



**New Partnership for
Africa's Development (NEPAD)
Comprehensive Africa Agriculture
Development Programme (CAADP)**



**Food and Agriculture Organization
of the United Nations
Investment Centre Division**

**GOVERNMENT OF THE FEDERAL DEMOCRATIC
REPUBLIC OF ETHIOPIA**

SUPPORT TO NEPAD–CAADP IMPLEMENTATION

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Volume III of VI

BANKABLE INVESTMENT PROJECT PROFILE

Human Resource Development for Agricultural Extension

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ETHIOPIA: Support to NEPAD–CAADP Implementation

Volume I: National Medium–Term Investment Programme (NMTIP)

Bankable Investment Project Profiles (BIPPs)

Volume II: Water Harvesting and Small–Scale Irrigation

Volume III: Human Resource Development for Agricultural Extension

Volume IV: Client–oriented Agricultural Research for Development

Volume V: Live Animal and Meat Export

Volume VI: Agricultural Marketing Improvement Programme 2 (AMIP 2)

NEPAD–CAADP BANKABLE INVESTMENT PROJECT PROFILE

Country: Ethiopia

Sector of Activities: Agricultural Extension and Technical Vocational Education and Training

Proposed Project Name: **Human Resource Development for Agricultural Extension**

Project Area: 25 ATVET colleges and 11,000 farmers training centers in nine regional states

Duration of Project: Five years

Estimated Cost: Foreign ExchangeUS\$111.8 million
Local Cost.....US\$136.9 million
Total US\$248.7 million

Suggested Financing:

<i>Source</i>	<i>US\$ million</i>	<i>% of total</i>
<i>Government</i>	5.94	2.4
<i>Financing institution(s)</i>	130.98	52.7
<i>Beneficiaries</i>	111.74	44.9
<i>Private sector</i>	–	–
<i>Total</i>	248.66	100.0

ETHIOPIA:
NEPAD–CAADP Bankable Investment Project Profile
“Human Resource Development for Agricultural Extension”

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Abbreviations

ADLI	Agriculture Development–Led Industrialization
ATVET	Technical and Vocational Education and Training [Programme]
BoARD	Bureau of Agriculture and Rural Development
CAADP	Comprehensive Africa Agriculture Development Programme
DA	Development Agent
FTC	Farmers Training Centre
GoE	Government of Ethiopia
MoARD	Ministry of Agriculture & Rural Development
NAEIP	National Agricultural Extension Intervention Program
NCBP	National Capacity Building Program
NEPAD	New Partnership for Africa’s Development
NETP	New Education and Training Policy
NMTIP	National Medium–Term Investment Programme
RCBP	Rural Capacity Building Program
SDPRP	Sustainable Development & Poverty Reduction Programme
SNNPR	Southern Nations, Nationalities & Peoples Region

I. PROJECT BACKGROUND

A. Project Origin

I.1. This project proposal was presented by the *Agricultural Extension, Technical and Vocational Education and Training Department* of the *Ministry of Agriculture and Rural Development (MoARD)*. The proposed project seeks to contribute to the up scaling of the ongoing *Agricultural Technical and Vocational Education and Training (ATVET)* program. For the purpose of this proposal, the ATVET program is considered as a system consisting of ATVET colleges and *Farmers Training Centres (FTCs)*. The program was initiated in 2001 and is publicly financed through the Federal and regional state governments of Ethiopia. Through the establishment and further development of ATVET colleges and FTCs, the program is believed to be a major stride forward in the advancement of effective delivery of agricultural advisory services for raising the productivity of the country’s agricultural sector. As such, the program is envisaged to contribute to the attainment of higher-level objectives of the government’s 20-year *Agricultural Development-Led Industrialization (ADLI)* strategy and *Sustainable Development and Poverty Reduction Program (SDPRP)*.

I.2. For the first 4–5 years after their establishment, the ATVET colleges will operate under the overall management of the MoARD and are expected to train or retrain some 55,000 development agents (DAs). It is anticipated that well over four-fifth of the graduates from the colleges will be employed to work as frontline extension workers at FTCs, which are envisaged to evolve and eventually become grassroots institutions for enhancing a broad range of rural development initiatives; while the remaining are expected to seek a career in farming and agri-businesses or pursue higher studies.

