



شروع انشاء المناطق الجبلية اللبنانية - إعداد وأبحاث حرجية

PROJET DE BONIFICATION INTEGRALE DE LA MONTAGNE LIBANAISE
FORMATION ET RECHERCHES FORESTIERES

" انقاذ " احراج القموعة اخر احراج الشوح في لبنان

موجز

«sauvetage» de la forêt et tourisme de montagne
Kumprecht, de la forêt de sapins au Liban

لقد حبا الله لبنان وخاصة جبال عكار منه بثروات حرجية ومراع طبيعية كثيرة الخصب ، كل ذلك في اطار يسهل تحويله الى منتزه وطني فريد (ربطاً الخريطة) • وتمتع أحراج الشوح التي تنفرد بها هذه الاحراج بقيمة تجارية عالية في حين ان المراعي الفسيحة ، انني تزخر بها تلك المنطقة لا تزال في قسم كبير منها ، مروجاً طبيعية يمكن ان تحول بسهولة الى مراع مستديمة محسنة •

لقد تم لغاية الان تحديد التي هكتارا من هذه الثروة الطبيعية وأجريت تجارب لمعرفة التحسينات التي استطاع ادخالها عليها فتبين ان الانتاج السنوي الصافي من خشب وعلف يمكن ان يصل الى ٢٠٠.٠٠٠ ل.ل تقريبا ، واذا نحن حذفنا العصاريف التي تتطلبها التحسينات المذكورة وحولنا الانتاج الصافي الى رأس مال نرى ان الالف هكتار هذه تمثل رأس مال يفوق المليون ليرة لبنانية بفائدة ٥ % والمليون ليرة لبنانية ونصف المليون بفائدة ٣ %

وهذه الثروة التي لا يستهان بها ملك للدولة وهي لم تعمل على تحسينها مطلقا ، غير ان سكان فنيدق ، منذ عدة اجيال اخذوا يستثمرون الغابة والمراعي استثمارا منهكا مما ادى الى تناقص رأس المال هذا عاما من عام بعدة مئات من الوف الليرات سنويا بحيث لن يبقى بعد عشرين عاما الا مراع هزيلة شبه جدباء لا يتعدى انتاجها العشرين الف ليرة لبنانية سنويا أي عشر المبلغ المذكور آنفا •

والدولة ، بمحافظتها على غابة الشوح هذه ، لن تستفيد وحدها ، بل سيستفيد ايضا سكان فنيدق والمنطقة كلها ، اذ ان البساط النباتي الأخضر يحفظ المياه للصيف وينظم مجاري الانهار والسواقي ، وسينتج عن تناقصه ، اذا لم تسارع الدولة الى ايقافه ، نضوب في الينابيع ، كما وان بساكن السهول الساحلية ستكون عرضة للخطر من جراء الفيضانات التي ستلحق بها اضرار متزايدة عاما عن عام •

ان سكان فنيدق هم باشد الحاجة الى اشجار الغابة للتدفئة وغيره من الحاجات المنزلية ويستعملون الأعشاب علفا لحيواناتهم العديدة ، أما الارض التي يمكن زرعها فهي لا تكفيهم ، وعدد هم في تزايد مستمر ويقدر الان بسبعة آلاف نسمة ، وهم بدون مساعدة ، لن يقلعوا عن استعمال الخشب والأعشاب ليس هذا فحسب بل انهم يداومون بالقوة عند الضرورة عن حق يعتبرونه مكنسبا فتحسين الارض دون مساعدتهم لن يجدي نفعا .

سيتمكن سكان فنيدق من استبدال الخشب بالمازوت ان خفضت أسعاره ، كما ان استيراد القمح عن طريق منظمة التغذية والزراعة الدولية ، والارشاد الفني المجاني سيسمحان للقرويين ان يحولوا الى مراعي ممتازة مساحات تقع خارج المراعي الحالية كانوا ولا يزالون يزرعونها قمحا وغيره من الحبوب ، وذلك لان الجبال العالية أفضل للمراعي منها لزراعة الحبوب ، وسيسمح هذا بالتخفيف من استثمار المراعي استثمارا منها .

