南西アジア二ヵ国(ネパール、パキスタン)
プロジェクト選定確認調査団
報告書

――鉱工業部門産業開発協力事業――

昭和54年1月

国際協力事業団

はしがき

国際協力事業団派遣の鉱工業部門の産業開発協力事業に係る「南西アジア・プロジェクト選定確認調査団」は昭和53年10月22日から同11月9日までの19日間，ネパールおよびパキスタンの2か国を訪問した。

同調査団は2か国に対する中小工業分野での技術協力についての意見交換および54年度以降の案件発掘を目途に，ネパールに対しては，中小工業分野技術協力コンタクトミッション，パキスタンに対しては主に，かねてより要請打診のあったPITAC（パキスタン工業技術指導センター）プロジェクトについてのコンタクト・ミッションとして派遣された。

ネパールにおいては，1980年7月から開始される第6次経済開発5か年計画の内容を策定中であり，同計画においては，小規模家内工業の開発に非常に高いプライオリティが置かれることが予定されているところから，時宜を得た訪ネとして歓迎を受けた。
また，パキスタンにおいては，かねてより要請打診のあったPITACプロジェクト等，それぞれの担当機関から日本の協力に対する高い期待が示された。

当調査の実施に際して御協力，御指導を頂いた関係各位に対し，ここに厚くお礼を申し上げる。

国際協力事業団
理事　吉川佐吉

目　　次

1. 調査の目的

本調査団は，次のような目的をもって調査を行った。

(1) 主に鉱工業分野の産業開発協力事業について相手国に説明すると共に，そのあり方について意見交換を行うこと。

(2) 昭和58年度以降の鉱工業分野の産業開発協力事業案件を発掘し，その内容および背景等について調査を行うこと。

(3) その他，一般専門家派遣事業，研修員受入事業について、その要請背景等について調査を行うこと。

2. 調査団の構成

団員名	担当業務	所属先
岸田静夫	団長・総括	国際協力事業団理事
田中政良	技術協力 (鉱工業分野)	通商産業省 通商政策局技術協力課
星　達雄	技術協力 (専門家・研修員)	国際協力事業団 派遣事業部派遣第一課
下村則夫	企画調整	国際協力事業団鉱工業 開発協力部鉱工業開発技術課

3. 調 査 日 程

日順	月日(曜日)	移　　　動	調　査　内　容
1	10月22日(日)	東　京　→　バンコク	
2	23日(月)	バンコク　→　カトマンズ	日本大使館にて日程等打合せ，ネパール事情聴取
3	24日(火)		大蔵省・外国援助局と討議
			国家計画委員会と討議
	25日(水)		トリブバン大学，経済開発管理センターより事情聴取
			商工省と討議
			商工省・家内工業局と討議
5	26日(木)		US AIDと討議
			UNDPと討議
			工業サービスセンターと討議
			国家計画委員会，Dr.B.P.Shresta表敬訪問
6	27日(金)		職業訓練センター視察
			(前)家内工業局長，Mr.Gautomと討議
			大蔵省，外国援助局と最終討議
7	28日(土)		調査団内打合せ
8	29日(日)	カトマンズ→ニューデリー	大使館へ調査内容報告
9	30日(月)	ニューデリ→ラホール→イスラマバード	
10	31日(火)		日本大使館にて日程等打合せ，パキスタン事情聴取
			経済省次官表敬訪問
			工業省次官表敬訪問
11	11月 1日(水)		工業省次官補と討議
	2日(木)		〃
	3日(金)	イスラマバード→ラホール	
	4日(土)		パキスタン工業技術指導センター調査
	5日(日)		パンジャブ州工業省次官，パンジャブ州中小工業公団と討議
	6日(月)		窯業・ガラス研究開発センター調査
	7日(火)	ラホール　→　カラチ	
	8日(水)		綿織物工業研究開発センター調査
	9日(木)	カラチ　→　東　京	

但し，星団員については，本調査団に参加の後，スリランカおよびバングラデシュにおいて，専門家派遣および研修員受入れ事業についての調査のため，11月19日帰国。

4 訪問先政府機関一覧表

(1) ネパール

① Ministry of Finance, Foreign Aid Div.

Joint Secretary	Mr. Hit Singh Shrestha
Under Secretary	Mr. Ram Binod Bhattanai
Section Officer	Mr. S. M. Shrestha

② National Planning Commission

Vice chairman	Mr. B. P. Shrestha
Member	Dr. Mohan Man Sainju

③ Ministry of Industry and Commerce

Joint Secretary	Dr. N. R. Shrestha
Unden Secretary	Mr. R. P. Parajuli

④ Dept. of Cottoge & Rural Industries, Ministry of Industry and Commerce

Directar General	Mr. Lok Bahadur Bista
Chief	Mr. Indu S. Thapa

⑤ Industrial Services Centre, Ministry of Industry and Commerce

Deputy Manager	Mr. Gonga Bohadur Shah
Chief	Mr. G. D. Pandy

⑥ Centre for Economic Development Administration (CEDA) Tribhuvan University

Acting Director	Dr. K. B. Bista

⑦ Vocational Training Centre, Institute of Education, Tribhuvan Univ.

