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***THE CHALLENGE OF POST-EMERGENCY  
ASSISTANCE TO  
BOSNIA AND HERZEGOVINA:  
THE UNIDO RESPONSE***

*prepared for the  
Presentation to the Government of  
Bosnia and Herzegovina*

*by the  
Europe Programme  
Country Strategy and Programme  
Development Division*

*December 1995 (Revised and Updated)*

## **The challenge of post-emergency assistance to Bosnia and Herzegovina: the UNIDO approach**

### **Situation**

After years of hostilities and uncertainty the present state of affairs in Bosnia and Herzegovina (BiH) gives raise to the hope that the situation in this war torn country will become sufficiently settled to allow the process of the socio-economic development of the country and its population to be resumed. While the damage and destruction done to industrial production and service facilities as well as housing and civil engineering structures means that life will not immediately return to normal, the end of the fighting and the imminent dangers to the population allow the industrial reconstruction work to begin in earnest.

While it would neither be desirable nor feasible at this stage to stop humanitarian aid programmes in BiH an approach to technical cooperation that targets the long-term sustainability of the envisaged projects can, since the environment for industrial development has become more stable, be resumed. The earlier a reconstructed and, where necessary restructured, pre-existing local industry can be assisted to produce the required basic needs, the sooner can the humanitarian assistance provided by the international community be turned into financial assistance and further investment in the long-term industrial base of the country.

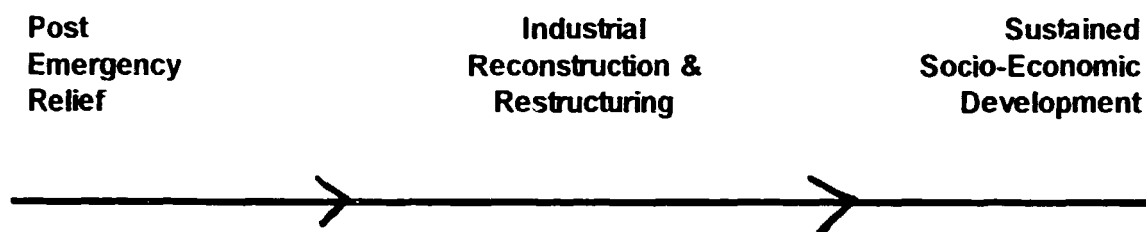
The necessity of a prompt and substantive UNIDO-engagement in BiH is underscored by the fact that most - indeed almost all - projects need in effect a certain preparation time. One or the other precondition might still be required before the implementation of the project can start, but to allow the technical cooperation programme to achieve its full impact in the (near) future it is of critical importance that they be initiated now; otherwise it will not be possible to begin execution at the earliest possible, practical date, needed.

### **Methodology**

UNIDO - as the United Nations agency mandated to cooperate with developing countries and economies in transition to foster their industrial development - is particularly conscious of the need for it to act - where possible, jointly with other agencies - to respond to the needs of Bosnia and Herzegovina in the industrial sphere. It has been found that in Bosnia and Herzegovina in many cases the complex pre-war industrial structure, the skilled labour force, and the transport and industrial infrastructure, while damaged, destroyed or dispersed, is nevertheless present and need not be rebuilt from scratch.

In the situation prevailing in BiH UNIDO feels that only an integrated, multidisciplinary programmatic approach can achieve a symbiotic impact. This approach moves beyond a static dimension and views industry as an integral part of

the entire dynamic relief-development process, which always aims towards achieving sustained socio-economic development:



Within this overall process, the assistance which UNIDO could begin to offer immediately - subject only to the availability to the Organization of the necessary funds - would include, among others, the following areas:

- restoring equipment and developing immediately required products and designs for priority industrial sub-sectors;
- creating an "industry for post-war reconstruction", i.e. focusing on satisfying the immediate needs for the reconstruction process;
- promoting enterprise development and foreign industrial investment;
- alleviating the damage of war to the environment and building the basis for cleaner production and an environment-friendly industrial reconstruction and restructuring; and
- assisting in the privatisation process.

Other services - which are also areas of key importance where UNIDO's experience and knowledge could be of paramount importance- could be provided as a second stage component of the types of services listed above. These would include:

- assisting the fostering of small- and medium-scale enterprises;
- designing industrial policy and privatisation programmes;
- optimizing the process of enterprise restructuring;
- creating an enabling industrial institutional support structure.

As a general proposition the approach selected should be:

- integrated and multidisciplinary;
- rapid in terms of resource mobilization and start-up;
- linked to long-term industrial development and sustainability;
- employment and income generating;
- conducive to the integration of women;
- tuned to foster export orientation of industry; and
- adapted to encourage ecologically sustainable industrial development.

## Projects

In designing its proposed programme of technical cooperation and investment assistance for Bosnia, UNIDO has drawn on an extensive series of conversations and correspondence dating back to May 1994 with the representatives of the Government of Bosnia and Herzegovina. Every effort has been made to address directly the priorities and needs of the Government, consistent with the knowledge and experience of UNIDO. This has resulted in a proposed programme of three ongoing and seven pipeline projects.