وهكذا تستطيع الدولة ان تقوم بقيادة عمليات المحافظة على تلك البقعة الخضراء ، فتمهد لتحقيق الانتاج المتوقع .

وواضح انه يجب ان تتضافر جهود عدة مصالح حكومية لتحقيق هذا المشروع النموذجي كصلحة الانعاش الاجتماعي ومصالح تسميم الزراعة وصالحة المواشي في وزارة الزراعة ومشروع انماء المناطق الجبلية والمشروع الأخضر .

وحتى يستطيع هذا المشروع ان يحقق مدخولا مرتفعا تلزمه مساعدة مالية أولية طفيفة يصبح بعدها مستقلا من الناحية المالية %

"Sauvetage" du site forestier et touristique de Kammouha, dernière forêt
de sapins au Liban

R é s u m é

Au Liban Nord, et plus spécialement dans les montagnes du Akkar, se trouvent de précieuses ressources forestières et pastorales, dans un site qui se prêterait à merveille à l'aménagement d'un parc national, (voir carte ci-jointe). Les forêts en question contiennent des essences d'une grande valeur commerciale, alors qu'une partie des pâturages est un pré naturel, qui pourrait être aisément converti en prairies permanentes améliorées.

2000 hectares de ce trésor naturel ont déjà été délimités. Des essais déterminant les possibilités d'amélioration ont été exécutés, et il a été calculé que les revenus nets annuels sous forme de bois et de fourrages pour les animaux pourraient atteindre quelques 200.000 LL. En déduisant les frais nécessités par les améliorations à entreprendre et en capitalisant les revenus nets, escomptés à 1965, l'on verrait que ces 2000 hectares représentent un capital excédant 1 million, avec un intérêt de 5 %, et 2 1/2 millions avec intérêt de 3 %.

Ce capital appartient à l'Etat, qui n'en a jamais profité. Seuls les habitants de Fneideck en bénéficient depuis des siècles, tout en surexploitant la forêt et les pâturages. Chaque année le capital diminue de quelques centaines de milliers de livres, de sorte que dans 20 ans il ne restera que des pâturages dégradés, ne rapportant que 20.000 LL. par an (alors que le revenu potentiel est à peu près 200.000 LL. par an).

L'économie du village et celle de l'Etat ne bénéficieront pas à elles seules de la sauvegarde de la forêt. Tout le bassin versant en tirerait profit. La couverture végétale retient l'eau pour l'été, en régularisant le régime des eaux. Si la dégradation de cette couverture n'est pas stoppée, les sources tariront, et les inondations mettront en danger les vergers des plaines côtières, causant des dommages toujours plus étendus, d'année en année.

Les habitants de Fneidek ont besoin de la forêt qu'ils coupent comme combustible, et des pâtures pour l'alimentation de leurs animaux. La terre cultivable ne suffit pas à la population croissante, estimée à près de 7.000 personnes. Sans assistance, ils n'ont pas le moyen d'abandonner l'usage du bois et des parcours en forêt, et ils défendront au besoin par force leurs droits d'usage. Essayer d'améliorer les terres tout en s'aliénant la bonne volonté et la coopération positive des habitants, c'est peine perdue.

Des prix préférentiels pour le mazout et les poêles permettront au mazout de remplacer le bois de chauffage. Les importations de blé (par le canal du programme alimentaire mondial dit WFP), et l'assistance technique bénévole permettront aux villageois de transformer en pâtures de première classe des étendues situées en dehors des pâtures existants. Solution d'autant plus recommandable que la haute montagne convient mieux aux pâtures qu'aux céréales et qu'ainsi on diminuerait la pression sur les pâtures actuels.

De cette façon, l'Etat pourra prendre en main la direction des opérations en forêt et dans les pâtures, qui pourront être aménagés de manière à assurer les revenus potentiels. Il est clair qu'un tel projet pilote devrait être réalisé conjointement par plusieurs agences gouvernementales, telles que l'Office du développement social, les services de vulgarisation agricole et le service de l'élevage relevant du Ministère de l'agriculture, tout autant que par le projet de la bonification intégrale de la montagne libanaise et par le Plan Vert.