Dean	Dr. Kedar Nath Shrestha

⑧ US AID

Director	Mr. Samuel H. Butterfield
Deputy Director	Mr. Julius E. Coles
Rural Area Development Project Manger	Miss Laura Mcpherson

⑨ UNDP

Residend Representative	Mr. John R. Melford
Deputy Director	Mr. Hasegawa
Senior Industrial Development Adviser	Mr. Khalid Malik Mr. C. Myl Vaganam

(2) パキスタン

① Ministry of Finance, Planning and Provincial Coordination, Economic Affairs Division

Joint Secretary	Mr. Syed Ghulam Ahmed

② Ministry of Industry

Secretary	Mr. Alauddin Ahmed
Additional Secretary	Mr. Akhtar Mahmood
Deputy Secretary	Mr. Hussein Din Agirl
Section Officer	Mr. A. U. Siddigne

③ PITAC, Ministry of Industry

General Manager	Mr. (Brig) Muinuddin Ahniad Faruqui
Chief of Operations	Mr. N. A. Jabbar Khan
UNIDO Expert	Dr. M. Kamal Hussein

④ CTIRDC, Ministry of Industry

Project Co-Manager	Dr. N. Ahmad
UNIDO Expert	Mr. Cyril Halstead

⑤ Govt. of Punjab

Secretary (Industry Dept.)	Mr. Anwar Zahid
Economic Advisor (")	Mr. Tabio Sultan
Joint Director, Punjab Small Scale Industry Corporation	Mr. C. A. Hafeez

⑥ Pakistan Council of Scientific and Industrial Research

Dr. M. Tafador

Dr. M. A. Beg

I ネ パ ー ル

1　ネ　パ　ー　ル

1. 工業政策

ネパールはインドと中国に囲まれた独立王国であり，総面積54,362平方マイルの国土に1,200万人の人口を有する。

国土は平野（テライ），丘陵地帯およびヒマラヤ山岳地帯という，それぞれ独自の環境と資源を有する三つの地域に明瞭に区分される。

テライ平野は，豊富な森林資源，農業資源と比較的発達した交通網により経済成長の大部分を占めている。

ヒマラヤ山岳地帯は，自然条件の過酷さの故に羊毛および僅かの農産物の物々交換による交易が行われているに過ぎず人口密度も過疎である。

丘陵地帯は，全人口の60％，国土の $\frac{2}{3}$ を占めていながら，全耕地の $\frac{1}{3}$ 以下を有しているに過ぎない。

従って，この地域は，限られた農地および未発達な工業の故に激しい人口圧力に直面している。

ネパール政府は1956年10月に初めて経済開発5か年計画を採用，1962年7月からの3か年計画を経て，1965年から第3次，1970年から第4次5か年計画を実施，1975年7月から1980年6月にわたって第5次経済開発5か年計画が実施されている。

1974年中旬，ネパール政府は第5次経済開発5か年計画の開始に際し，次の目標を発表し工業化を進めている。

(1)　生産性を高めること。
(2)　労働集約的技術を採用することにより雇用促進を計ること。
(3)　工業化促進のため可能な限り国内資本を動員すること。
(4)　日用品および建設資材の自給自足を達成すること。
(5)　地域開発により所得格差を縮少すること。
(6)　輸出潜在力の増強および輸入代替工業の奨励を計ること。

具体的な政策としては，国内4か所にある工業団地内の農業関連産業に労働集約的技術を導入することにより，小規模工業の開発を計ると共に地域のバランスのとれた開発を目ざしている。

しかしながら，小規模工業の開発は適切なインフラ施設の欠如，原材料の不足，狭小なマーケット，企業家精神の欠如，政府関係機関の間の協調の悪さ，事務手続の遅れ等の理由により，貧困層のレベルアップのみならず，小規模工業自体の操業規模拡大にも成功していないのが現状である。

ネパール政府は１９８０年７月から始まる第６次経済開発５か年計画の内容検討を開始しているが，同計画においては以下の理由により，家内工業開発に高い優先順位が置かれることになる予定である。この意味からネパール側は日本の中小工業分野での技術協力に非常に大きな期待を持っている。

① ネパールは農業国であるが農繁期を除くと農民に仕事が無く，このため地域住民の６３％が潜在失業者という状況にある。農業開発の段階でこの問題を解決することが基本であるが，これには時間もかかるし，又穀倉地帯である南部テライ平野の労働力吸収にも限界がある。

② ネパールは人口の４０％以上が日収２Rs.（３２円）以下の貧困層にあり，この人々を開発に動員するためには，新らしい技術を必要としない。伝統技術に根ざした家内工業に可能性を求める以外に道は無い。

③ ネパールは工業的には低開発国であるが伝統技術面では技術・技能の蓄積があるのでこの活用を計りたい。

2. 家内工業 (Cottage and Village Industry) の概要

ネパールにおいては、工業はその固定資産によって次のように分類，定義されている。

Cottage and Village Industry	Rs.200,000 以下 （約３２０万円）
Small Industry	Rs.200,000～Rs 1,000,000 （約1,600万円）
Medium Industry	Rs 1,000,000 ～Rs 5,000,000 （約8,000万円）
Large Industry	Rs 5,000,000 以上

家内工業（Cottage and Village Industry）の９０％はRs 500（約8,000円）以下でありRs 10,000（約１６万円）～Rs 20,000（約３２万円）のものは僅かに１％という状況にある。

また，大部分の家内工業は従業員５名以下であり５～９名のものは８％にすぎない。かかる状況にもかかわらず家内工業はネパールの産業において重要な役割を有しており，全国に約３７７，０００ある家内工業に約１００万人が従事していると推定される（近代的製造業の従事者は５２，０００人）

家内工業は農業部門に次ぐ産業であり、１９７５年度のGDP に占める工業生産１１％のうち７％を占めている。

ネパール人口の９６％は地方で生活しているが，ここでは家内工業は消費財生産の担手と

しての伝統的経済systemとして確立されている。

なお，家内工業の地域分布については，

Western Region	56%
Far Western Region	26%
Eastern Region	15%
Central Region	3%

となっている。

家内工業の主な業種は次の通り

① Handloom products

② Readymade garments

③ Woolen products ……… knitted goods, Nepalese jacket, carpets.