These can be divided into two broad categories: those that promote strategies which enhance the economic performance and efficiency of Bosnia and Herzegovina and those that concentrate on specific sectors / sub-sectors or enterprises, integrating the strategic approaches as part of their project. Of great importance in the first category is the first mentioned pipeline project, which aims to establish a general strategy to assist and support the reconstruction and restructuring of the industrial sector. The first two ongoing projects - which focus on the assessment of restructuring needs of industrial enterprises in BiH and the assistance to BiH in the appraisal of investment projects - as well as the second and third suggested pipeline projects - concentrating on information technology related projects and support to small- and medium scale private enterprises - on the following list also fall under the first category. They constitute a common thread for all present and future activities of UNIDO in Bosnia and Herzegovina with the reconstruction and the restructuring of the industrial sector being the link that binds together all the elements of the entire programmatic approach.

The four sector specific pipeline projects proposed by UNIDO for consideration by potential donors focus on the immediate needs of the people in Bosnia and Herzegovina and on the sub-sectors critical to the reconstruction process. The proposals cover the areas of housing and shelter (building materials and wood processing industry sub-sectors), medical- and pharmaceutical supplies, and clothing (leather based industry), and therefore well complement the ongoing project in the food-processing industry ('KLAS' complex for cereal processing).

UNIDO, under its mandate to foster industrial development, directs its post-emergency assistance to those sub-sectors which will remain to be of greatest importance to the Bosnian economy even in the times subsequent to the reconstruction and restructuring period.

Restructuring of the industrial sector and the Bosnian economy as a whole is again the common ground for these four sector-specific proposals and the experience gained through the ongoing project "Assessment of restructuring needs of industrial enterprises in Bosnia and Herzegovina" and the examples established by the chosen model enterprises will be drawn upon. With regard to the importance of small- and medium-scale enterprises as elaborated in the corresponding pipeline project, an emphasis will be put on promoting small- and medium-scale producers, suppliers, and distributors where applicable. Examples of such an integrative approach are the small

'KLAS' bakery outlets which are being given special attention under the emergency assistance project to the 'KLAS' complex.

The following diagram will illustrate the interdependences between the proposed and ongoing projects and the integrated approach underlying this programme:



## Ongoing projects in Bosnia and Herzegovina

- (1) **Assessment of restructuring needs of industrial enterprises in Bosnia and Herzegovina**

<b>Purpose</b>	To revive the industrial sector by increasing industrial output and employment, and by improving the rate of capacity utilization in industrial enterprises as well as the efficiency of industrial enterprises.
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**Situation**

The industrial sector in Bosnia and Herzegovina comprises some of the largest manufacturing enterprises in the former Yugoslavia. These include firms in electrical engineering. . Most of the large enterprises are located in Sarajevo, Tuzla and Mostar. While figures are not available it appears that the manufacturing sector is possibly the largest contributor to GDP.

The protracted conflict in BiH has dramatically affected the country's economy and the economic situation of the industrial sector. While restructuring is therefore necessary as a result of the war-inflicted intensive destruction of the infrastructure and of industrial plant and equipment it is also essential as a part of the reform process towards a market-oriented economy which has been introduced in BiH.

**Strategy**

Industrial restructuring is a process that has multiple aspects and should be understood to refer to the total techno-economic restructuring of a single plant or of some enterprises in a given industry. It should take into account its economic and financial assets as well as the nature and quality of the management structure, the skills of the labour force, existing technology profiles, the current product niche and product range, and its domestic and foreign markets. In addition care must be taken to ensure that the enterprise-level restructuring programmes are compatible and integrated into macro-level industrial policy.

Within the UNIDO integrated (top-down/bottom-up) approach to restructuring in BiH, ten firms will be selected from the priority sectors. They need to rebuild and/or restructure part or the totality of their enterprise, and to solve problems relating to their low level of profitability, under-utilization of existing industrial capacity, lack of qualified managers, poor product quality and design etc. The chosen entities will have to have good economic potential and be representative of the problems, constraints and potentials in their sectors. They will serve as models from which lessons can be learned by other firms in the manufacturing sector.

The project will assess the potential and needs for the rehabilitation of the ten selected industrial enterprises and prepare restructuring diagnostics. These will be carried out with regard to management, personnel, financial situation, technology processes, equipments, production facilities, products, services, markets, and the environment. Based on the acquired data the project will then formulate general as well as enterprise specific observations and policy recommendations and a programme proposal for restructuring of each of the enterprises selected.

**Results**

In the short term, the project is expected to contribute to the Government's efforts to decide on and to establish priorities on the industrial sub-sectors and the enterprises to be rehabilitated in the

manufacturing sector. In the longer-term, it is the project's objective to improve the efficiency and profitability of the enterprises audited.