Après une assistance financière initiale, le projet devrait produire assez de revenus pour devenir financièrement autonome.



• اخلاف الاحراج خسارة للثروة الطبيعية .

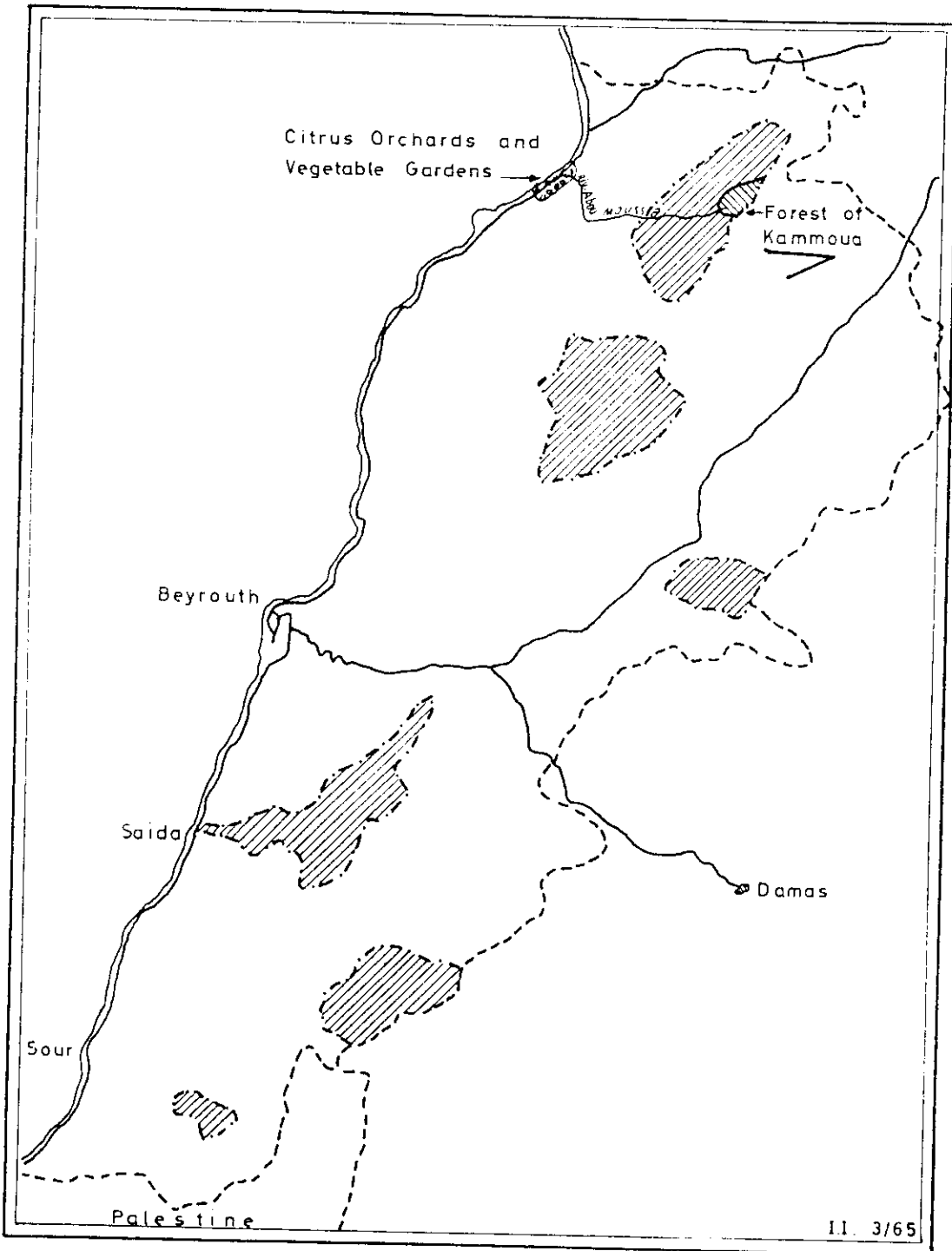
Destruction de la Forêt, Perte du Capital,
Destruction of a Forest, Loss of Capital.



