

1.4. Projects' results

The accomplishments achieved in the OPLWSO & AFRFRN activities are summarized as:

- Outline of Operating Systems in Forest Operation Chain based on advanced technology in roads, logging, silviculture and wood supply supported by systematic machine maintenance;
- Basic design of steering systems for Operational Planning and Control;
- Proposal for higher education programs on the combined FOPC & FRAP concept at Forest Bachelor level (12 weeks) and Forest Master level (10 weeks);
- Proposal to use the competence platform for in-service training by short courses on key issues in FOPC & FRAP;
- Project network for the development of Russian – Swedish cooperation on higher education as well as in-service training on FOPC and FRAP;
- Power point package defining strategic principles and facts in the FOPC & FRAP focus area.

Concentrated higher education programs on the combined FOPC & FRAP subject are recommended to be used since 2010 for Forest Bachelor and Master students in Russia.

For a successful implementation it is recommended that the period 2010–2013 will be used for targeted actions to plan and prepare the courses on different topics in FOPC & FRAP. This should include training of teachers, compiling of education material and testing of education models in various pilot actions. It is also recommended that the Forest Universities and Institutes in North West Russia as soon as possible develop their capacity for in-service training by short courses to the Forest Business sector.

1.5. Implementation of the study courses in higher professional education and in-service training

Higher professional education

The implementation of the course components in higher education, as well as in the in-service-training on FOPC & FRAP is based on pedagogic principles and methods evaluated during the Test course in June-July 2009:

- Targeted applied competence building for leading work positions as Managers, Supervisors and Technical specialists in advanced Forest and Road Operations;
- Concentrated course scheme in the concluding and synthesizing phase of the Forest Bachelor scheme (in 4th year) and Forest Master scheme (in 6th year);

- High proportion action and problem based learning;
- Adequate mix of theory and practice with significant time used in Forest Operation Chains under realistic business conditions;
- Participation of key persons from Forest Companies, Authorities and Forest Machine Industries in lectures, workshops and seminars and as hosts for project work.

In-service training on FOPC and FRAP

Forest Business would be in great demand for qualified in-service training on different topics in FOPC and FRAP. This competence building is mostly envisaged to be done as targeted short courses with duration of 1–5 days.

Topics in continued education could be specific, as listed below, or grouped together for broader themes:

- Organization and management strategies for enterprises in the Forest and Road Operation Chain;
- Operational planning and control systems for the Forest Operation Chain at enterprise level;
- Operational planning and control systems for the Forest Operation Chain at district and regional levels;
- Systems Analysis to design logging and silviculture systems;
- Use of technical and economic calculation tools to optimize Forest road density and standard;
- Calculations of productivity and operating cost for logging, silviculture and logistic systems and resources;
- Technical measurement and control methods of road bearing capacity;
- Forest and Road data bases combined with digital chains from Forest road, tract and road-side landing to industry wood-yard using GIS and GPS technology;
- Advanced forest inventory technologies and methods connected to the digital chain.

1.6. Partners in the OPLWSO & AFRFRN projects

The activities of OPLWSO & AFRFRN projects have been carried out in close cooperation between:

- Syktyvkar Forest Institute (main Russian AFRFRN partner);
- St. Petersburg State Forest Technical Academy (main Russian OPLWSO partner);
- Swedish University of Agricultural Sciences, School for Forest Engineers, main Swedish partner in two projects OPLWSO & AFRFRN;