NIRD; RKVY Monitoring Unit
Analytical Report on Himachal Pradesh SAP

1. **Name of the State**
   Himachal Pradesh

2. **What target the State decided to achieve using RKVY assistance during 11th Five Year Plan (FYP) for the agriculture sector as a whole and for the sub sectors?**
   The strategy the State proposes to adopt using RKVY assistance during 11th Five Year Plan for the agriculture sector include: increasing irrigated area by developing irrigation sources; harnessing niches for crops; strengthening input-delivery system; strengthening rural agricultural infrastructure; developing micro-enterprises for employment generation; promoting non-conventional avocations like organic farming; and reducing women drudgery by promoting mechanization.

   The SAP prioritizes natural resource rejuvenation, conservation and management through soil conservation, water harvesting and watershed development and land development, as its major thrust area by earmarking 49 per cent of total plan outlay for this sector. Further, development of crop sector through promotion of high yielding varieties, improvement of soil health, crop protection, improving water use efficiency as well as the development of livestock and horticulture sectors too form part of the 11th plan objectives. It also focuses on need-based infrastructure development for hill-agriculture.
   The implementation of the proposed investments and suggested interventions under various schemes under the SAP are expected to boost the total value of production (VOP) in agriculture & allied sector from Rs 6957.32 crore to 12807.09 crore, registering an average annual growth rate of 16.82 per cent, during the 11th Five Year Plan; VOP in crop sector is estimated to increase from Rs 2017.87 crore to Rs 3134.19 at an average annual growth rate of 11.07 per cent; VOP in horticulture sector is expected to increase from Rs 1050.38 crore to Rs 1874.86 crore at an average annual growth rate of 15.70 per cent; VOP in animal husbandry is expected to increase from Rs 3881.42 crore to Rs 7776.18 crore at an average annual growth rate of 20.07 per cent; and VOP in fisheries is expected to increase from Rs 864 crore to Rs 2186 crore at an average annual growth rate of 30.50 per cent.

3. **Which method (Method 1 or Method 2) is used for the preparation of SAP? How integration (methodology) of C-DAPs and prioritizing major interventions was done to prepare SAP?**
   Method 1 is used for the preparation of SAP. Data-collected at village-*panchayat* and block-levels helped in understanding problems, getting suggestions and identifying interventions through field-level interactions with farmers. Statistical methods were used to get district-level estimates. Frequency tables were generated and different problems and interventions were considered for preparing plan estimates. Funds for the interventions were worked out in consultation with the stakeholders. The financial requirements for other parameters like irrigation, watershed schemes, infrastructure and markets were prepared in consultation with the district level officials of the line departments like agriculture, horticulture, animal husbandry and irrigation. The SAP admits that the state level plan is prepared on the basis of different district agricultural plans. An analysis of

SAP and C-DAP reveals that important interventions suggested in C-DAP have received appropriate place in the SAP. We find that the C-DAPs are very well integrated into the SAP.

Further, each C-DAP provides its sectoral outlays and yearly allocations under various schemes. These are added-up in the SAP to give the sectoral outlays and yearly allocations of SAP. Similarly the major interventions from C-DAP are integrated into the SAP.

As per the Planning Commission guidelines, the uniqueness of districts has been kept in view while proposing allocations for various schemes under different sectors. For example, the C-DAP of *Solan* district proposes allocations for *Organic farming* scheme under broad category *Niche Based Enterprises for Rural Entrepreneurs*, where as the SAP proposes allocations for six more schemes under the same category. Similarly, three schemes, *soil conservation, water harvesting check dams etc,* and *land improvement* under the broad category *Natural Resource Conservation and Management*, have proposed allocations in the SAP; whereas CDAP for *Solan* district has proposed allocations for the first two schemes and excluded *land improvement* from it.

