graphic. Note the focus on costs as well as the need to identify the business process and materials requirements.

Next BPR professionals would determine what “changes” were needed for the "business vision" to succeed at the "enterprise level". They would consider six types of information in their "domain of change". As shown in the second graphic. Once BPR professional know what changes might be needed, they would collect the "detailed level" information shown in the second graphic. They also would prepare plans including a management plan, an implementation plan, a cost plan, and a marketing and sales plan. This may seem like a lot of work, but BPR professionals have found this detailed work leads to a better chance the business or Government agency will succeed.

Finally, once the business has begun BPR professionals would make sure the business will succeed by verifying that all the “work elements” required was being accomplished. The third graphic lists the “work elements” required for a typical agriculture business.

Now I will get more specific. Developing biofertilizer farms (azolla farms) for 100,000 families is relatively easy to do and is a good first step in Gaza reconstruction. Azolla's use as a biofertilizer is particularly relevant in regions like the Middle East, where water scarcity and land constraints can make conventional agriculture challenging. Azolla can be grown in water-scarce environments and on smaller plots of land, making it an attractive option for sustainable agriculture. Here is a video of a small biofertilizer farm in Cameroon <https://www.youtube.com/watch?v=JzQ0SEkvdww> and <https://www.youtube.com/shorts/g6R52kc_LvE> . Bigger more elaborate farms typically have been started in the Mideast. See <https://www.allaboutfeed.net/all-about/new-proteins/azolla-ferns-replace-imported-livestock-feed/> and <https://www.aljazeera.com/features/2023/6/19/azolla-empowers-jordans-women-farmer> . I recommend creating a lot of azolla farms in Gaza during early reconstruction efforts so that many Gaza families can take advantage of this technology. I expect Gaza entrepreneurs will expand their farms as reconstruction efforts proceed.

**Initially defined**

Prepare business plan

Specify business process, supplies, and operational changes required

Describe and analyze plans with in-country personnel

-Site

-Budget

- Statement **Results**

of Objectives - Refined business plan

- List of supplies

Conduct

Cost/Benefit Analysis

-Guidelines/

priorites for

Refine Business Objectives

scheduling and deployment -Technologies/ procesesses to be further developed

Cost Estimates

-Cost/benefit assessments

**Graphic 1- Business Analysis Process**

Business Enterprise

Business Process Changes

* Business Process Direction
* Business Process Performance

Application

Changes

* Application direction
* Conceptual/ Logical Application
* User Interface
* Physical Application
* Standards
* Acceptance Criteria

Organization Changes

* Organization direction
* Conceptual organization
* Logical Organization
* Physical Organization
* Transition Plan

Location Changes

* Location direction
* Conceptual locations
* Logical locations
* Physical locations

Technology Changes

* Technology direction
* Technology
* concept
* Technology logical description
* Physical technology
* Engineering plan

Data Changes

* Data direction
* Conceptual data
* Logical data
* Physical data

**Graphic 2- Business Enterprise Domain of Change**

|  |  |  |
| --- | --- | --- |
| **Business Concept Element** | **Step** | **Work required** |
| Requirements Analysis | Preliminary Analysis | * Assessment of Product’s Capability * Assessment of Market |
|  | Strategy Formulation | * Definition of Objectives * Definition of Priorities * Determination of Alternative Approaches * Selection of Preferred Approach |
| Design | Formulation of Development Plan | * Identification of Customers * Identification of Area to Sell Product * Identification of Constraints * Definition of Product * Analysis of Costs * Definition of Required Actions * Sequence of Required Actions * Schedule |
|  | Establishment of Support Required | * Definition of Required Resources * Acquisition of Required Resources * Organization of Human and Material Resources * Acquisition of Training |
|  | Ensuring Acceptable Levels of Quality and Supply | * Selection of Technology * Site Selection * Variety Selection * Feed Selection * Pest and Disease Control Practices * Water Use * Determining When to Sell |
| Operations | Maintaining Quality | * Quality Control Procedures * Maintaining Standards * Packaging Procedures * Training Workers on Use of Technology |
|  | Capturing a Market | * Obtaining and Using Market Data (Pricing Analysis) * Making Use of Market Intelligence * Selection of Target Markets * Identification of Middleman * Negotiating the Best Deal |
|  | Optimal transport | * Selection of Means of Transport * Packing for Transport * Keeping Quality Control During Transport |
| Maintenance | Maximization of Income, Profits, and Production of Product | * Analysis of Costs * Analysis of Returns * Analysis of Business Operations |

***Graphic 3- Definition of business concept elements***