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## **Adjustment of watershed management towards federal system**

The recent constitution of Nepal, promulgated in 2015, has introduced a three-tier structure of federal government (federal, province, and local) and all levels have the power to enact laws, prepare budgets, and mobilize their own resources. Accordingly, Government of Nepal, redesigned the soil conservation and watershed management related structure too with the aim of decentralizing the 'Fund', 'Functions', and 'Functionaries' (3F). Major structural reforms are: Ministry of Forests and Soil Conservation is restructured as Ministry of Forests and Environment, Department of Soil Conservation and Watershed Management is integrated with the Department of Forests and named as the Department of Forests and Soil conservation (DoFSC), District Soil Conservation Offices (61 numbers) were reorganized into Soil and Watershed Management Offices (14 numbers with 2 in each province). However, the total numbers of staffs were increased to 17 in each. Four River Basin Centres (Koshi, Gandaki, Karnali, Mahakali) are established for the first time as the Federal Offices under the DoFSC to deliver the Integrated River Basin Management plan and programs. A Watershed management Learning Resource Centre (W-LRC) is established under DoFSC to aggregate, generate, and disseminate the watershed related knowledge, science, skills and technology.

The scope of watershed management is ever growing because there is a need to ensure the ecological integrity, economic and social viability of our fragile landscape. To learn the best watershed management models for this changing context, principles, approaches applied in different countries such as in India, Thailand, America and Europe as well as Africa where they have already adopted watershed management successfully into their federal states or nation's union might be useful. The major approach adopted in worldwide practice is a river basin approach with the clear legislative framework and accordingly, Ministry of Forests and Environment is also trying to adopt same scale with country specific situations here in Nepal.

Although administrative structures have changes, yet the functions at federal and province level offices might be similar in nature while addressing the local scale problems. It might be because there is long-term effects of present management approach and existing system and knowledge of the human resources. In addition, there is also transitory period for developing concrete programs and policies too. Simultaneously, the management of natural resources has become increasingly complex and uncertain because of shifts in demography, political power bases, public expectations, and understanding of natural systems. The fields of watershed science and management are likely to undergo rapid change for some years to come. Uncertainties include (1) cumulative, long-term effects of current problems and

resources availability (2) effects of plan, policies and programs at three tiers of government units and (3) Effects of a changing national and global environment. Considering these uncertainties, watershed management approaches are always dynamic in nature.

Since the period of its establishment (1974), the District Soil Conservation Office (DSCO) tried to address the challenges of soil erosion and watershed degradation faced by the country. It also worked efficiently to assist in reducing pressure on the ecological balance from natural hazards such as floods, landslides and soil erosion, through the conservation and development of important watersheds. It also put tremendous efforts to maintain land productivity, climate change adaptation, and safeguard lives, people's livelihoods, properties, and important infrastructure. During 45 years of institutional experience, it was realized that participatory watershed model was found to be effective to address the site-specific local problems. However, it was not sufficient to address the catchment scale problems at output and outcome scale. It means that how the different components of landscape (erosion, vegetation, disaster, people, etc) can be interlinked through appropriate institutional structure, plan, policies and programs to maintain the ecological integrity of the country should be plan in long term basis. That demands for the more concrete and stronger commitment by the respective government units in future.

Watershed management in federal system is offering the possibility to consider the interrelationships between the productivity and conservation in the use of natural resources as well as the recognition of upstream-downstream linkages related to the protection and use of land resources among three tiers of government. In forest policy 2019, and 15<sup>th</sup> five year plan (2019–2024) need, strategies, working policies are written clearly specially in water, infrastructure, and agriculture/forestry sectors. Owing to these policies, DoFSC is mainly adopting following programs and approaches; i) River basin scale intervention, ii) Theme and target based catchment restoration it means for what purpose catchment management/investment is important. It covers to answer like hydropower protection from sedimentation, protection of important infrastructures, sedimentation reduction at important wetland/lakes, managing land degradation, drought area management etc. Institutionally six different sections within watershed and landslide management divisions are trying to critical watersheds (within river basin) through engagement of all stakeholders. Implementation of some emergency and emerging problems like landslide disaster, drying up springs, rural roads safeguard, river corridor environment protection etc. are managing by developing appropriate tools and technologies. Research, science and technology based plan, policies and programs with effective coordination among three tiers of government is strongly recommended. In this context, the appropriate institutional set up together with strengthening legislative power, strong coordination and participation of all levels of government are the prime concern to be resolved soon.

It is suggested to increase the number of staffs in all four River Basin Centers. Similarly, the number of offices in province level should be increased to cover easy and accessible service delivery. The local government units should be clear to establish the forest/watershed/environment units to translate the provisions mentioned in Local Government ACT 2074.