④ Forestry-based products ……… basket, furniture, wood products, Nepali paper

⑤ Metal products ……… curios, utensils.

⑥ Food processing ……… bakeries, rice-milling, leather processing and shoemaking

3. ネパール政府からの要請

かかる背景のもと，家内工業を所管する商工省・家内工業局（Dept.of cottage and rural industry）より次のプロジェクトについての要請打診があった。

① Prototype machinery development project

② Handmade Nepalese paper development Project

③ Viscose rayon exploration project

④ Portable hand operation weaving machine development project

⑤ Ready made garments development project

⑥ Cotton yarn spinning Mill development project

⑦ Industrial service project

同局は家内工業の振興調査，技術指導，訓練および許認可を担当している商工省の局であるが，カトマンズに本部を持つ他4 regionおよびいくつかのdistrictに事務所を持っており，カトマンズにおいては，

• TEXTILE　X

• HANPMADE PAPER　X

・LEATHER WORK
・METAL WORK (iron,curio) X
・ELECTRICITY
・CERAMIC (pottery)
・CARPENTRY X

の各セクションにおいて訓練を実施すると共にX印については生産活動も行っている

調査活動については，これまでに全国75 districtのうち38 districtにおいて実施済みである。

この他，Medium and large scale industryを所管する商工省のIndustral Service Centreより次のプロジェクトについての要請打診があった。

① Canvas shoes manufacturing development project
② Garment development project
③ Pencil manufacturing development project
④ Fruits and vegetables cannery development project
⑤ Transistor radio assembly development project
⑥ Toys manufacturing development project
⑦ Fertilizer blending development project
⑧ Particle board development project
⑨ Electrical accessories manufacturing development project

4. 調査団とネパール側との合意事項

以上のような背景調査およびプロジェクト・リストについての討議を行った結果，どのプロジェクトをどのような形で実施すべきかを調査するため，専門家で構成される事前調査団をネパール側の要請に基づき派遣することが非常に望ましい旨調査団とネパール側の間で合意した。このためネパール側はプロジェクト・リストを2、3に絞った上，正式要請書を53年12月末までに提出する旨約束した。

なお，調査団とネパール側との討議内容は（MINUTES OF MUTUAL UNDERSTANDING）という形でまとめられたが，その内容は次の通り。

MINUTES OF MUTUAL UNDERSTANDING

The Japan's Project Identification Mission in the field of Small and Medium Scale Industry, headed by Mr. Shizuo Kishida, executive director of the Japan International Cooperation Agency, stayed in Kathmandu from 23rd to 27th October, 1978. While in Nepal the Mission visited various government officials concerned and discussed the possibility of Japan's technical cooperation in the field of cottage and small scale industries in Nepal.

Both the Mission and the Nepalese officials concerned mutually understood following items.

1. The Mission understood the importance of the development of cottage and small scale industries in Nepal.

2. Project ideas in the fields of cottage and rural industries presented by the Nepalese side are as follows:

   1. Prototype machinery development project
   2. Handmade Nepalese paper development Project
   3. Viscose rayon exploration project
   4. Protable hand operation weaving machine devolopment project
   5. Ready made garments development project
   6. Cotton yarn spinning Mill development project
   7. Industrial service project

3. Project ideas in the field of small scale industrias presented by the Nepalese side are as follows:

   1. Canvas shoes manufacturing development project
   2. Garment development project
   3. Pencil manufacturing development project
   4. Fruit and vegetables cannery development project
   5. Transistor radio assembly development project
   6. Toys manufacturing development project
   7. Fertilizer blending development project
   8. Particle board development project
   9. Electrical accessories manufacturing development project

4. In order to verify (1) to which project(s) among those mentioned above Japan's technical cooperation can be extended and (2) in what form the technical cooperation thereof could be implemented, it is highly desirable to dispatch a preliminary survey team consisting of experts in the near future at the request of the HMG of Nepal. The Nepalese side will submit an official project proposal in this regard to the Japanese side before the end of 1978.

5. The Mission has taken note of the fact that the HMG of Nepal has already approached the Government of Japan to provide technical assistance for feasibility study in the fields of woolen products, handloom products, forestry-based industries, metal products and food processing. The Mission has assured that the above request of the HMG of Nepal will be communicated to the Headquarter of JICA upon their return to Japan for further action.

27th October 1978

Kathmandu

NEPAL

5. 調査団の所見

当プロジェクトの実施に際しては，日本とネパールとの技術レベルの差，これまでのネパールでの実績等から専門家としては協力隊員（又はＯＢ）の派遣が好ましいと考えられ，ネパール側からも原地住人に直接様々な面での技術指導が出来るgeneralな専門家を派遣して欲しい旨要望があった。又，プロジェクトの実施に関して土地建物が必要となった場合，ネパール側がこれを負担することは困難と考えられるため，場合によっては無償協力を考慮する必要がある。

この他ネパール側は，Woolon products, handloom products, forestry-based industries, metal products, foodprocessingの分野でのF/S の要請について，日本政府にopproachしているが，この事をＪＩＣＡ本部にCommunicateして欲しい旨要望があった。

6. 参考資料

(1) STUDY OF COTTAGE INDUSTRY IN NEPAL

IDA TECHNICAL ASSISTANCE CREDIT

STUDY OF COTTAGE INDUSTRIES IN NEPAL

Industrial Development and Finance Division
South Asia Projects

January 6, 1977

COTTAGE INDUSTRY

Study in Nepal

Table of Contents

This report was prepared by Nancy Barry, Industrial Development and Finance Division, based upon information collected during a supervision mission to Nepal in October/November 1977.