• يتحدد الحرج المحمي طبيعيا وتبقى الثروة الطبيعية كاملة .

Protégée, la forêt se régénère naturellement, le capital se maintient.
A protected forest regenerates naturally, capital does not depreciate.

SITUATION DES PERIMETRES DU PROJET DE BONIFICATION
DE LA MONTAGNE LIBANAISE ET DE LA FORET DE KAMMOUA



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SOME PROPOSALS FOR ACTION IN FNEIDEQ TO SAVE

KAMMOUA FOREST

It is a well known fact for those concerned with forestry that in many areas existing forests are becoming progressively degraded. The two principal agents responsible for this are uncontrolled cutting and grazing. The Kammoua forest is a striking example. (See map, Perimeter 1).

Everyone agrees on the fact that it is not a sound policy to establish a forest by costly artificial means - terracing and planting - while elsewhere a natural forest cover is disappearing. A concentration of effort to save what is left, to stop degradation, is called for.

A. THE FACTS

1. The Forest

The largest part of the Kammoua forest is exploited by the people living in Fneideq. Their livestock grazes there for the major part of the year. Very large quantities of fuelwood are cut. Herds from other villages are not allowed by the fierce villagers in the part of the area controlled by them, nor do they allow wood cutting by outsiders.

The territory controlled and exploited by the people from Fneideq is 2,000- 2,500 ha. large. The average fuelwood consumption is about 7 tons per household, or about 5,000 tons for the whole village. An unknown quantity of wood is cut for sale outside the village.

The Kammoua forest is not exploited for charcoal as it does not contain suitable tree species (e.g. oak).

Thus annual exploitation is over 2 tons per ha. or about 4 m³ per ha. However, the whole area is not covered with forest, so the actual exploitation is much (at least twice) higher.

The people from Fneideq are herders and hunters by tradition. The population is growing fast, and not sufficient arable land is available. The grazing pressure on the forest is heavy. The exact number of goats grazing the forest is not known. Official estimates of the goat population are understated. Cattle number about 1,800, sheep 2,300. Grazing is too heavy to allow natural regeneration of the protective cover. Result of abusive grazing and cutting: disappearance of the already degraded natural cover at a progressively increasing rate.

2. The Village

Fneideq has a population of about 7,000 people; there are about 700 household units. From the foregoing can be seen that forestry plays an important role in the local economy. Further sources of revenue are: subsistence crops (wheat and vegetables), apple growing and seasonal employment as labourer in the plain of Akkar or Tripoli. The standard of living is very low, arable land is too scarce to support the fast growing population. The social structure is still largely tribal; the leaders of the village are 10 Sheikhs, who are all represented in the municipal council. One of them is Mukhtar.

Fuelwood is burnt in open fireplaces or without fireplace at all. It is cut in summer and transported by truck, mule, ass or man. Branches, twigs, but also large logs are used. About two third of the total quantity is burnt during winter. Charcoal is bought from outside the village. It is burnt occasionally while guests are visiting. Very few households burn fuel oil (mazout). It is not available locally and has to be brought up from Tripoli. This increases the price from L.L. 1,85 per tennecoe to L.L. 2,25.

The staple food is bread and "burguel", supplemented by vegetables and animal products. Most of the bread is baked from imported flour, while the burguel is prepared from locally grown wheat. Local food production is not sufficient, arable land is so scarce that still marginal land is being terraced for wheat growing; a large part of the labour force works seasonally outside the village as share-cropper.

Cattle ownership is widespread; almost all households (570 out of 700) own one or more head. Goat and sheep ownership is more concentrated: about 60 households or less than 9% of the total, own all the goats.