4. **Whether SAP has critically analyzed and clearly stated the agricultural situation of the state vis-à-vis its districts through a SWOT analysis covering agro-climatic conditions, natural resources, infrastructure, institutions, technologies, manpower etc**

   Yes, SAP has critically analyzed and clearly stated the agricultural situation of the state through a SWOT analysis covering agro-climatic conditions, natural resources, infrastructure, institutions, technologies, manpower etc. Information gathered during preparation of the C-DAPs form basis for the SWOT analysis for the state. Similar SWOT analysis at the district-level is available in the respective C-DAPs.

   Major strengths include the diverse agro-climatic conditions and soils of various textures and depths, suitable for growing a wide variety of crops; good amount of average rainfall; and adequate water resources in terms of five perennial river-systems that constitute an excellent drainage network encompassing all the districts. Notable weaknesses include low area under cultivation (9.78 per cent of the total geographical area of the state), low-irrigated area (18.78 per cent of the total cultivated area); and productivity lower than the national average for crops except maize and vegetable crops. Important opportunities include increased scope for cultivation of high value commodities like fruits and off-season vegetables due to rising incomes facilitated by high economic growth that has enabled changes in consumption patterns, proximity of the state to the vibrant markets located in prosperous neighbouring regions of Punjab, Haryana, western-Uttar Pradesh and Uttarakhand (Dehradun); and supportive agro-climatic environment for growing non-conventional high-value cash crops like floriculture, medicinal and aromatic plants. The threats include rampant soil-erosion in large part of cultivated land, accentuated due to deforestation and many other reasons; change in climate induced by the global warming phenomenon that has been traced behind events like irregular rainfall pattern, unusual seasonal variations, early snow melting, deglacialization, etc. and that have begun to cause altitudinal shifts in the cropping pattern, water management issues, new diseases and pests, ultimately affecting the sustainability of agricultural production system.

5. **Whether Convergence- inter and intra department/programmes- been attempted and what is the extent of convergence? Have all potential options for convergence been identified and explored?**

   The SAP does not explicitly give any idea about Convergence of various development programs/projects being implemented in the State. It furnishes proposals for fund outlays for identified schemes under various sectors, but without mentioning the names of the existing

Centrally Sponsored Schemes/State Schemes as funding source. They have a comprehensive State Plan prepared on the basis of needs and aspirations. But what they propose for RKVY is just half of that. It is not clear how do they meet the rest. We do not get idea from the SAP that whether Convergence – inter and intra department/programmes – been attempted and the extent of convergence. We also do not have any clue whether all potential options for convergence have been identified and explored. This is a weak point of the SAP.

6. **Has the experience of on-going CSS and state schemes been studied and lessons learnt have been incorporated in SAP/C-DAPs for replication/ expansion/ modification in uncovered areas?**
   It is not explicit in the SAP whether the experience of on-going CSS and State schemes has been studied and lessons learnt have been incorporated in SAP/C-DAPs for replication/expansion/modification in uncovered areas. However, the SAP gives a strong impression that it is built on the feedback received during village-*panchayat* sample surveys and block surveys from farmers, extension workers/scientists from various line-departments.

7. **Whether the yield gaps and returns in different crops/livestock/fisheries have been estimated?**
   Yes, district-wise yield-gaps in various sub-sectors of the agriculture and allied sector have been estimated, based on the feedback received from the village-*Panchayat* sample surveys. Yield-gaps are calculated by comparing the yield of the average/representative farmer with that of the progressive farmer operating under similar agro-climatic conditions. For example, yield-gaps in *Kangra* district for maize, paddy and wheat crops are 17.2 quintal/hectare, 19.5 q/ha and 15.4 q/ha respectively; yield-gaps for potatoes and peas are 91.9 q/ha and 32.6 q/ha respectively in the same district; yield-gap for milk by *Crossbred* cow is 7.89 litres per day in the same district; yield-gap for sheep wool is 1.58 kg per year in *Sirmaur* district; and yield-gap in eggs is 142 no./year/bird in *Kangra* district. This could well be taken as baseline status.