I.3. Currently, 25 ATVET colleges distributed over eight regional states of the country are offering a three-year middle level training program. Students enter the training program after finishing ten years of education and graduate as qualified agricultural extensionists on completing of two years coursework and a one-year of field-based apprenticeship in a possible choice between five agricultural specializations: plant sciences, animal sciences, natural resources, cooperatives and animal health. Emphasis on practical training is the hallmark of the ATVET program. Apart from the one-year apprenticeship, the training program has been structured such that an estimated 70 percent of the coursework is devoted to practical agriculture.

I.4. During the first phase of the ATVET program, the regional states intend to establish 15,000 FTCs to enhance the knowledge base of farmers and thereby provide the institutional framework for increasing the efficiency and effectiveness of agricultural advisory services. Local communities are expected to gradually takeover ownership of and management responsibility for the functioning of the FTCs. Over the last couple of years, 4,000 FTCs have already been established and are providing training services.

I.5. Preliminary observations and impressions suggest that the ATVET program is a promising avenue toward the transformation of the country’s agricultural sector through putting in place a decentralized advisory services to the most local levels. There is, however, a clear recognition of the need for scaling up the program to ensure that: (i) on completion of their studies at the colleges, graduates have developed the desired professional profile; and (ii) the number of FTCs is increased and their capacity enhanced to emerge as genuine user-owned and managed rural development centres.

I.6. This project proposal is, therefore, intended to uplift the training capacity of the colleges through interventions in key education components of the training program: practical teaching, instructional materials, curriculum development, staff training and information technology; and to construct and equip 11,000 additional FTCs across the regions of the country.

B. General Information

I.7. Ethiopia, with an area of 1,235,000 square kilometres and an estimated population of 67 million, is the ninth largest country and the third most populous nation in Africa. Much of Ethiopia’s landmass comprises of highlands and lowlands; the highlands constituting 45 percent of the country’s total land area and providing home to nearly 90 percent of its population.

I.8. Ethiopia is a country of diverse physical features and a broad range of agro–ecological zones that are suitable for sustaining a broad range of plant and animal life. The Ethiopian economy is a typical developing country economy with agriculture being the dominant sector. In terms of its contribution to the national economy, agriculture accounts for 45 percent of the GDP and is a source of livelihood for 85 percent of the population, 85 percent of export earnings, and 70 percent of raw materials for large and medium size industries. As such, the performance of agriculture has its print almost on every aspect of the economic system.

I.9. Agriculture is characterized by mixed farming system of crop and livestock production. In the mid– and high–altitude areas, livestock production is an integral part of crop production and together, they form interdependent economic activities of farm households. Within the mixed farming complexes, cereal crops account for about three–fourth of the planted area; with other while the remaining cultivated area is devoted to the production of other annual and perennial crops such as pulses, oil crops and coffee. Extensive livestock production in the arid and semi–arid areas is also a prominent feature of Ethiopia’s agricultural sector.

I.10. Ethiopia is widely believed to be endowed with enormous resource base that is suitable for enhancing sustainable agricultural development and overall economic growth. Despite its resource potential, however, present day Ethiopia is among the poorest countries in the world. Pervasive poverty and food insecurity are manifested, *inter alia*, in the high incidences of chronic malnutrition; inadequate access to clean water and health facilities; and low life expectancy at birth.

I.11. Agricultural production still remains to be predominantly a traditional occupation of millions of smallholder farmers for subsistence, and is dependent on the vagaries of nature, particularly rainfall. Thus, the country’s agricultural sector is still far from playing its strategic role in the overall economic development of the country. The structure of the country’s exports also reflects heavy reliance on a small number of primary commodities; making the national economy susceptible to weather and price related shocks. This has resulted in missed opportunities of broadening the export base through increased production and export of value added goods and services. Cultivation of cereal crops is essentially a low–input and low–output production system; and this poses a serious threat to food security in the country.

I.12. As a result of macroeconomic reforms and favourable weather conditions, the performance of the Ethiopian economy since 1992/93 has shown significant positive out–turns mainly due to rapid growth in agricultural production and productivity. However, growth in agricultural GDP has not been a linear process and, on average, has not been high enough to reflect the leading role that the agricultural sector could play in national development envisaged under the government’s policies and strategies.

I.13. The short-term gains in increased agricultural GDP in the 1990s was achieved primarily through a top-down delivery of massive production inputs including improved seeds, fertilizers and credit under the *National Agricultural Extension Intervention Program* (NAEIP). Not surprisingly, however, the limitations of such a supply-driven extension program have received increased recognition over the recent years. The program is targeted at high potential areas resulting in the marginalization of the needs and capabilities of the vast majority of resource-poor farmers; field level extension service is typically understaffed and its function is limited to a passive transmission of recommended packages of technology to farmers with little adaptation of such technology to local conditions; and the frontline role of available field level extension workers in the delivery and collection of the program’s production credit has eroded their credibility among smallholder farmers.