3. The Watershed

The Kammoua forest forms an important part of the catchment area of the watershed of the Abu Moussa river. Its water irrigates the fruit growing areas which are still expanding. The stream traverses highly productive citrus groves in the narrow coastal plain. Thus it is obvious that the forest cover affects not only or even primarily Fneideq's economy but the economy of the entire watershed. It influences streamflow, retaining water for summer irrigation; regulating water discharge and thus protecting the lower lying alluvial plain from erosion.

What will happen when the forest cover disappears can be observed in the Awali watershed. Spring water discharge during summer is not sufficient while much water is lost in winter. Costly stream controlling structures have to be built to protect the intersected citrus bearing alluvial soil against erosion by the high, fast flowing water during winter storms.

The salient facts can be summarised as follows.

Year after year there is:-

(a) Loss of forest and pasture capital

Abusive cutting and grazing destroys soil cover; no natural regeneration is taking place; vegetation is fast approaching the stage beyond recovery. The costs to re-establish a fully productive cover rise at a progressively increasing rate. Wood and animal feed production is decreasing fast and will stop within the foreseeable future.

(b) Loss of land and water conservation capital

While protective soil cover is becoming scarcer, the water economy becomes dangerously unbalanced. More and more water flows without being used to the sea; less and less water is retained for summer use. Land is being stripped from its soil cover, as erosion becomes increasingly uncontrollable. Storm floods in the river Abu Moussa threaten vital citrus production on alluvial soils of the coastal plain.

(c) Loss of human resources

The village population is underemployed, because of underdevelopment and misuse of production factors. The revenues from forest and range land are far below potential. Much more man labour could find remunerative employment in an intensive but well balanced exploitation of these production factors.

(d) Loss of forest and range land revenues

Fuelwood is the only wood product harvested at the moment. Wood-starved Lebanon could use part of this wood far more profitably for its industries (e.g. packaging of fruit). The range land could produce much more on a sustained yield basis if under proper management.

The present adverse situation will not change with time, without active, positive intervention. Instead, it will deteriorate under the influence of the increasing pressure on the forest and range, brought to bear by the fast increasing population. Therefore, immediate action is called for. What follows may serve to convince sceptics.

Recently a road was completed transversing a part of the forest. Summer 1964 saw trucks going up to get the large tree trunks cut by the villagers for their winter fuel needs. Previously the transport means of highest capacity was the mule, which fact limited the size of exploitable trees as well as total quantity removed.

B. A. PROPOSAL FOR ACTION

Mr. Baltaxe, FAO Forestry Expert of the Project, elaborated a program of work for the Kammoua Forest and Range. It deals with field operations in the forest to protect and improve forest and range growing stock, to reduce soil erosion and improve the efficiency of the watershed. It already stipulates that a policy should be adopted for forest protection and the integrated improvement of agriculture and living conditions in Fneideq.

Indeed, under the actual social and economical conditions prevailing in the village, a concerted action in the forest and the village is a prerequisite sine qua non to intervene successfully. The village population regards the forest as their property in many ways, and is quite capable of enforcing this view. For centuries the forest was theirs to graze, hunt and cut, uncontested by the State. They have become very dependable on the forest.

Two basic needs are met by the forest: fuel to burn during the cold winter and grazing ground for the village livestock. Cutting of fuelwood would not harm the forest if it were done on a basis of a sustained yield. However, even if natural regeneration were taking place, current exploitation is much too heavy, resulting in the disappearance of the existing tree cover. It is indispensable that a tree cover be maintained in order to get natural regeneration. It creates the necessary micro-climate and conserves the topsoil.

Current over-grazing renders re-afforestation impossible, not to mention natural regeneration. The areas grazed could produce more feed if properly managed, but the current grazing intensity should first be lowered. This cannot be done without reducing and controlling the number of livestock grazing on the area. To reduce the village livestock number is not feasible since animal production is one of the main, scarcely available, sources of income. The only viable alternative is to actively encourage fodder production outside the area to be protected.

The line of action should therefore be:

- 1) To replace at least part of the fuelwood needed by another combustible;
- 2) To induce the production of livestock fodder outside the forest.
- 3) To start at the same time improvement operations in the forest and range.