**Realisation** The selection process of international experts is under way. While in a first step possible candidates were identified, their interest and availability has been ascertained in a second step. For each post two or three candidates have been suggested, and their CVs are with the Government for their selection of the final list of experts. As for the national experts, UNIDO has received the CVs from the Government and some nationals have already been selected. The Government has been requested to identify additional national experts.

The Government is presently being contacted to discuss possible dates for the first mission under the project which will elaborate with the Government the choice of selected enterprises to be included in the project.

**(2) Assistance to Bosnia and Herzegovina in the appraisal of investment projects related to economic and infrastructural reconstruction**

<b>Purpose</b>	To facilitate the financial-economic analysis and computation of the profitability of investment projects according to international standards.
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**Situation** Bosnia and Herzegovina with the support of the international community and the UN system is currently making concerted efforts to reconstruct and develop its economy, with UN-system assistance being organized within the framework of the programme "Restoring Life to Sarajevo". This programme coordinates new technical cooperation and investment projects from the international community (at both the bi- and multinational level).

At present a multitude of investment projects related to economic and infrastructural reconstruction are being identified or proposed by various donors. Bosnian authorities are, however, facing serious problems in carrying out the urgently important process of investment project identification, appraisal, and prioritization. To perform such functions efficiently local authorities are lacking standardized and advanced methodologies and efficient computer-based tools that would accelerate the investment decision-making process.

**Strategy** Within this project a UNIDO COMFAR package has to be delivered to the Directorate for Reconstruction and Development of Sarajevo, installed there, and the appropriate staff trained. A two-weeks



programme on the financial and economic appraisal of industrial and infrastructural investment projects for economic reconstruction using this COMFAR software will be organized in February 1996, for a group of the Directorate's experts. The training course, that will adapt existing UNIDO teaching modules to deal with the specific challenges facing Bosnian reconstruction and development, would enable the authorities of Bosnia and Herzegovina to properly assess investment projects under study and to speed-up investment and funding decisions.

The training will cover: review of UNIDO methodology for feasibility studies with special attention given to financial and economic analysis; basic operation of personal computers and hardware configuration; and the application of the COMFAR software.

Besides the COMFAR software, the project has delivered computer equipment compatible with the COMFAR software, printers and related office supplies and it will pay the expatriate as well as the local expertise. The latter includes three national experts who were identified and recruited in order to ensure the sustainability of the project. They will provide advice at a later stage to COMFAR users in BiH and will become COMFAR trainers.

#### **Results**

The project shall assist Bosnian authorities in carrying out the process of appraisal, prioritization and fund allocation of an overwhelming number of investment projects related to economic and infrastructural reconstruction.

#### **Realisation**

Up to this date the equipment and the software have been delivered and the first mission of the expatriate consultant has taken place. The expert on this occasion installed the software and provided introductory training that would allow some practical independent work by the local experts. The in-depth training is now planned for February 1996.

### **(3) Emergency assistance to the 'KLAS' complex for cereal processing in Sarajevo and to the cereal processing industry of Bosnia and Herzegovina**

<b>Purpose</b>	To contribute to the improvement of the national nutritional standards by enhancing the supply to consumers of cereal-based foodstuffs.
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#### **Situation**

The war situation in Bosnia and Herzegovina severely hampered the regularity of supply of raw materials to the food processing industry in the country, moreover, the damage caused to production facilities in the food industries has had a direct effect on the supply of basic items

such as cereal-based and bakery products. This situation merits particular attention on account of the importance that bread has had for the population of Sarajevo throughout the war: bread represents, in practice, the only permanent and cheap source of food available in town since the beginning of the hostilities.

The 'KLAS' cereal processing enterprise in Sarajevo has on different occasions been seriously damaged by the war. As a result of its importance in ensuring the survival of the people in Sarajevo, the 'KLAS' enterprise has benefitted from UNIDO's assistance twice before. UNIDO fielded a bakery expert to Sarajevo to provide the necessary technical assistance for, on the first occasion, the fortification with vitamins and mineral salts of the bread produced by the central bakery of the KLAS complex and, later, the enrichment with proteins of the biscuits produced by the same entity.

### **Strategy**

The project will consist of two major components. The first is intended to contribute to the expansion of capacity of the 'KLAS' complex. The enterprise will be supplied with a new 'tunnel oven' to replace and expand a presently non-operational production line. It will also be given international technical assistance in the supervision of the purchase, delivery and utilization of the new equipment within the frame of the restoration of the processing capacities of the factory. It is further planned to carry out a techno-economic feasibility study for the installation of a frozen dough processing line in view of its possible establishment in the central bakery, as well as to provide technical assistance to smaller, local bakeries and distributors of the products of the central bakery.

