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**GOVERNMENT OF PAKISTAN
MINISTRY OF FOOD, AGRICULTURE
AND COOPERATIVES**

**COUNTRY STATUS REPORT
ON
AGRO-FORESTRY SYSTEMS RESEARCH & DEVELOPMENT**

*Presented in the
Second Apan Project Advisory Committee (PAC)
Meeting in Kathmandu (NEPAL)
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BY

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COUNTRY STATUS REPORT ON AGRO-FORESTRY SYSTEMS RESEARCH AND DEVELOPMENT IN PAKISTAN

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1. FARM FORESTRY STUDIES :

1.1 Increasing population pressure of people and livestock is the one of the causes of degradation of the forest and range resources of Pakistan as well as in the region. Realizing the magnitude of the problem, the Government of Pakistan, with the assistance of Asian Development Bank (ADB), and the United Nations Development Programme (UNDP), undertook to prepare a Forestry Sector Master Plan (FSMP) for the next 25 years. The purpose of this plan is to establish long term goals, priority programmes and feasible project proposals to promote forestry development in a comprehensive, logical and sustainable manner.

1.2 The FSMP Project has carried out 20 sub-sector working studies during the past 2 years. The report is expected to be finalized by December 1992. It highlights that expected industrial wood demand in 1993 would be 3.5 million m³ increasing to 9.9 million m³/yr by the year 2018.

1.3 In another study based on the survey of 4,800 household samples, the Household Energy Strategy Study (HESS), a World Bank project, has estimated 46 million m³ as the current annual fuelwood consumption. Projecting an annual rate of increase of 2%, the consumption by the year 2018 is estimated at 76 million m³.

1.4 The FSMP reports that there are 359 million trees growing on 20 million ha of farmlands. It has been computed that these trees have a standing volume of about 76 million m³ and an area equivalent to 224,000 ha of block plantations. It has been further estimated that 16 million m³ of fuelwood is being taken from the 63 million ha of urban areas, range/wastelands. This leaves a wood consumption and supply disparity of about 20 million m³, which may be coming from the over-exploitation or illegal removal of forest capital, or other resources.

1.5 The 20 million m³ of unsustainable consumption has to be made up by massive additional planting. This quantity is expected to rise to 56 million m³ by the year 2018 for which the pace of planting trees has to be kept at par with rising demand. The rate of increase in wood consumption would decrease if the population growth slows down from the present 3.1% each year, if people consume fuelwood more efficiently and if alternate energy sources replace the use of fuelwood.

2. NEW AGROFORESTRY PROGRAMME :

- 2.1 The National Conservation Strategy 1992, proposes the planting of 100 trees per hectare by the year 2015 along farm field periphery - a 5-fold increase over present level - and protecting cultivable wastes with plant cover of about 250 trees or shrubs per hectare. The Seventh Five Year Plan (1988-93) envisages tree planting on private lands as the main strategy for meeting growing fuelwood demand. This strategy is likely to be continued during the Eighth Plan period (1993-98).
- 2.2 The planting target under various development schemes for 1993 is 48,000 ha. At this rate, plantations on additional 1.2 million ha would be established by 2018, with growth reaching 14 million m³, thus reducing the supply shortfall to 42 million m³. This is a large amount of wood to be made up. For this purpose, within the available resources and assistance of donor agencies, the existing increase of 10% per annum is to be maintained to till 1993 to achieve growth of 5 times the current level. This will then remain constant until 2018.
- 2.3 The FSMP outlines 15 programmes to be undertaken during the next 25 years, for meeting forestry goals. The major thrust however, will be to encourage agroforestry for meeting domestic and industrial wood requirements. The programme envisages to plant 1.75 million ha under different agroforestry models. An estimated 13 million m³/yr of wood will be produced by the Tenth Plan period (2003-08), which would increase to 26 million m³ by the Twelfth Plan period (2013-18).
- 2.4 The Punjab Forest Department had switched its main focus from regulatory to participatory forestry during early 1980's. In 1992, it started a new social forestry project costing Rs. 45.2 million, under which 2600 ha of woodlot and linear plantations equivalent to 14,800 ha, will be planted in two years on marginal farmlands.
- 2.5 In Sindh, the age old practice to raise hurries (Acacia block plantings) continues. The Forest Department has a programme to raise 2 million seedlings each year in departmental nurseries for supply to farmers willing to plant Hurries on their lands. The Sindh Forestry Development Project, with Asian Development Bank assistance, initiated in 1992 envisages to afforest 10,000 ha of community lands, establish 1,000 km shelter belts and 1,000 ha hurries.
- 2.6 The Forestry Planning and Development Project (FP&DP), with USAID assistance, since 1985-86, is completing its tenure by the end of 1994. For sustainability of the project programme, the

focus of implementation has been shifted to strengthening non-governmental/private voluntary organizations emphasizing environmental programmes in their mandate. A NGO Grant has been set up to facilitate this shift during the remaining period of the project. For the rational use of financial resources a basic eligibility criteria for NGO's support from the Grant Unit has been made. Small grants (upto \$ 20,000 equivalent) are being awarded to NGO's on a regular basis.

3. RESEARCH AND EDUCATION :

3.1 Federal forest research and education are primarily carried out at the Pakistan Forest Institute, Peshawar (PFI). The PFI maintains linkages to other institutes in the country contributing directly or indirectly to forest research. The PFI maintains a data base for assistance in formulation of national policy and planning, and provides advise services to the provincial Forest Departments, wood based industries and farmers. In order to strengthen the future 25 year social forestry programme identified by the FSMP, the institute is required to develop capability and means to improve the appropriateness, quality and application of research with emphasis on extension and dissemination of research results amongst the farming community.