8. **How the technological and agronomic gaps were identified to contribute to yield gaps?**
   The sample surveys, conducted at *Panchayat*-level in all blocks of the State, formed basis for identifying technological and agronomic gaps, that contributed to the yield-gaps. Gap in requisite-level of farm-mechanization is a major technological gap identified, contributing to the yield gaps. Lack of awareness on use of appropriate quantity of seeds in general and the modern varieties of seeds in particular and gap in required quantity of fertilizer and its timely-application, are among the main agronomic gaps identified to contribute to yield-gaps. An investigation of the yield-reducing factors on the progressive and the average farm situations for cereals, pulses, oilseeds and vegetable crops revealed that the lack of technical know-how, non-availability of good quality inputs of seeds, plant-protection materials, fertilizers etc., lack of irrigation and management of weeds in crops were the main factors for the yield-gap. Significant difference was found between the yields of progressive farmers and the average farmer though both worked under similar climate, soil and infrastructure conditions; highlighting lack of awareness and ability (resources) among average farmer as main reason for the yield-gaps.

9. **How the identified constraints are adjudged responsible for low crop productivity in general and specific crops in particular? Is it an opinion or stated on the empirical basis?**
   The identified constraints were adjudged responsible for the low crop productivity on the empirical basis. The sample surveys conducted at the *Panchayat*-level helped in identifying the productivity gaps existing between progressive farmers and the average farmer in all the districts and in the State, for various sub-sectors under agriculture & allied sector. For example, the field-

investigations revealed that the lack of technical know-how, non-availability of good quality inputs of seeds, plant protection materials, fertilizers etc., lack of irrigation and management of weeds in crops are the main factors for gap in crop-sector.

10. **How the interventions are identified to bridge the gaps in productivity levels?**
    The SWOT analysis based on information gathered through field surveys and aided by the insights from secondary data, helped stakeholders (comprising progressive farmers, extension workers/scientists from various line departments) in identifying and finalizing interventions to bridge the gaps in productivity levels.

11. **Whether the right strategies have been prioritized to bridge the yield gaps in crop/livestock/fisheries and maximize returns to farmers have been clearly spelt out? Whether the empirical basis for appropriate strategies provided? How far they have been obtained/decided through a consultative process with all the relevant stake holders?**
    The SAP seems to have attempted formulating the right strategies to bridge the yield gaps in crop/livestock/fisheries and maximize returns to farmers, but there is no explicit evidence towards systematically prioritizing these. However, they have been clearly spelt out through a consultative process. The *panchayat*-level sample survey conducted in all blocks and the block–level survey provide empirical basis for devising these strategies. Since participatory approach was adopted during the field-surveys that included farmers/progressive farmers and extension workers/scientists, aided by advisory support from the various line departments and State agriculture department while preparing SAP, it can be concluded that the strategies have been decided through a consultative process with all the relevant stakeholders.

12. **Whether the prioritized strategies have been translated into programmes/projects/activities by sectors and years with clear cut objectives, targets, output, outcome, funding (RKVY, other sources) for each project? Whether the viability of each project to achieve the expected output considered?**
    The strategies (stated but not systematically prioritized) have been translated into broader schemes by sectors for the five-year plan period, dividing SAP proposed outlay into the yearly allocations. However, the strategies are not translated into specific programmes/projects/activities in the proposed SAP. The SAP has translated the prioritized strategies into a number of broader schemes, each of which is bifurcated into specific schemes/activities along with the proposed allocations. For example, under a broader scheme, *interventions to improve and enhance sustainability of crop production system,* the sub-schemes/activities are *improvement in productivity of crops through promotion of HYV; improvement of soil-health through vermin-composting, bio-fertilizers, micro-nutrients, soil testing etc.; water use efficiency through micro-irrigation; agricultural mechanization through popularization of improved tools and hill specific machinery* etc.

13. **Have border areas/ insurgent areas/problem areas (mining, acidic soils etc) have been addressed by formulating any specific projects?**
    Yes, specific problems areas are also taken care of in the strategy to be implemented through schemes. For example, allocation of funds under schemes on installation of anti-hail guns in hail prone horticultural districts, and measures to control population of *monkeys* in districts where agriculture is severely affected by the monkey-menace.