The second component will first concentrate on an inventory of the war damage of the cereal processing industry of Bosnia and Herzegovina. In view of the positive evolution of the current situation towards durable peace conditions, this sub-sector is of strategic importance for the socio-economic welfare of the country. Successively it is intended to start activities of industrial rehabilitation / restructuring design of the units selected to participate in a coordinated plan for food production and supply in line with the objectives of the emergency food relief programmes for this country.

### **Results**

The processing capacities of the 'KLAS' complex will have been increased up to the maximum level compatible with the number and the specificity of the equipment supplied by the project. A techno-economic study will indicate the feasibility of a new line of frozen dough to be installed at the enterprise and its possible impact on the small bakeries in Sarajevo, and assistance will have been provided to distributors of the products of the central bakery. In addition, a plan of action for rehabilitation / restructuring of the cereal processing industry will have been drawn up.

**Realisation** Financing has been secured for the entire project. Approval to commence activities has also been obtained and the document signed by UNIDO for the (non-equipment) components of the project. The international expert, who previously worked successfully in Bosnia and Herzegovina, will go to the field to consult with the bakery management and with the potential equipment suppliers in January 1996. At this time he will also identify and interview potential national experts.

## Pipeline projects for Bosnia and Herzegovina

### (1) Strategy for industrial reconstruction and restructuring of the economy of Bosnia and Herzegovina.

<b>Purpose</b>	To assist the Bosnian government in carrying out the preparatory work and appraisal necessary to prepare a national strategy for industrial reconstruction and restructuring in Bosnia and Herzegovina.
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**Situation** Industry held an essential place in the pre-war economic structure of Bosnia and Herzegovina. The industrial sector was considerably diversified and was strongly export-oriented. Now, however after years of hostilities and uncertainty, the industrial sector is much diminished and weakened state: business connections and trade links have been ruptured, factories gutted and destroyed, and essential equipment commandeered and large numbers of industrial facilities, have been dismantled and transported out of the country. Direct damage to installations amounts to billions of dollars and industrial production has now sunk to around 5% of the pre-war level.

Today, following the recent Peace Accord, the state of affairs in Bosnia and Herzegovina is now sufficiently settled that socio-economic development of the country and its population can be resumed, and industrial reconstruction can commence. Clearly, given the scale and spread of damage and destruction done to industrial production and service facilities as well as housing and engineering structures, it is desirable to begin international technical cooperation in reconstruction and restructuring at the earliest possible date.

To ensure correct targeting of restructuring, consistency of approach, optimal results, and efficiency and effectiveness of restructuring, there is a need for a national strategy for industrial reconstruction and restructuring. Such a strategy should establish institutions, policies and guidelines, sets out programmes of reform and

restructuring and identifies areas of require specific assistance which have greater contribution to the country's economy and the population.

### **Strategy**

A preparatory mission of two weeks, to be fielded to several towns and cities (including Sarajevo, Tuzla, Zenica and Mostar) in Bosnia and Herzegovina. This mission should determine the post-war state of industry, the present institutional framework, existant programmes and programme implementation mechanisms for restructuring and reconstruction. This will allow identification of the types and degree of assistance required in areas of reconstruction, institutions and policy, which a successful national strategy requires and should include.

In particular, concerning the reconstruction of the industrial sector in main industrial areas e.g. Tuzla, proposals will take into account the need to strengthen particularly those subsectors and enterprises which have a role to play in the futurec ompetitive environment of a market economy.

Activities of the mission team would include:

- (1) Launching a preparatory mission to Bosnia and Herzegovina of UNIDO staff members;
- (2) Meetings and discussions with representatives of the Government, institutions and manufacturing industry representatives;
- (3) Formulation of the UNIDO proposals for a national strategy for industrial reconstruction and restructuring in Bosnia and Herzegovina; and
- (4) Design and development of specific project profiles for the establishment of this strategy and submission of these for approval.

It is recommended that preparatory investigation work be carried out in the following fields:

- (1) Industrial policy and institutional support ;
- (2) Enterprise reconstruction and restructuring
- (3) Privatisation;
- (4) SME promotion, including policy advice, institutional support; and
- (5) Investment Promotion.

Work on specific industrial subsectors would indeed activities focusing on, among others: leather and leather products, building materials, wood and wood products, information technology and pharmaceuticals and medical equipment.

The input on the individual industrial subsectors should will draw extensively on earlier preparatory activities carried out in 1995.

**Results**

The purpose of the activities outlined is to come up with a broad outline for a national strategy for industrial reconstruction and restructuring for consideration by the Bosnian Government, which would help to establish a framework within which further industry specific reconstruction and restructuring can be carried out. Additionally a set of proposals should ensue for UNIDO follow-up to support this strategy, focusing on industrial subsectors.