NEPAL

COTTAGE INDUSTRY STUDY

I. Purpose and Focus of Study

1. Objectives. The purpose of the Nepal Cottage Industry Study is to develop a project proposal to help expand employment, incomes, export earnings, and the supply of basic goods from selected cottage to local consumers industry subsectors, devising replicable systems of organizational and technical support. This report, based upon information gathered in Nepal during October/November 1977, is intended as a background document for those who will conduct the Cottage Industry Study. This one year study, to be carried out during 1978, will be financed under the IDA Technical Assistance Credit to Nepal. The Department of Cottage and Village Industries (DCVI) will be the responsible agency; DCVI will subcontract the actual work to the Industrial Services Center (ISC) which will utilize members of its own staff and expatriate specialists to conduct the study. Terms of reference for the study and the specialists (Annexes 8 and 9 of the report) have been agreed with HMG; the next steps are discussed in paras. 62-66. The study covers nine districts in Bagmati and Gandaki Zone and five subsectors; the purpose of the study is to select feasible product lines, markets and geographical areas for a first Cottage Industry Project for external financing, and to devise schemes for them.

2. Problems. The study is designed recognizing the difficulties Nepal faces in all productive sectors, including cottage industries. Industries geared to the local market face problems of the dispersed, rural location of most consumers, their limited purchasing power, and competition mainly from Indian enterprises which have advantages of scale economies, specialization and strong market networks in Nepal. Export-oriented industries must deal with problems of sea shipment from a landlocked country; relative lack of export marketing contacts and experience; and difficulties competing with other Asian countries on price. Both local and export-oriented industries are plagued by the scarcity of most raw materials and by the erratic availability of imported inputs. Another limiting factor is the relative paucity of technical and management skills.

3. Role of Cottage Industries. Cottage industries share several of the difficulties mentioned above. However, cottage industries are important in Nepal's industrial sector, accounting for 69% of industrial production, and nearly 40% of manufactured exports. Also cottage industries represent an important source of employment and incremental earnings in an economy dominated by small scale agriculture and provide basic goods and services to the rural population. The skill base for cottage industries is much larger than in the modern manufacturing sector: the survey conducted in 1973 by the Department of Cottage and Village Industries estimated 1 million people employed full or part time in about 377,000 cottage industries, while the population census (1971) registered only about 52,000 skilled and unskilled workers in modern manufacturing. However, skilled manpower and production capacity of cottage industries are dispersed, with over half the units located in remote villages in the hilly areas, where foot and animal travel are often

the only means of access to District Towns. Dispersed small industries are advantageously placed to meet rural basic needs, use small quantities of local raw materials, and provide incremental earnings to rural families; however, logistical problems involved in importing raw materials and/or exporting finished products are exacerbated by the scattered locations of some cottage units. Annex 1 discusses the characteristics of cottage industries in Nepal.

4. Given these difficulties, cottage industries project should be selective in the geographical areas and cottage industry subsectors assisted. Promoting cottage industries which meet local market needs is, in the case of Nepal, complicated by the very limited purchasing power of the rural poor and by price advantages of some modern sector products; also, the diversity of local industry types makes it difficult to provide specialized nonfinancial support, which is often more important than credit. Further, most rural areas lack access to local raw materials which would provide advantages to rural industries. Most small manufacturing and service industries catering to regional markets begin and grow in response to changes in local demand patterns, and require limited outside financial, organizational and technical support. Therefore, for cottage industries geared to local markets, the study will concentrate on those lines in which cottage industries have market expansion potential and competitive advantages relative to organized large and small industries; these appear to be garments, handloom textiles and certain fiber products.

5. Export-oriented industries can have advantages of expanding market reach, generating foreign exchange, and increasing employment and earnings; export lines often require the types of components possible under an IDA Project e.g. design consultancy, marketing contacts, joint raw material and sales schemes, and credit. Four of the subsectors selected for the Cottage Industry Study involve export-oriented products, although nearly all of the items are also important in the local market. One of the aims of the study is to select those produce lines for a cottage industry project which have greatest growth potential and overall economic impact. In exports, Nepalese cottage industries have advantages in specialized products which certain consumer groups purchase for the unique features of Nepalese goods rather than on price alone. Also, given Nepal's difficulties in organizing sufficiently large production volumes to meet importers' requirements, it is desirable to select those export product lines with geographical concentrations of producer groups to facilitate raw material distribution, finished product collection, quality control, and assistance.

6. Areas Selected. Given Nepal's infrastructure problems, it is important to select geographical areas, for the study and a possible project, which would not have insurmountable transportation difficulties. HMG has proposed six districts of the Gandaki Zone and Kathmandu, Bhaktapur and Lalitpur of the Bagmati Zone for concentration under the study. This selection is appropriate. Gandaki Zone was selected since it holds nearly 40% of all cottage industries in Nepal and, while facing the transport, market, and social problems which typify the hilly areas, it has several comparative advantages e.g., major road between Pokhara and Kathmandu, commercial landing strips in some of the remote areas, relatively dynamic public and banking officials, craft concentrations, and a tourist trade; if feasible project

components can be developed for Gandaki Zone, they should be replicable in other hilly areas of Nepal. The three districts of Bagmati Zone were selected because of their large artisan groupings (in carpets, metal products, handlooms, and garments) in relatively concentrated areas, the role of private sector exporters which can be built upon to organize volume production from dispersed producers, and relatively good access to raw materials, tourist markets, and transport facilities. Different public and private institutional arrangements would probably be necessary for the two zones.

7. To reduce logistical difficulties of cottage industry support schemes in the Gandaki Zone, villages have been selected for the survey which have concentrations of artisans from one or more priority subsectors; access to major road or air strip within one day's walk; and at least 100 families within the radius of one mile.