The guiding principle should always be how to enlist the goodwill and co-operation of the local people. They should feel that action is taken to improve their living standards. Law enforcement has to go hand in hand with persuading the people by demonstrating that their own interest lies in a well organized and managed forest property. As shown in the past, fines, imprisonment and similar methods applied alone are far from being effective.

1) Replacement of Fuelwood

About two third of the fuelwood is being burnt for heating during the six winter months. The suitable substitute would be fueloil. At the same time it should be tried to improve the efficiency of the burning of wood.

It is not envisaged to replace all burning of wood, but to relief the burden of the current over-exploitation. Kammoua forest tree species are not well suitable for fuel, but have an excellent industrial market. Thus it is sound economic policy to emphasize and encourage the use of other combustibile on the long run, while it is a necessity when immediate relief is sought.

The average village household does not earn sufficient cash income to bear the cost of acquiring a stove and purchasing the oil at current market prices. The State has to provide the stoves (eventually at a nominal price) and, at least during the initial period, has to subsidize the sale of oil. The village opinion sounded favorably on this approach. So, when local co-operation is well organized, the execution of this part should be simple. Subsequently, it should not be difficult for the Forest Service to take in hand all cutting in the forest, either by putting it to contract under supervision of a reliable forest guard, or by doing it under direct employment. (See Section 3 page 3 and 4 of Baltaxe's "Forest Protection and Management - Kammoua, Programme of Work")

2) Inducement of Fodder Production outside the Forest

Livestock is one of the main resources of livelihood in Fneideq. Almost all households own at least one cow, fewer own goats and sheep. Besides growing of high quality fruit, animal production is a very promising economic activity in the area. Current milk and meat production is very low.

A principal limiting factor is the scarcity of fodder. In this field a vacuum exists for technical assistance. However, fodder production has to compete with other products for growing space. One does not encounter the sight of abandoned terraces like elsewhere in the country.

One of the most important competing products is wheat, which is an extremely marginal enterprise here. Most of the land now producing wheat could be much more profitably put to use growing animal fodder. The generated additional cash income would more than enable the farmer to buy his requirement of wheat on the market. (This fact has by now become common knowledge for anyone concerned).

The help of the World Food Program (W.F.P.) is extremely well suited to bridge the gap ensuing from the shift from wheat to animal fodder production. During the initial period of the project, farmers willing to change could be supplied with wheat to replace what they used to produce themselves. The next year an exchange, at a very favorable rate, of wheat for the animal fodder the farmer has grown, could take place. The fodder would be disposed of by selling it at a low price to the owners of cattle - and other livestock. The generated funds could be used to finance the fueloil plan.

W.F.P.'s wheat could at the same time be used also to finance the purchase of fueloil through a deal concerning the part of wheat requirement which is currently purchased. The household would receive oil and wheat at the same time. . . . They would pay for the oil the money they would otherwise have spent for the purchase of wheat. A promising aspect of the fodder production scheme is that it will mostly benefit cattle breeding, thus affecting almost all households, and encouraging replacement of goats by cattle. Through proper coaching the village opinion could in the end be turned against goats.

It is obvious that other development projects have to be integrated with the plan presented. E.g. veterinary and animal husbandry assistance, milk collecting center, forage production and storing, social development, farmers co-operative, etc.

Gradually sufficient cash income would be generated and a local Co-operative could take over from the State.

3) Improvement Operations in the Forest and Range.

In 1963 a pilot project was initiated to demonstrate the effect of protection and improvement measures. It was necessary to fence the areas chosen for the pasture, range and forest regeneration trials. Fencing the trial plots is costly and yet ineffective if the village population resist the fenced infringement on what they regard as their property. If the trials are to be continued and extended, it is indispensable that the population's goodwill be fostered. Fences and guards alone do not stop the potentially suspicious and hostile population.

Therefore, the proposals contained in the two preceding chapters form an integral part of the development of the forest and range resources of the area.

See for the envisaged improvement measures Baltaxe's "Proposed Programme of Work and Estimated Expenditure".