3.2 31 research studies in the field of social forestry are underway since 1989. Apart from coordination at national and provincial level, the PFI has also been declared a focal point to maintain linkages with international organizations such as Forestry /Fuelwood Research and Development Project (F/FRED), Regional Wood Energy Development Programme (RWEDP), etc.

3.3 Extension programmes should aggressively stress the importance of outreach as a point of contact between the researchers, clients and end users. In the absence of forestry extension service and weak NGO forestry activity, there is no effective mechanism for flow of research results to the targeted groups. Coordination or exchange of information to avoid duplication of studies being carried out at the various institutes in the country and at the regional level is currently not adequate, which highlights the need to develop a system for research to go hand in hand with extension.

4. APAN ACTIVITIES :

4.1 Activities under Asia-Pacific Agroforestry Network (APAN), emphasize technical cooperation among developing countries, sharing of expertise, resources and information among participating countries as well as other countries in the region which are similar to the RWEDP programme. APAN activities have recently started, and are not yet to well known in Pakistan. Although APAN newsletter and Asia-Pacific Agroforestry Profiles (APAN Field Document No. 1) have been circulated, there is a need to enhance their distribution amongst the forestry professionals, researchers, educators, policy makers, planners and NGO's, etc., in Pakistan.

4.2 Establishment of coordination mechanism for agroforestry Research and Development has assumed great significance in recent years. In Pakistan many agroforestry projects in watersheds, sub-mountain terrain, irrigated & marginal lands continue to be implemented by various agencies, however, the mechanism to analyze the impact of implementation strategy of each project to avoid the mistakes made in the past during future plans is not fully developed, which results in occasional duplication of effort. For this process to be effective, a focal point at the federal level is required to: 1) develop sectoral and inter-sectoral linkages; 2), do future planning, 3), provide guidance to the implementing agencies and 4), set a clear direction for future research and development needs. In this context the support and direction of APAN will go a long way to implement the programme.

4.3 A number of social forestry projects are being executed in the developing countries under humid to sub-tropical arid conditions. Diversification of cultures and customs have given rise to different sets of agro-silvopastoral practices within the region. Agroforestry data available in the research institutions in the region, is required to be digitized and analyzed for future development. Certain lessons learnt in this process will help in replication of the socially acceptable and economically viable models of agroforestry. In this regard a system of computerized networks in the major research institutes for flow of information among the member countries and the headquarters of APAN merits establishment. This networking facility would also be made available to NGO's and extension agents for transmission of useful information to the targeted group(s). The need to support and strengthen NGO's for sustainability of the agroforestry programmes for environmental improvement and alleviation of rural poverty cannot be over emphasized.

4.4 At present farmers are planting trees on their lands with ambitious expectations. " Much of the country has been experiencing what amounts to a tidal wave of farm tree growing, with some where around 10 new trees being planted on farmlands for every one which is felled" (HESS 1992). Farmers are finding tree growing to be a profitable activity, due to free use and sale of surplus wood, protective value and enrichment of soil. These benefits can be maintained if the present farm tree boom continues at its present pace, or expands rapidly. As a result of the targets outlined in FSMP, will large increases of farmland wood production in Pakistan saturate the markets and depress supply prices? The Eucalyptus planting boom during the early 1980's in Northern India collapsed due to fall in wood prices. APAN would have to undertake market studies in the region for establishment of wood based industries and markets, to keep tree planting activities profitable and sustainable, and to prevent this type of concern from raising its heads too frequently.

4.5 Training is an important aspect in agroforestry systems and R&D. Pakistan expects APAN to develop a multi-level training strategy including workshops, exchange visits, study tours and short term fellowships at regional institutions. Regional expert consultations in agroforestry systems can provide opportunities for training and exchange of experiences amongst the member countries.

4.6 There are considerable number of social forestry projects launched in Pakistan each prescribing a different type of agroforestry model. Field tours of the farmers and professional staff from different project areas have been arranged to educate them about these models and their implementation strategy. During January 1992, a team of foresters from Nepal had the opportunity to visit social forestry project areas in Pakistan, to exchange experiences and compare with the type(s) of model(s) currently implemented in their country. In order to share information amongst project people seminars/workshops are organized at country and provincial level.

4.7 APAN may consider conduct of regional study tours, seminars and workshops to widen the horizon of professionals, researchers, policy makers and planners.

5. APAN SECRETARIATS :

5.1 In order to collect data from different social forestry projects in Pakistan, for analysis, planning and sharing information, there is a need of setting up an APAN Secretariat in Pakistan, which may give lead to formulate policy, establish institutions and develop operational strategies in areas of

research and development. It would also coordinate with other government and non-governmental institutions to develop linkages required to promote agroforestry. This Secretariat will also be able to coordinate at regional and sub-regional level more effectively.

5.2 Pakistan is situated in sub-tropical zone where rainfall is erratic and long drought periods are common. Looking at the participation of the countries in APAN, the majority belong to high rainfall areas. Climatic conditions prevailing in parts of Nepal, India and Pakistan are to some extent similar. In order to carry out research in agroforestry systems in dry/semi-dry areas and dissemination of information relevant to the member countries, APAN may consider the establishment of a sub-regional office in Pakistan for playing a more useful and active role to coordinate the regional activities more effectively.

5.3 Pakistan Forest Institute may be strengthened to make it a focal institution in the sub-region for research and education in agroforestry under APAN. Regional expertise can be provided by arranging the visits of professors and researchers in the field of agroforestry through project support.

6. SUPPORT TO APAN :

6.1 Infrastructural support to APAN can be made available by declaring the PFI at Peshawar in Pakistan, as focal institute for research, data processing, education and information sharing on agroforestry.