8. Subsectors Selected. Following the October/November review of major cottage industries subsectors, 6 were identified, in consultation with DCVI and ISC, for focus under the Cottage Industries Study: woolen goods, handloom products, garments, forestry and fiber products, metal goods, and food processing industries. These subsectors, from which we expect to select those for project, were chosen for varying reasons. All are significant sources of employment and production in the Gandaki and/or Bagmati Zones covered by the study, as well as in Nepal overall. Of the Rs 259.5 million value of cottage industry products (estimated by DCVI Survey in 1973), fiber products account for 33%; cotton products, 30%; food processing, 18%; and woolen goods, 18%. Industries less importance in Nepal as a whole, but with concentrations in Bagmati Zone are metal and wood products. All selected subsectors can be both efficient and labor intensive with average fixed investments per employee under US$100. Each subsector has identifiable problems preventing growth, some of which could be treated within the context of a cottage industry project.

9. Nearly all of the subsectors selected have demonstrated export growth 1/ and further expansion potential, and/or can expand by providing local, basic needs more efficiently. Here, fiber products may be the exception. Local needs are probably met, and Nepal has exported only nominal amounts of cane, bamboo and reed products, due to: stiff competition from China and the Philippines; the seemingly prohibitive air transport costs in relation to bulky, low valued added items; and internal difficulties in collecting large items from and introducing selective modernization to remote rural areas. However, DCVI feels strongly that the fiber products should be included in the Cottage Industry Study: fiber products account for 88% of present cottage industry production and the majority of employment in Gandaki

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1/ Exports of major cottage industry projects totalled Rs 58.2 million in 1976/77 up from Rs 29.5 million in 1975/76; major export lines were woolen carpets (Rs 27.9 million, 1977); metal handicrafts (Rs 20.6 million); readymade garments (Rs 4.0 million); woolen goods (Rs 3.9 million); and rice paper (Rs 1.2 million). See Tables 1 and 2 of Annex 1 for more detailed figures on Nepalese exports of cottage industry products.

zone; bamboo, ngalo, and reeds are abundant and expensive in rural areas; designs are good and production costs (without transportation) appear internationally competitive. Therefore, it is worthwhile to explore export and local expansion potential of the fiber products subsector, although its problems appear to be more acute than for the other subsectors.

II. Priority Subsectors for Study

10. This section contains some of the key features on each subsector including its present importance, marketing and raw material supply systems, problems, prospects and areas of focus for each subsector study. More detailed information on these aspects and a more complete description of each subsector are provided in Annexes 2 to 7.

A. Handloom Products

11. Characteristics. Handloom units provide a low cost means of generating employment and incremental earnings for rural families; looms, which are usually located in weavers' homes, cost Rs 600-800 (US$50-65), and labor returns of independent weavers average Rs 2 per meter, with maximum production of 8 meters per day. At present there are about 10,000 cotton handlooms in the Kathmandu Valley where the handloom tradition is concentrated; Gandaki Zone has only about 600 cotton handlooms, with the local handloom tradition limited to specialized products such as Nepali caps.

12. System. About 50% of the looms in the Kathmandu Valley are owned by wholesalers/master weavers, who provide raw material, design and marketing services and in return collect about 75% of the value added; independent weavers earn an average of Rs 2 per meter while those working under a master weaver earn Rs 0.5 per meter. In Gandaki Zone, most units have 5-25 looms, and are owned and operated by entrepreneurs with no past experience in weaving; quality of handloom goods are lower in Gandaki Zone than in Kathmandu Valley. Most sell directly to local retail cloth merchants, and find raw material availability and limited local skills to be their major problems.

13. Problems and Prospects. Production is constrained mainly by sporadic availability of raw materials, which are to be imported and distributed by the Cottage Industry and Handicrafts Emporium (Emporium). Other limitations include the small and seasonal production by existing weavers (due to demands of farming) and the paucity of skills outside Kathmandu Valley. Many local consumers are said to prefer Nepalese handloom cotton for saris and shirting, but are forced to import cloth due to scarcity of local products. Present exports are minimal (Rs 20,000 in 1975/76) but considerable interest has been demonstrated recently due to quotas on Indian handloom exports; export demand will probably be limited to a few, specialized designs, making careful market analysis important. Weavers' earnings for export varieties are normally more than twice their returns on cloth for local markets. Quality and patterns of handloom cloth from the Kathmandu Valley are suitable for exports, although quality varies. Improvements are needed in: dyeing facilities; production scheduling and collection mechanisms to allow volume exports; and direct export contacts.

14. Areas of Focus for the Study. In devising a scheme for handloom weavers in the Kathmandu Valley, the handloom/garments specialist should focus on: (a) determining price competitiveness of handloom products from Kathmandu Valley vis-a-vis India and other major producers; (b) recommending appropriate designs, end uses, export markets and import agents for handloom cloth, assessing annual export potential for specialized or utility handloom goods; (c) devising systems through exporters, wholesalers, and/or producer associations cooperatives for collecting sufficient quantities of handloom cloth to meet potential export orders; and (d) recommending amounts and improved arrangements for importing cotton yarn and other inputs through the Emporium, National Trading Limited, or private importer-exporters; (e) proposing means of improving dyeing and finishing facilities; (f) determining advantages and disadvantages of loom ownership by weavers, recommending a credit scheme, if appropriate; and (g) devising training schemes for skill upgrading, as necessary.

15. In determining the potential and devising a scheme for weavers in the Gandaki Zone the specialist should: (a) concentrate on Nepalese market demand for handloomed saris, Nepalese caps, and shirting material; (b) determine if local demand, potential returns to labor, and profitability warrant expansion of training programs and production units; and (c) recommend improved raw material supply and marketing systems, through the Emporium or private agents.