C. TENTATIVE QUANTIFIED ECONOMIC JUSTIFICATION

(in Lebanon Pounds)

	(1) [⌘]	(2) [⌘]	(3) [⌘]
<u>1.a.</u> Average Annual Crop Returns:			
First 10 years	64,000	41,000	12,000
From 11th to 21st year	24,000	41,000	45,000
From 21st to 41st year	21,000	41,000	48,000
After 40 years	19,000	41,000	184,000
<u>1.b.</u> Annual Crop Returns			
Capitalized and discounted to 1965, at an interest rate of 5%	720,000	810,000	1,050,000
" " " " 3%	1,050,000	1,350,000	2,660,000
<u>2.a.</u> Annual Non-Crop Returns			
First 20 years	less than 10,000	over 10,000	over 15,000
After 20 years	0	over 10,000	over 20,000
<u>2.b.</u> Annual Non-Crop Returns			
Capitalized and discounted to 1965, at an interest rate of 5%	less than 130,000	over 200,000	over 300,000
" " " " 3%	less than 150,000	over 330,000	over 600,000
<u>2.b</u> Total Capital (at 5%)	less than 850,000	over 1,020,000	over 1,350,000
(at 3%)	less than 1,200,000	over 1,700,000	over 3,260,000

⌘ See notes on page 8 on the form of exploitation.

NOTES

FORM OF EXPLOITATION

(1) The present situation: natural resources are over-exploited and abused, revenues decrease with time, the capital shrinks.

(2) Each year no more than the annual increments are harvested, no investment is made, revenues and capital remain constant: sustained yield.

(3) During an initial improvement period a part of the revenue is re-invested; capital increases till potential revenue is realized; after that point exploitation remains on a sustained yield basis, but at a much higher level than under (2)

Non Crop Revenues are benefits derived from the vegetative cover of the higher catchment areas of a watershed, e.g. water retention for summer springs, protection from floods through streamflow regulation, soil retention and erosion control, income from tourism, recreation. When the cover disappears this revenue becomes zero.

From the figures shown a striking conclusion must be drawn: the Lebanese Nation gains a sum of over L.L. two million by deciding to save the Kammoua' forest.

SAUVETAGE DE LA FORET DE KAMMOUHA

أَنْقِصَانُ غَابَةِ الْقَمُومِصَّةِ

De par ses multiples aspects sociaux économiques et techniques, le problème du "sauvetage" de la forêt de Kamouha dépasse le cadre du projet de bonification de la montagne libanaise.

Par conséquent, les solutions proposées dans ces quelques pages ne peuvent aboutir à une heureuse conclusion que si l'on prend en considération tous les aspects du problème.

Aussi le projet de bonification de la montagne libanaise invite-t-il tous les organismes, d'Etat intéressés (Santé, Éducation, Travaux Publics, O.D.S., etc.), à collaborer avec lui en vue de venir en aide à une population que la pauvreté et l'isolement ont réduite à mener une vie quasi primitive et forcée à détruire un capital qui aurait pu autrement être productif; LES FORETS DE KAMMOUHA.

ان مشكلة انقاذ غابة القمومصة تتمدى من حيث نواحيها الاجتماعية والفنية والاقتصادية نطاق مشروع انماء المناطق الجبلية ، فالحلول المقترحة في هذه الصفحات لا تستطيع اذن تحقيق نتائج فعالة ان نحن لم نواجه المشكلة من مختلف نواحيها .

ولهذا فان مشروع انماء المناطق الجبلية يدعو كافة الهيئات الرسمية (وزارات الصحة العامة والترفيه والاشغال العامة وصلحة الانعاش الاجتماعي الخ) الى التعاون معه . بغية مساعدة شعب تضافر الفقر والحرمات والعزلة فجعله يعيش حياة شبه بدائية وأجبره على اتلاف ثروة طبيعية كـسسان بالمستطاع استثمارها ، وسائل انجم ولاغراض انفسع الا وهي غابة القمومصة .

La Direction du Projet

ادارة المشروع

الجمهورية اللبنانية
مكتب وزير الدولة لشؤون التنمية الإدارية
مركز مشاريع ودراسات القطاع العام