I.14. In order to overcome the problems associated with the NAEIP, the government has, within the broader *National Capacity Building Program* (NCBP) the *New Education and Training Policy* (NETP) and the *Rural Capacity Building Program* (RCBP), embarked on reforming the agricultural advisory services. An important element of the reform strategy is the initiation of ATVET program in 2001 that seeks to advance access, quality and equity of extension services. 25 ATVET colleges have been established under the program by the Federal Government and it is envisaged that by the end of the first implementation phase, these colleges will have provided the field-level expert staff required for an efficient and effective delivery of agricultural advisory services. Concurrently, regional state governments have established 4,000 FTCs, which are expected to contribute to raising agricultural knowledge and skills among their respective localities.

I.15. A considerable amount of public resources have already been invested for the establishment and operation of the ATVET colleges and FTCs. Nonetheless, weighed against the desired human resource needs, there is still a significant qualitative and quantitative capacity gap for the existing colleges and FTCs to meet the demand for extension workers and farmers with the desired knowledge and skills that would spearhead the transformation process of the agricultural sector.

II. PROJECT AREA

II.1. The project area cuts across eight regional states of the country where the ATVET colleges and FTCs are already operating and will be located respectively — Oromiya, Amhara, Tigray, SNNPR, Gambella, Afar, Benshangul Gumuz and Somali. It should be noted, however, that some colleges are at a higher stage of development than others. Accordingly, the nature and scope of support under the project is likely to vary depending on differences in capacity status among the colleges to meet their declared objectives.

III. PROJECT RATIONALE

III.1. As clearly indicated in its macro policies and strategies including ADLI and SDPRP, the GoE is committed to the transformation of the agricultural sector as a basis for broad based sustainable national economic development. It is generally believed that the performance of the Ethiopian agricultural extension service to date has been below expectations in terms of closing the gap between technology generation and utilization sub-systems to broaden the technology base for use by farmers. Among a number of reasons for such inadequacy, shortage of extension workers with the requisite competencies particularly at grassroots levels is often mentioned as the most critical one. This is a valid argument particularly from the short-term perspective. Given that the rural population is predominantly illiterate, the operationalization of the firm policy stance on technologically upgrading

the country’s agriculture obviously requires increased effort in deploying adequate number of field-level extension agents with the necessary knowledge and skills. At the same time, however, raising the capacity of rural people cope with their vulnerability, make major productivity leaps, and thrive toward commercialization and increased household income is almost unthinkable without putting in place local institutions that are owned and managed by the ultimate beneficiaries themselves. Thus, in pursuit of an effective public-sector agricultural advisory services delivery system that meaningfully contributes to technology generation and utilization and ultimately to overall economic development, the establishment and continue development of the ATVET program has been accorded high priority in the country’s investment program.

III.2. Twenty-five ATVET colleges were established in 2001 mainly through domestic resources amounting to the tune of 1.32 billion Ethiopian Birr (US\$153.7 million at current exchange rate). Although such an enormous amount of public resources has been committed and almost entirely utilized; there still remains a long way before the colleges emerge as full-fledged technical training institutions as per the accreditation yardsticks of the *Ministry of Education*. Some of the major gaps which this project is envisaged to address are: the minimum essential learning needs of students to acquire the necessary practical skills for the world of work are inadequately defined and not well-structured; most of the colleges lack demonstration farms, especially in the field of animal husbandry; almost all local college instructors are products of a conventional university-based agricultural education that puts premium on catering for the mastery of technical facts than for hands on practical skills; inadequacy of provisions in terms of both on-campus activities and institutional arrangements for linking the colleges to the agricultural technology development and utilization subsystems; and formal studies have not been undertaken for the design or adapting the curricula of the colleges according to market demand for skilled agricultural personnel.

III.3. With regard to enhancing the empowerment of rural communities 4,000 FTCs have been established and equipped with the necessary facilities that meet the minimum standards set by the MoARD. These centres are operating under the technical support and overall management of regional *Bureaus of Agriculture and Rural Development* (BoARDs). Despite their promising potential, however, the number of existing FTCs is too small to be able to cater for the agricultural advisory needs of the country’s large farming. There is, therefore, a clear need for establishing many more FTCs in the country for which the resource requirement is simply beyond what the regions can possibly afford. Accordingly, this project proposal intends to solicit external assistance to support the establishment of 11,000 FTCs.