**(2) Information technology related projects**

(This proposal may be either kept as one project or be split into three different projects marked A, B, and C hereafter)

- A. Computerized planning tool for the reconstruction of the city of Sarajevo
- B. Internet accessible database for linking the Bosnian community worldwide
- C. Project management system for the Bosnian Government

<b>Purpose</b>	<ul style="list-style-type: none"> <li>A. To ease the task of reconstruction of the city of Sarajevo through preparing a software environment which can be applied to this problem.</li> <li>B. To facilitate the integration of Bosnian expatriates into the reconstruction work of Bosnia and Herzegovina.</li> <li>C. To provide the Bosnian Government with an aid coordination tool.</li> </ul>
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**Strategy**

A. The project would be divided into three phases. In a first phase data on the city of Sarajevo, its roads, public utilities, sewerage system etc. would be collected and assimilated. The actual implementation of the graphic presentation of Sarajevo's space and its local communities' structure, which is supposed to help the city planners, would then begin in the second phase. At this point the drawings for the city-layout would be processed and analyzed. This work would have to be done partly manual and partly computerized. The third step would be constituted by the complete installation of a GIS, Geographical Information System, which would help in automated monitoring and layout design for the city of Sarajevo and eventually the whole of BiH.

The space coordinates would be linked to the spatial content. Along with this spatial structure, data on the content and stage of implementation of the plans/projects for reconstruction would be generated in a tabular form, diagram or other form of presentation to enable a quick analysis.

As far as possible national experts would be hired to do the work described above. During the course of the work on this project they

would develop skills which are much needed for the restoration work in Bosnia and Herzegovina. One or two national experts would monitor and assist the national experts as and when needed.

B. This project would be implemented in two stages. In a first phase a BOSNET service would be established at UNIDO, possibly as a part of the UNIDONET. The information would be down- and uploaded semi-automated from Vienna to Sarajevo. It is most important that the BOSNET service is then made known worldwide by cross-posting it to all the news-groups on every "NET" - service available. The "NET" users would be requested to pass on the relevant information to other interested parties and to instruct them to respond by directly contacting UNIDO in Vienna.

During the second stage a complete automated 'search, receive and send' (NNTP) server would be delivered to Sarajevo. The data already existing would be adapted to best serve other needs of the Bosnian Government.

C. Within this project a management software would be provided to enable the Bosnian Government to properly monitor and coordinate all incoming international aid flows and potential aid sources. The application would facilitate the location of technical cooperation expertise and financing possibilities. It would help to quickly indicate potential interlinkages between two or more envisaged projects or two or more donors. Duplication and overlapping of projects which leads to unnecessary waste of the much needed funds could easily be avoided.

Through linking this data base to different international organisations and to the Bosnian embassies abroad, synergies could be achieved in all stages of the project implementation process and the individual activities could be optimized as required. In addition, the data base could act as a catalogue of the needs of the country and capacities of the different ongoing actions which would serve the donor community in their planning of aid projects and programmes.

After installation in the office of the Minister for the use by his staff, the software would be tailored and customized for the type of projects which are underway or considered for Bosnia and Herzegovina. Training in the use of this management tool would be provided to its users by one or two international experts.

#### **Result**

A. Once installed, the GIS system will enable the city-planners to quickly analyze the present state of the physical infrastructure in Sarajevo, model different reconstruction alternatives, compare their features, and choose the best possible option.

B. Through the BOSNET and the communication link it creates it will be possible to locate expatriate Bosnians who are willing to make themselves and their expertise in different fields of relevance available to help in the reconstruction of Sarajevo and BiH as a whole.

C. With the help of the project management software it will be viable to coordinate and optimize the individual projects and activities which are designed to assist in the reconstruction of BiH, as required.

### (3) Support to Small- and Medium-Scale Enterprises (SMEs)

<b>Purpose</b>	To provide direct assistance to private entrepreneurs who cater to the most urgent needs of Bosnia and Herzegovina.
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**Situation**

Bosnia and Herzegovina is currently burdened by a severe imbalance of its economic structure due to the war that has resulted in the destruction of a large part of the industrial sector and the fact that BiH has been cut off from a number of crucial resources and industrial inputs.

In this situation the reconstruction of the large enterprises is extremely cost-intensive and not easily done in the short-run. The development of the small- and medium-scale private enterprise sector seems, therefore, essential, since it is these enterprises which are best able to quickly adjust to market needs and who can operate flexibly enough to properly respond to the current environment and to cater to the urgent needs of the people of Bosnia and Herzegovina.

The small- and medium-scale sector requires relatively small amounts of capital and its success can help to reverse some of the loss-making activities of large, mostly state owned entities by providing on-time, quality products that would otherwise have to be imported at much higher costs. The promotion of SMEs has the additional advantages of long-term sustainability, generation of income and employment, the integration of women (who, due to war casualties, play a crucial role as the income generating part in many Bosnian families), and the opportunity to upgrade the technology.

Overall the small- and medium-scale sector, if allowed to flourish, would introduce a dynamism to the process of development and encourages others by being a practical, positive example of what can occur.