B. Garments 1/

16. Nepalese garments, made of handloomed or milled cotton cloth, have growth potential in both export and local markets. Modified Nepalese and Tibetan traditional blouses are unique yet casual. Prices (US$2 for shirts, US$4 for dresses in local retail outlets) would allow the normal 300-400% markups for exporters, shippers, importers, and retailers. Exports of garments, including these traditional cotton items, were Rs 4.0 million in 1976/77, up from Rs 2.0 million in 1975/76. Over 20 countries import some quantity of garments from Nepal but the major importing countries are the United States (24%), Hong Kong (14%), West Germany (10%), Australia (9%), United Kingdom (8%), Japan (6%) and France (5%). Sales to tourists and other local consumers appear to be sizeable, although no figures are available.

17. In Kathmandu Valley there are at least 3,000 family tailoring units, working as subcontractors for local retailers and exporters and/or selling directly to local consumers. The average unit has 3-5 workers, mostly family members. Most units use hand-operated sewing machines, costing about Rs 500; more progressive units use foot-pedalled machines (Rs 850). In Pokhara Town of the Gandaki Zone, 300-400 units engage 3-8 persons each; most of these units receive cloth and single orders from local consumers, who pay in cash. Outside Kathmandu, tailoring is dominated by the Damai subcaste, from the "untouchable caste." In rural areas, Damai families usually have little or no land; rather they receive rice in return for meeting clothing needs of specific families in their villages.

1/ See Annex 3 for fuller description and analysis of the garment subsector.

18. Labor costs, productivity and quality vary markedly among tailors in Kathmandu, Pokhara Town, and rural areas. Rural tailors charge Rs 5/shirt for cutting and sewing vs. Rs 12 in Pokhara and Rs 15 in Kathmandu Valley. Tailors in Kathmandu claim maximum production of 6 Nepalese shirts per day on a foot-pedalled machine or 4 shirts on a hand-operated machine; in Pokhara units claim production capabilities of 5 shirts daily using a foot-pedalled machine, or 3-4 per day with a manual machine; rural tailors claim maximum production of 2 shirts per day, all using hand sewing machines. However, these production levels could be increased if the tailors received precut pieces; in this case shirt output can be doubled.

19. Problems. Several problems face Nepal's small-scale garment industry. Productivity is estimated to be 80% that of Indian tailors, while wages and reject rates are higher in Nepal. Nepal's garment export potential may be limited to specialized products and markets, rather than utility goods. While there is a decentralized production base of small-scale tailors, many exporters consider export arrangements difficult due to problems in production scheduling, quality control, and organization of sufficient quantities to meet export orders. Also garment exporters are plagued by the normal difficulties in export procedures (see para 2).

20. Prospects exist in adapted, traditional lines, with possible subsequent broadening of product offerings, as efficiency and competitiveness improve. The prices for Nepalese and Tibetan shirts, blouses, dresses, and jackets appear internationally competitive, and both milled and handloom cloth designs are attractive.

21. Areas for Focus of Study. The handloom/garment subsector specialist should: (a) recommend designs, export prices, promising importing countries, agents and outlets for garments and other made up cotton products; (b) estimate potential foreign and local demand during the next five years; (c) devise a system (possibly using consortia of exporters and local retailers in Kathmandu Valley) to organize a supply sufficient to meet importers' orders; (d) determine the best distribution of labor, e.g. central design/cutting, with sewing by small-scale tailors, to reduce costs and rejects and improve productivity; (e) weigh relative advantages of electrical, foot-pedal vs. manual sewing machines and devise financing (and possibly training) schemes for marginal upgrading of tailoring units; (f) determine if it would be possible to organize tailors in towns and rural areas to sew shirts which would be precut, collected and sold by private exporters, cooperatives or the Emporium; and (g) determine credit needs for upgrading and/or expansion of production facilities, and working capital requirements of small industries and exporters.

C. Woolen Products

22. Product Lines. Nepalese woolen goods can be divided into three major groups: (a) handknitted goods (sweaters, caps, mittens, and socks); (b) Nepalese jackets, vests and shawls of grey, white or multicolored handloomed Tibetan wool and colored woven trim; and (c) carpets of Tibetan or Indian wool knotted into traditional Tibetan designs, and rougher woven Nepali blankets.

23. <u>Exports</u> of carpets have grown rapidly and carpets are now Nepal's number one cottage industry, although export statistics reflect overinvoicing; registered exports were Rs 27.9 million in 1976/77, Rs 9.3 million in 1975/76, Rs 7.9 million in 1974/75, and Rs 3.6 million in 1973/74. Major importing countries are Germany (27%), Switzerland (21%), the United States (20%) and Hong Kong (10%). Exports are mainly large carpets and over 65% of the carpets exported are of Tibetan wool. Carpet exports are almost exclusively based by many family-based units. Exports of other woolen goods were also significant: Rs 4.0 million 1976/77, Rs 2.0 million in 1975/76 and Rs 1.3 million in 1974/75. Other woolen goods are produced largely by households of Tibetan origin, although knitting and weaving skills could be taught quickly to other Nepalese.

24. <u>Local retail prices</u> for handknitted items are Rs 25-30 for socks or caps of handspun Tibetan wool, Rs 15 for Indian machine wool. Sweaters of Tibetan wool sell retail for Rs 140 or Rs 110 using Indian wool. Jackets are sold for Rs 75-95 retail and purchased from the artisans at Rs 55-65.