IV. PROJECT OBJECTIVES

A. Development objective

IV.1. The proposed project seeks to contribute to the transformation of the traditional agricultural sector of Ethiopia into a vibrant technology-based production system through human resource development for the delivery of effective agricultural advisory services.

B. Specific objective

IV.2. By the end of the project:

- 25 ATVET colleges will have been strengthened and developed, enabling them to deliver knowledge and skills required for the effective functioning of the unfolding public-sector agricultural advisory system; and,
- 11 000 FTCs will have been constructed and fully equipped.

V. PROJECT DESCRIPTION

V.1. The proposed project will have two components and eight sub-components; and will be implemented over a period of five years. It is envisaged that the project will be implemented under the overall coordination supervision of the Agricultural Extension, Technical and Vocational Education and Training Department of MOAR and regional BoARDS.

Component 1. Scaling up the Capacity of ATVET Colleges

V.2. ***Sub-component 1.1: Establishing/strengthening College Farms.*** This sub-component seeks to meet two training objectives: to impart knowledge and practical skills for mid-level trainees in their respective fields of study through demonstration and field work; and to familiarize students with the research process so that, on completion of their studies, they have the competencies to play an identifiable role in technology development and utilization process.

V.3. The types of on-campus training and action-oriented research farms are based on course descriptions elaborated under each of the three departments, i.e. Animal Science, Plant Science and Natural Resources.

V.4. ***Animal Science Farm:***

- Farmstead structures;
- Initial establishing stock;
- Farm equipment and facilities;
- Animal feed production farm.

V.5. ***Plant Science Farm***

- Agronomy crops farm;
- Fruit crop production;
- Horticultural crops farm;
- Research plots;
- Farm equipment and facilities.

V.6. ***Natural Resources Farm:***

- Tree nursery farm;
- Afforestation/reforestation demonstration unit;
- Soil and water conservation demonstration unit;
- Equipment and facilities.

V.7. ***Sub-component 1.2: Instructional Materials, Facilities and Equipment***

- *Books and other printed materials.* Currently, the college libraries are insufficiently stocked to meet the learning needs of the trainees. Thus, as a stop gap measure, additional textbooks and reference materials of a general nature should be procured as quickly as possible from domestic and international markets. To ensure that printed instructional

materials are appropriate for the condition in Ethiopia and for the reading and understanding level of students at these institutions, it is proposed to establish an instructional material development unit regionally or in each of the colleges. It is envisaged to engage the services of national and international experts to develop training courses in which instructors of the colleges could participate in workshops to develop skills in developing teaching materials for their students.

- *Laboratories.* For the immediate term, project resources will be used for establishing/strengthening a multipurpose laboratory and a milk processing unit in each college for demonstration and hands-on exercises in the physical, chemical and biological processes of agriculture as well as in communication skills. Typically, a multipurpose laboratory will have basic laboratory equipment and materials such as microscopes, weighing scales, animal and plant models, and audio-visual facilities. In the second-half of its implementation, it is proposed that the project will provide for more specialized laboratories and other instructional facilities at each college to cater for the specific needs of students in their major fields of study. This category will include facilities such as milk processing unit, veterinary clinic/laboratory, agronomy and soils laboratories, and greenhouse.
- *Farm/field equipment, machinery and implements.* The project will strengthen on-farm practical teaching, demonstration, experimentation and production activities of the training program through the provision of the necessary equipment and materials. In this respect, priority will be given to equip milk processing, production of animal feed and field crops, and soil and water conservation engineering units.

V.8. ***Sub-Component 1.3: Agricultural Training Needs Assessment Study.*** The ATVET program is envisaged to be progressively demand-driven in that the performance and continued existence of the colleges will depend on the extent to which their training programs cater for the skilled human resource requirements of the public and private employment sectors as well as for the interests and inclinations of their potential trainees themselves. The proposed project will, therefore, support the design and administration of agricultural labour market and tracer studies to assess training needs as a basis for expanding or updating the training program of the colleges.