**Strategy**

SMEs require an enabling environment within which they can develop and operate. The strategy of the project is two-fold and focuses its attention on both the macro and micro levels. The two objectives are:

1. To provide assistance to the Government of Bosnia and Herzegovina to create an enabling environment for the small- and medium-scale private sector. This should be done by providing assistance with the development of strategies, plans, projects and resources to help create the necessary environment for entrepreneurship development related to small- and medium-scale enterprises; and
2. To establish a SME advisory service for training, counselling, and promotion, to the SME sector.

To meet the first project objective an expert on entrepreneurial activities should be fielded to BiH for a period of several months. The consultant would promote the concept of entrepreneurship and entrepreneurial activity, and help create favourable conditions for enterprise development. Subject to close collaboration and cooperation with the Government, he would assist in the development of an overall strategy, which would permit the promotion of entrepreneurial activity. The strategy would include the development of strategic business plans for each sector especially for those whose products are of urgent need by the people of BiH due to the difficult situation created by the war.

Linking in with this objective are activities which are presently subsumed under the first mentioned pipeline project ('Strategy for industrial reconstruction and restructuring of the economy of Bosnia and Herzegovina'). Funding has been received from UNDP to incorporate work on the SME sector in the industrial strategy programme, through an assessment of the contribution SMEs, in general, can make to improving the socio-economic conditions. Financing and credit availability are also to be reviewed, particularly with regard to the requirements of the SME sector.

With regard to the second objective, the establishment of private enterprises, this needs to be supported at all stages of growth, including business start-ups, expansion-oriented business and those searching for financing possibilities, new markets, partners and technologies. Experience has shown that the best form of assistance to the small businesses, including new small businesses, is direct, individualized, professional, and confidential consultation with each business or potential entrepreneur either in the existing enterprises or in the office of the advisory centre. While the advisory services should be free of charge, while the reputation and value of the advisory centre is being established, a sliding scale of fees should be introduced afterwards.



Since the key to success is the personnel of this advisory centre, the training component of the project is of particular importance. The project seeks to maximize the use of Bosnian nationals, who will be trained by an expatriate expert to train business people and, at a later stage, act themselves as trainers. The training will be mainly in management skills and financial structuring, but it could also include business planning, loan applications, technology, process and equipment analysis etc. The training and information material which has been prepared for a very similar and very successful project in other countries in the region will be adapted to reflect the specific Bosnian conditions.

The project has the potential for replication all over Bosnia and Herzegovina once trained business staff from the initial business advisory service is able to train others and carry the advisory assistance in other locations.

**Results** At the end of the project, a (potentially self-sustaining) centre will have been established and staffed by fully trained Bosnian personnel, capable of providing counselling and training to entrepreneurs. A set of materials will also be available in the Bosnian language and taking into account the special requirements of the Bosnian economy.

#### **(4) Reactivation of the local production of essential building materials in Sarajevo**

<b>Purpose</b>	To jump-start the local building materials sector in order to secure the availability of at least the most urgently needed building materials to permit the repair and/or reconstruction of housing and the rehabilitation of essential public buildings incl. schools and physical infrastructure.
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**Situation** It is a well-known fact that the physical damage suffered by housing, public buildings and civil engineering structures in Sarajevo including roads, bridges and airport facilities has been extensive. The repair of the damages and the rehabilitation of the structures represent a very major effort not only in terms of work but also in terms of materials.

Furthermore, this part of the Action Plan for the Rehabilitation of Sarajevo is critical from the point of view of achieving at least a minimum of winterization of homes, schools and social institutions as well as with a view to ensuring essential services, especially in the transportation sector.

Finally, it should be stressed that the provision of adequate supplies of basic building materials such as aggregate, concrete and asphalt is key to the successful implementation of all civil engineering projects, including at least 30 under the Action Plan, given the present total lack of any materials of importance within the confrontation line.

### **Strategy**

The project should be subdivided into three main components:

- civil engineering including the manufacture of the required bulk materials, especially aggregates, concrete and asphalt, and the operation of the related heavy construction equipment;
- basic building materials manufacture to cater for the needs of the necessary rehabilitation (repair or reconstruction) of housing and public buildings; and
- recycling of demolition rubble as a competitive source of a range of construction materials and other inputs to the reconstruction process

The emphasis should be on the maximum utilization of local expertise and existing manufacturing and construction capacity and favour the processing of local raw material resources rather than importing materials from outside the city of Sarajevo. Expediency in meeting the demands of the overall reconstruction programme is also a key consideration.

### *Civil Engineering*

Some of the largest and internationally most active construction enterprises of former Yugoslavia were, and still are, based within the Sarajevo city limits. They include Vranica, ŽGP, BITUMENKA and GP PUT. They represent a very significant base of know-how and only slightly damaged equipment exists within Sarajevo which could be mobilized at short notice (1 - 2 months at the most) and at a very modest cost. Presently accessible equipment, which can be refurbished at a modest cost (probably less than 1 million US\$), including aggregate crushers, concrete mixers, asphalt mixers, asphalt bases and a full range of civil engineering and heavy construction equipment represent a total capacity which by far exceeds the requirements of the city in both the short and the medium term. UNIDO would provide the logistic and technological support for the refurbishment while the actual cost would be borne by the enterprises themselves.