25. <u>Production Systems - Woolen Goods</u>. Handknitted items are usually made by family units which purchase yarn (Rs 56-62 per kilo) and sell finished products to local retailers-exporters; occasionally retailers distribute wool to subcontractors. Families can produce a maximum of 40 sweaters a month. The production of Nepali jackets is more complex; woolen cloth is made on 9" body looms, and trims are made on foot looms by different producers. Collectors gather these intermediate products, made mostly by Tibetans; distribute them to Nepali tailors for cutting and sewing; and sell jackets to retailers and exporters. Production of woolen goods is concentrated in households in Kathmandu Valley and Tibetan camps elsewhere.

26. <u>Production System.</u> <u>Carpet weaving</u> is the major source of income for the 10 Tibetan camps in Nepal. Most local sales are made directly by the camps. Two major export agents, Carpet Trading Company and Himalayan Carpet Exporters, are responsible for most exports. Production units have between 150 and 350 workers, and average 50 two-worker looms and about 5 five-worker looms. Workers are women or small boys; weavers receive Rs 275-300 in labor payments for a 6' x 3' carpet, which is equivalent to Rs 7-10 per day. Spinners and other workers receive about Rs 5 per day. Production costs range from Rs 550-575 per square meter; wholesale prices from camps are Rs 600-650; exporters claim that importers are willing to pay only Rs 585-600 with exporters' losses compensated by the export entitlement.

27. <u>Major problems</u> in woolen goods are that: (a) the quantity and quality of Tibetan wool, imported mainly by National Trading Limited, is unreliable; (b) carpets, which presently enjoy number one status in cottage industry exports, may have limited growth potential; present exports cater to a specialized market segment but face rigorous competition from India and Pakistan producing Persian varieties and from China, all appearing to offer better value for the money; and (c) the production base for carpets and other woolen goods is limited and training, promotion and small amounts of credit would be necessary if exports are to grow.

28. Prospects appear to exist for expanded exports of handknitted and woven garments. Sweaters retail in Kathmandu for about US$11; caps, mittens and socks for US$2; and woven jackets for US$7; these prices reflect at least 20% markups by retailers. The sweaters could probably sell retail in the West for US$40-70, jackets for US$30-50 (if lined); socks, mittens, and caps could sell for US$8-12 retail. These prices would seem to allow sufficient returns to various intermediaries, including air transport. These items are of attractive design, suitable for cold climates; however, alterations in sizing and finishing would be needed to meet western market requirements. Skills in knitting, weaving, knotting and sewing woolen goods are easily transmitted, and the minimal cost of equipment (needles, body looms, pedal sewing machines) makes the industry attractive for low cost employment generation.

29. Areas of Focus for Study. The subsector specialist for woolen products should focus on the following aspects: (a) assess export and local market demand for knitted goods, jackets, carpets; recommend designs, prices, import agents, outlets and marketing strategy; (b) analyze data on available production capacity of camps and household units; if expansion of production capacity is needed, recommend organizational form (households, women's groups), links with retailers-exporters, and duration, coverage, contents and costs of short training programs, if warranted; (c) determine means to improve operations of National Trading Limited or private importers to assure stable supply of Tibetan wool; (d) determine if design and/or marketing consultancy would be required to implement the suggested scheme; recommend major areas for attention and the organizational link of the consultants (e.g., Trade Promotion Center or DCVI); and (e) recommend role for private retailers-exporters and the Emporium in Kathmandu Valley and in the Gandaki Zone.

D. Forestry Based Industries

30. Forestry based cottage industries cover three major lines: (a) baskets, furniture and accessories of bamboo, ngalo, and reeds; (b) wood products and (c) Nepali paper.

31. Bamboo and reed products are the major cottage industry of the Gandaki Zone, accounting for 88% of cottage industry production value in the western region. Several hundred household units and three factories are found in the Kathmandu Valley, although these products do not play a major role in Bagmati Zone. Most units produce basic needs for rural and town dwellers; major products include storage and packing baskets, mats, stools, trays and purses.

32. While these products are inexpensive and highly functional for local consumers, exports to date have been minimal (Rs 616,000 in 1976/77, Rs 467,000 in 1975/76), and export expansion appears difficult. Nepal faces stiff competition especially from the Philippines, China, and Taiwan. Bamboo baskets and furniture being bulky and of relatively low value, air transport costs can often double the price of items, while competitors have coasts and can organize sea freight. Also, major exporters have well-established marketing channels, experience with partial mechanization to cut costs, and a broad line of products.

33. Nepal does have abundant bamboo, ngalo, reed, and wheat straw in rural areas of Gandaki; a widespread skill base in basket weaving; and attractive, unique designs especially in large baskets, 1/ trays and stools. Prices of various items are given in Annex 4. Also, one positive feature of the basket and accessory market is that importers usually prefer to carry a broad line representing several countries, provided the prices are reasonably competitive; therefore, there may be a small market niche for Nepalese products, if decentralized production and sea shipment can be organized.

34. Wood Products. Rural carpenters service village needs for doors, windows, benches and ploughs; however, most have insufficient employment as carpenters and work mainly as day laborers in agriculture; carpenters in Pokhara make furniture. There is probably little expansion potential for local carpentry units. Exports of wood products from Gandaki would be unfeasible; skills are rudimentary and wood is brought in from the Terai. In Kathmandu Valley, there is a tradition of wood carving of specialized products; however, designs are intricate and the market extremely narrow. There may be some scope for simple wood articles e.g., spoons, bowls.

35. Nepali paper is a popular export item (Rs 1.2 million in 1976/77 down from Rs 2.3 million in 1975/76). Major products are stationery, scrapbooks, and wrapping paper; while quality and packing are inferior to that of Japanese products, prices of Nepali paper are lower, and significant market expansion potential appears to exist.

36. Major problems, as outlined above, are high cost of air transport relative to price of most fiber products; dispersed production base making selective modernization and collection difficult; and limited marketing experience in a highly competitive field.