V.9. A 6-month study will be commissioned to conduct a country-wide assessment and documentation of employment needs for middle-level agricultural experts during the final year of the project period. The findings and recommendations of the studies will be used to map out the future direction of the colleges pertaining to the content and structure of their curricula

V.10. ***Sub-Component 1.4: Staff Development.*** There is still a wide gap between the actual and the desired national teaching staff profile of the ATVET colleges in terms of academic qualification and competence in practical skills. Provision of long- and short-term staff training will, therefore, be a core component of the project. Long-term training ranging from one to two years will target at upgrading first-degree holders who currently represent 98 percent of the instructors at the colleges. Long-term training/fellowship organized and provided for a total of 375 trainers to build local capacity.

V.11. Short-term training sessions will be organized over the project period to advance the competence of the instructors in defining and structuring practical training sessions and in the use of standard methods of testing their students on skills acquired from the practical training sessions. Over the program period a total of 2,200 instructors will receive training of trainers in various fields of

agriculture. A total of 500 support staff will participate in different refresher courses. Twenty staffs will acquire foreign experience by arranging 2 study tours.

V.12. ***Sub-Component 1.5: Information Technology.*** For the trainees to have access to information requires the use of advanced communication technologies such as electronic mail and Internet. This component is in many ways complementary to component 2 in that through availing an electronic media facility in the college premises, instructors and students will be enabled to readily access national and international sources of technical information and thereby to diversify source of reference materials in their respective study areas.

Component 2. Constructing and Facilitating FTCs

V.13. This component is based on the ministry’s blueprint for the establishment and gradual development of FTCs. Under the project, 11,000 FTCs will be established and operational, which will involve the construction of community-level buildings and the provision of (if only the basic minimum and where possible) facilities, materials, supplies and equipment. As such, the FTC component will have three sub-components.

V.14. ***Sub-component 2.1. Construction of Buildings:***

- Classrooms;
- Offices;
- Storerooms;
- Production/processing workshops.

V.15. ***Sub-component 2.2. Provision of Instructional Materials, Furniture and Equipment:***

- Demonstration/production farms in crops, livestock and natural resources;
- Classroom furniture;
- Audiovisual materials and equipment;
- Printing and reproduction equipment.

V.16. ***Sub-component 2.3: Provision of Materials and Supplies*** including stationery, fuel, seeds, fertilizers, and animal feeds.

VI. INDICATIVE PROJECT COSTS

VI.1. The Total baseline cost of the project, shown in Tables 1 and 2, is estimated at about US\$248.6 million. Considering that such as construction of buildings and farmstead structures are common components of both ATVET colleges and FTCs, the number of project sub-components has been reduced to five.

VI.2. The cost estimates for the first component of the project are based on 2000 physical and financial information, which was collected for the purpose of designing a two-year post secondary agricultural college intended to meet the demand for well trained frontline extension workers in Amhara National Regional State; and 2003 price survey data collected by staff from the *Agricultural*

Extension, Technical and Vocational Education and Training Department. Construction and equipment costs of FTCs were based on quantity specifications and unit costs obtained from MoARD.

VI.3. Overall, nearly three–fifth of project inputs are earmarked for construction of buildings and farm units sub–component (Table 1); which reflects the heavy cost requirement of constructing FTCs. On the other hand, it should be noted that foreign costs of staff development and information technology for upgrading ATVET colleges represent the lion’s share in total project costs.

Component	Local	Foreign	Total	% Foreign	% Total base cost
1. Construction of buildings and farm units	99,643	70,088	169,731	41	68.26
2. Instructional materials, facilities and equipment	35,408	24,987	60,395	44	24.29
3. Agricultural training need assessment	58	45	103	44	0.04
4. Staff development	1,656	13,647	15,303	89	6.15
5. Information technology	157	2,971	3,128	95	1.26
Total Baseline Project Costs ('000 US\$)	136,922	111,738	248,660	45	100.00

Component	Year 1	Year 2	Year 3	Year 4	Year 5	Total
1. Construction of buildings and farm units	50,237	65,378	53,899	109	109	169,732
2. Instructional materials, facilities and equipment	24,028	14,431	15,401	3,266	3,266	60,392
3. Agricultural training need assessment	15	8	8	0	73	104
4. Staff development	4,617	4,792	5,749	145	0	15,303
5. Information technology	1,523	1,369	29	177	31	3,129
Total Baseline Project Costs ('000 US\$)	80,420	85,978	75,086	3,697	3,479	248,660

VI.4. As the distribution of costs by year (Table 2) indicates, most project activities will be implemented in the first three years of the project period. An exception to this general picture is the implementation of the agricultural training need assessment component. It is anticipated that implementation of this component particularly as it relates to the ATVET colleges will be implemented in the final year of the project period. This is intended to provide a basis for subsequent development initiatives that may have to be taken by the regions, which will take over the management of the colleges soon after the termination of the project.