### *Building materials manufacture*

The assistance will focus on three distinct categories of building materials:

- **Revival of existing industries** by rehabilitation of the plants to the extent possible and provision of support in procurement of the required parts and consumables and in the training of staff.

- **Introduction of new Materials Technologies** particularly such which are labour intensive and flexible and could contribute towards improving the availability of building materials in the shortest possible time - including the dry pressed, unfired soil blocks in which Vranica has shown some interest.
- **Recycling of Demolition Rubble** with emphasis on the optimum re-utilization of reclaimable materials from houses damaged to the extent that they will have to be demolished.

Steps have already begun in carrying out preparatory work in late December 1995, to create a base for work in the last of these categories to be carried out. The present preparatory steps involve: determining the possibilities of recycling demolition rubble as a source of a range of construction materials and other inputs to the construction process; and assessing the suitability of the use of specific techniques to recover usable materials from buildings marked for demolition, and subsequent marketing/reuse of recovered materials.

## **Results**

The overriding purpose of the activities outlined above is to make maximum use of raw material resources, human resources and existing equipment and infrastructure to provide the maximum quantity of materials at the lowest possible cost within the shortest possible time. For this reason, it is proposed to keep the programme flexible and open to other alternative lines of action.

The result will be improved access of the population to building materials permitting an increased level of construction activities ranging from self help repair work to major civil engineering projects.

## **(5) Rehabilitation of the wood industry of Bosnia and Herzegovina**

<b>Purpose</b>	To rehabilitate the Bosnian wood-processing industry so as to enable it to produce wooden prefabricated elements like doors, windows, roof trusses as well as other wooden products such as school furniture which are key elements of any reconstruction programme.
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## **Situation**

Former Yugoslavia had a large and well-developed wood processing industry and exported a wide range of products to Western Europe and to the USA.

The sector as a whole was integrated, - that is, the producers of sawnwood and panels, of adhesives, finishes, hardware and other supplies were linked to those factories producing furniture. These were

mostly large, employing 1000 - 2000 people and were often themselves integrated to produce furniture, parquet flooring, glued-laminated beams and even prefab houses, indicating a lack of specialization.

Years of central coordination will have resulted in their now being 'cast adrift' under current conditions. The sophisticated processing lines will no longer be suitable, in many cases for the kind of production now needed. Product and market development at the enterprise level will be weak although technically enterprises will probably be found to be in reasonable shape - provided the staff and skilled workforce are still alive and in place.

The well-established wood industry of former Yugoslavia has been fragmented by the war and the physical condition of factories as well as the whereabouts of staff is basically not known. Although it is likely that equipment in most is not damaged, production must be reoriented to respond to the emergency rehabilitation programme, key staff must be located and commercial contacts re-established. Also the supply of raw materials and transport routes must be negotiated and agreed.

### **Strategy**

A needs assessment mission should concentrate on determining the current status and condition of the main factories in Bosnia and Herzegovina, beginning with those of SIPAD. SIPAD used to be the main company in wood processing in former Yugoslavia, based in Sarajevo with factories spread all over the country but with many in BiH. This first mission should also determine the wood supply situation and needs for investment in plant and machinery.

UNIDO proposes to begin with a first preparatory phase of two months comprising six weeks in Bosnia and Herzegovina and two weeks in Vienna.

Five consultants will be provided:

1. Wooden building materials/prefab housing production expert
2. Furniture production expert (emphasizing school furniture)
3. Forester/Forest economist (for sources of supply and logistics problems)
4. Industrial economist specializing in investment/rehabilitation of wood processing enterprises
5. Wood industry rehabilitation advisor

The first four would do the field survey whereas the fifth would be a former executive of SIPAD (or a similarly highly placed person from the region for whom travel in the area may not be advisable) who would prepare detailed briefing notes, including contact people and a questionnaire, and contribute to the preparation of the rehabilitation

programme. Emphasis will be placed on gearing up production of priority products for the six-months 'urgent' phase in Bosnia. Collaboration with FAO on forestry and wood supply aspects is envisaged, especially with regard to consultant 3.

Of particular importance will be 'SIPAD-JANJ' - Donji Vakuf (prefab housing and joinery), 'BLAZUJKA' - Blauji (water-resistant plywood), 'KRIVAJA' - Zavidovici (prefab houses), and 'BOJNA' - Bojna Ilijas (integrated production). Other enterprises however will be identified and considered during the preparatory period.

Work to prepare for the implementation of this project has already begun. This involves making an assessment of different wood processing factories in Bosnia and Herzegovina in December 1995, and, on the basis of this and in consultation with the Government and SIPAD representatives, determining the problems of these various factories and identifying those units to be included in the main needs and assessment programme mission ('rehabilitation of the wood industry of Bosnia and Herzegovina').