37. Prospects. There may be some potential in selected products lines in which Nepalese products are unique (e.g. dalos, stools called "mulas," and dyed wheat straw). Household units in rural areas or towns are probably more promising than factories since: production can complement agricultural work, dispersed raw materials are accessible, and most of the skills are in villages.

38. Areas for Focus. The subsector specialist in forestry-based industry should: (a) determine if any fiber and wood products made in Nepal could be competitive on the export market; what alterations in design, material use, and production technology would be needed to achieve the required quality and price; (b) recommend target markets, marketing strategy, import agents; (c) see

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1/ One of the most promising fiber products in Gandaki is the dalo, a large, tightly woven basket used for grain storage. Dalos sell for Rs 15-18 although these prices do not reflect normal wages; baskets are made by those not active in agriculture. One dalo can be made in 2-3 days; costs of raw materials are estimated at Rs 10. If Rs 10/day wages were paid, cost per dalo would be Rs 35; these baskets are comparable to those sold for US$25 retail in the United States for large plants.

if it would be practical to have the Emporium or private exporters offer e.g., Rs 35 per dalo in Pokhara and/or other collection points, providing strict quality control and bulk shipment; (d) pursue possibilities of expanding standardized production, packaging and export promotion of Nepali paper; and (e) assess potential for expanding and/or diversifying production of bamboo, ngalo, and wood products to meet local needs; if potentially profitable, recommend products, organizations, and support elements.

E. Metal Products

39. Products and Production Base. Nepal's cottage industry metal products are mainly: (a) brass, copper, bronze, and filagree images and (b) copper and brass utensils (pots, water jugs, and large ladles. 1/ Production of these items is concentrated among Newars in Patan of the Kathmandu Valley, where at least 1,000 families are engaged. In Gandaki Zone, production is limited to 30-50 Newar families which make copper and brass utensils for local utility use.

40. Exports. These metal products constitute Nepal's second largest cottage industry export line; exports were Rs 20.6 million 1976/77, Rs 12.7 million in 1975/76 and Rs 17.6 million in 1974/75. Major importers were Hong Kong (21%), United States (19%) and Germany (18%); countries of East Asia accounted for about 45%, mainly purchasing Buddhist figurines. To date, nearly all exports have been of images rather than utensils; however, the images may have limited expansion potential due to the highly specialized nature of products, while the utensils could have strong demand, being similar to French-style culinary ware.

41. Costs. Brass utensils are sold for Rs 58 per kilo in Patan, and Rs 64 per kilo in Pokhara; copper goods sell for Rs 77 per kilo in Patan compared with Rs 84 per kilo in Pokhara. Brass and copper are imported legally and sporadically by National Trading Limited; wholesale prices are about Rs 30 for copper and Rs 28 for brass, while artisans in Patan and retailer-contractors in Pokhara purchase brass for Rs 50 per kilo and copper for Rs 65, with an additional Rs 1 per kilo for transportation to Pokhara. The cost of labor is Rs 7 per kilo in Pokhara and Rs 7-8 per kilo in Patan.

42. In Patan, artisans normally purchase their own raw material and sell to retailers or middlemen who have financial capabilities to hold production. Fourteen retailers provide raw materials and orders to artisan families; rural merchants purchase goods from retailers, distribute finished goods in rural areas, and collect scrap. Sales and scrap collections

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1/ Another product line is agricultural implements made by rural blacksmiths; this product group will not be emphasized in the subsector studies, since several groups associated with the Ministry of Agriculture are working on appropriate technology in agriculture. However, conditions of rural blacksmiths are described in Annex 5.

are growing more difficult, however, since many rural consumers are switching to aluminum utensils. 1/

43. Brass and copper images have the short-term advantage of being unique items; some are considered art objects. A small consumer group (with appreciation for Nepalese culture, Eastern religions or exotic art) is willing to pay relatively high prices. Most production takes place in household units; often families specialize in either castings or filing operations. Informal cooperation among artisans is common, with different families specializing in certain images. Most producers sell production to collectors or to export procurement agents, usually based upon specific orders.

44. Major problems in metal products are: (a) dependence upon imported raw materials; (b) lack of skill base outside Patan; (c) potentially narrow market demand for specialized products; (d) competition from India on brass and copper utensils; and (e) markups charged in both illegal import and sale of raw materials and collection of finished products, leaving little value added to the artisans.

45. Prospects. Advantages to both the images and utensils are: (a) specialized, high value-added products with a relatively unexploited built-in market in other Buddhist and Hindu countries; (b) concentrated production base in Patan, facilitating collections and quality control; (c) high content of relatively unskilled labor; and (d) excellent designs in brass and copper utensils (rice cookers, water pots, ladles, bowls, trays).

46. Areas for Focus. The subsector specialist should focus efforts in Patan: (a) developing a scheme for more regular import of needed raw materials through National Trading Limited, private importers, or producer associations; (b) recommending most promising designs, suggested prices, market segments, marketing strategy, sales targets, and likely import agents, recognizing competition from India and others; (c) determining the feasibility of producer associations in Patan which could deal directly with importers, with finance for joint purchase of raw materials and holding of finished product stocks; and (d) recommending marginal upgrading of methods and tools to improve quality, pricing and production capabilities.

F. Food Processing Units 2/

47. The traditional cottage agroindustry lines, oil and rice milling, have limited prospects; however, other commodity processing and preservation

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1/ The problems of aluminum utensil manufacture in Pokhara are described in Annex 5.

2/ Leather tanning and shoemaking are common in rural areas and towns; this product group will not be covered in the cottage industry study since it is to be part of a separate ISC subsector study on leather and leather goods. Problems of shoemakers in Pokhara are described in Annex 7.