VII. PROPOSED SOURCES OF FINANCING

VII.1. It is envisaged that, on average, the Federal and regional governments will contribute some 45 percent to total project costs mainly toward the construction of FTCs and covering the incremental operational costs that are expected to arise from investments through the project such as machinery and laboratory facilities. The remaining 55 percent of project costs is expected to be obtained from external sources; mainly from donor support under NEPAD–CAADP framework. It is notable that external sources of finance are expected to contribute not less than 90 percent of project support costs for staff development and information technology. Apart from their share of direct project costs in terms of providing local inputs such as construction materials and labour, Regional Governments are expected to provide land and infrastructure facilities.

VIII. PROJECT BENEFITS

VIII.1. Among the expected benefits that would result from the implementation of the project are:

- As a result of participating in training workshops, refresher courses and study tours, about 2,500 college instructors will upgrade their professional competence and career structure;
- The establishment of 11,000 FTCs will make it possible for some 1.3 million farmers to improve their knowledge and skills of agricultural production and thereby to improve their household income.
- The upgrading the ATVET colleges and establishment of FTCs will provide opportunities for enhanced interaction among the professions and farming communities which, in turn, will help in promoting agricultural research and advisory services that are responsive to the occupational requirements of the trainees as well as to public and private sector employment;
- The colleges and FTCs will have increased opportunity for self-financing from internal revenue generated through production activities as part of their practical training, demonstration, research, and in-service training programs;
- With regard to benefits to society at large, the outputs of the upgraded ATVET colleges and FTCs will enhance the efficiency and effectiveness of the agricultural advisory services delivery that will eventually lead to increased agricultural production and productivity.

IX. IMPLEMENTATION ARRANGEMENTS

IX.1. MoARD will be primarily responsible for the implementation of project activities pertaining to upgrading the ATVET colleges. However, the Ministry will maintain close collaboration with key partners including the Ministry of Education and the regional BoARDS, and higher agricultural education institutions.

IX.2. With regard to the establishment of FTCs, BoARDS will be primarily responsible for implementation of the project. It is envisaged that regional agricultural research institutions, NGOs and community organizations will collaborate in the establishment and development of the FTCs.

X. TECHNICAL ASSISTANCE

X.1. The services of two short-term international consultants will be needed for project support to ATVET colleges; one of whom will be an expert in the development of teaching materials; while the other will have the expertise in the design and analysis of labour market surveys.

X.2. *No external assistance is foreseen for the establishment of FTCs.*

XI. ISSUES AND PROPOSED ACTIONS

XI.1. **FTCs.** During the first phase of the program, ATVET colleges and FTCs are envisaged to have strong linkage in that the graduates will be assigned to work in FTCs as instructors and extension advisors; making the establishment of FTCs as important as strengthening the ATVET colleges. It is thus imperative that the regional states scale up their ongoing effort in establishing and consolidating FTCs, which are emerging as institutional linkage bridging the agricultural advisory services and the rural population at large

XI.2. ***Reorientation of the Training System with Employment.*** After the completion of the first phase, the ATVET colleges are expected to reorient their training system to the changing demand of the economy. This situation urges the development of a permanent mechanism for a continuous monitoring and rigorous assessment of the labour market and adapting the curricula accordingly. This situation necessitates the establishment of a high-level coordinating body at each region, in the form of a council or board, comprising of key stakeholders to identify and define training needs, its apprenticeship component and to provide overall support and supervision for the effective implementation of the training program.

XI.3. ***Institutions.*** Close relations between ATVET, research and extension system is indispensable in order to maintain the relevance of agricultural education and ensure research activities to reflect farmers needs. By maintaining close contact with research centres ATVET should be actively involved in carrying out action-oriented research activities as part of their training program. It is, therefore, important that putting into operation the recent restructured MoARD, which provides for the functional integration of ATVET, extension and research is considered as a matter of urgency.

XII. POSSIBLE RISKS

XII.1. ***Delays in the implementation*** of the proposed project could mean a corresponding postponement of the problem with regard to the under-capacity in human resource requirements of an effective advisory of agricultural advisory services. Implementation delays might occur due to inadequacy of financial resource flows from donors and/or inadequate efforts made by the regions in mobilizing local resources

XII.2. If the present trend in ***staff attrition*** continues unabated, the staff development efforts made through project resources may not bring about the desired quality of the colleges' training program.