#### Results

The outcome of this project will be a report that features recommendations for urgent production rehabilitation, and a medium to long-term plan for reorientation of the sector including investment promotion.

#### (6) Provision of technical assistance to Bosnalijek Pharmaceutical and Chemical Industry Ltd., Sarajevo as humanitarian aid

<b>Purpose</b>	To alleviate the shortage of priority and essential drugs in the country.
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#### Situation

Bosnalijek Pharmaceutical and Chemical Industry Ltd. (further referred to as Bosnalijek) is the only pharmaceutical manufacturer in Bosnia and Herzegovina and therefore their contribution to the health care needs is critically important. Bosnalijek, established in 1951, was a medium-size pharmaceutical company which manufactured a wide range of drug formulations and produced a few pharmaceutical chemicals by chemical synthesis. Even though the company has made all possible efforts to meet the demand of the country during the war, their manufacturing operations were seriously hampered by the hostilities. Not only have their facilities been hit by shells many times, but there is also a shortage of raw materials due to the irregularity of supply caused by the blockade. The source of this limited supply arriving by air and by land has entirely been donation.

The shortage of drugs has created a critical situation for the health care needs in the country and there prevails a common worry that the situation will further deteriorate when, after the war, the humanitarian aid will not flow at the current volume. UNIDO is of the opinion, however, that the importance of Bosnalijek will even increase in the post-war period since the company is not one of the pharmaceutical manufacturers in the former Yugoslavia, but the only pharmaceutical company in the country.

Bosnalijek has made its utmost to continue its operations even under the war conditions. In spite of these efforts, some of the essential items on the main production lines have been destroyed to such an extent that they need to be replaced completely.

### **Strategy**

In order to re-establish a balance between the demands for the priority and essential drugs in the country and the production capabilities of Bosnalijek, the issue to be addressed is not only the replacement of the destroyed items of equipment and the provision of the much needed spare parts, but at the same time the creation of a financially sustainable enterprise. The latter would need the economic benefit of economies of scale which cannot be achieved without export capacities. The pharmaceutical export, however, would require quality operations complying with international standards. Therefore, during a first phase the project's priority would be to provide technical assistance in connection with the re-establishment of pharmaceutical manufacturing facilities in compliance with the current Good Manufacturing Practices (cGMP) and the requirements of the EU.

Experts would assess and review the conditions at Bosnalijek with particular reference to facilities' (buildings, equipment, and utilities) requirements. The needed equipment (both facilities and processing equipment), spares and parts would then be procured and with the experts' assistance the re-established production lines would be installed, validated and run-up.

In a second step an improved Quality Assurance System including cGMP and quality control with the required documentation (Standard Operating Procedures, Batch Production Records, Test Records, Validation Documentation etc.) would be put into operation at Bosnalijek. In this context study tours would be organized to visit a few pharmaceutical manufacturers of GMP compliance in Europe. Managers from Bosnalijek would also be given the opportunity to participate in training courses in pharmaceutical quality management techniques.

To achieve its goal the quality assurance system would have to be improved not only in the manufacturing operations but in the areas of supply and servicing of the most important pharmaceutical utilities, e.g. air and water.

**(7) Rehabilitation of the leather-based industry sub-sector in Bosnia and Herzegovina**

<b>Purpose</b>	To facilitate the restarting of existing tanneries and footwear and leather products manufacturing companies to supply the local market with the required footwear.
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**Situation** Prior to the present war, the leather-based industry sub-sector played a prominent role in the national economy of the former Yugoslavia and subsequently in Bosnia. As a result of the military activities in this geographical region, all manufacturing units suffered - to varying degrees - losses to their existing production capacities. Some tanneries, shoe and leather goods factories have lost part of their labour force/staff, other production facilities were slightly or seriously damaged. Shortages in the supply of shoes for the Bosnian population has clear, negative impacts across the entire socio-economic spectrum, from children in school to the industrial labour force.

The market standing of the companies in the industry has also been negatively affected. Due to the irregular or discontinued operation, a great deal of their markets have been lost and traditional customers had to find other sources of supply. Almost all the production units require some type of rehabilitation, ranging from re-establishing their markets and source of material supply, to training new labour, and repairing and/or supplementing production equipment.

Restarting of this sub-sector would provide work (and consequently income-generating) opportunities to the local population, generate hard currency income through re-establishing the export of these commodities and, most importantly, re-create a reliable basis for supplying the much-needed footwear and leather goods to the local market.

**Strategy** The project would provide direct assistance to existing production units which have been damaged by the war (e.g. tanneries in Livno and Visoko; shoe factories in Derventa, Travnik and Tuzla; the leather goods unit in Visoko) in rehabilitating their production facilities by maintaining equipment, supplementing damaged or destroyed machines, assisting in restarting production, defining product ranges, and training direct labour and staff. The project will be refined and further specified using the information collected through the envisaged UNIDO preparatory assistance.