14. What is the mismatch (difference between estimated budget in SAP/C-DAP and the approved and used budget) between the projections and funding in SAPs/C-DAPs and the projects(difference between planned projects in SAP/C-DAP and approved projects and funding being implemented? How this mismatch affects the targets, expected outputs/outcomes/growth impact?

There is considerable mismatch between proposed budget (presumably from RKVY) and the approved budget under RKVY projects so far for the State. For years 2007-08, 2008-09 and 2009-10, the approved budget is 3 per cent, 2.1 per cent and 4.7 per cent of the proposed budget respectively. 100 per cent of the allocated amounts have been released for the first two years from 2007-08 and 2008-09 and 55.5 per cent have been released for the year 2009-10. Utilization has been done to the extent of 99 per cent of the released funds for the two years from 2007-08 to 2008-09.

The proposed budgetary outlay for five years for the SAP has been estimated at Rs 3540.03 crore for the 11th FYP. However, comprehensive budgetary requirement for the plan was estimated at to be Rs 6214.25 crore. However, information on approved and used budget is not provided in the SAP/C-DAPs; it is sourced from other documents provided by the State.

The huge mismatch between proposed and released amounts may be anticipated to have significant adverse impact on targets, expected outputs/outcomes/growth. One of the potential areas considered for development under RKVY in the State Plan that has not been addressed while implementing projects during 2007-08 to 2009-10 is rural infrastructure such as rural markets, storage, value addition and roads connectivity. Hope it will receive attention during the next two years.

15. Are the projects/programmes large enough, instead of being small and prolific pilot type schemes, to make a visible (impact) in the sectors?

All the approved projects are of value less than Rs 5 crores. The high-value projects among these projects are *Utilization of water for providing protective irrigation by diverting base flow in drainage courses* amounting to Rs 2.59 crores in year 2007-08, and *Construction of water harvesting projects and utilization of created potential* amounting to Rs 2.56 crores in year 2008-09.

Proposed allocation-wise, the schemes are large enough. For example schemes for micro-irrigation that aim at enhancing the water use efficiency have been allocated Rs 157.54 crores. Similarly water harvesting, land development and soil conservation schemes have been allocated Rs 1048.35 crores, Rs 577.65 crores and Rs 108.59 crores respectively in the budget outlay.

16. Has the SAPs identified Flagship programmes (extensive to cover large part of the state and larger area)?

The State Plan does not explicitly mention Flagship programmes. But funding-proposal under the Plan includes substantial allocations for schemes under *natural resource conservation and management* to the tune of Rs. 173.46 crores for the five-year plan-period, covering all the districts.

17. Whether sectoral and spatial allocation of funds conforms to equitable and optimal distribution of resources?

Evaluation of the SAP gives impression that the sectoral and spatial allocation of funds in proposed budget outlay conforms to equitable and optimal distribution of resources. For example, a major part of funds (49 per cent) are allocated in the proposed budget outlay to the rejuvenation,

conservation and management of natural resources through soil conservation, water harvesting, watershed development and land development. This is understandable as the two-third of state's cultivated area is under serious soil-erosion. Further, though nearly 18 per cent of cultivated land is irrigated, state has tremendous potential for irrigation as it is bestowed with five perennial rivers with hundreds of tributaries. Thus high allocation of funds to this end is justified. Among other sectors, the scheme on *livestock improvement* has a share of 12.62 per cent, scheme on *improvement in crop production system* has a share of 12.48 per cent and *need-based infrastructure development* has a share of 11.54 per cent in the total proposed outlay of the SAP. There is a tremendous scope of increase in milk production due existing high-levels of yield-gap in milk production, as brought out in the survey analysis. For example, gap in milk-yield of up to 6.84 litres in case of average farmers and up to 14.73 litres in case of progressive farmers in the State highlights the growth-potential of this sector. Further, improvement in crop production system by promoting micro-irrigation, protected cultivation and availability of quality-inputs is of critical-importance for growth in the crop-sector of the hill State. Similarly, need-based infrastructure development such as improvement of on-farm water delivery and existing irrigation system are of key importance in the hill-areas.

Also, to a great extent the funds are spatially allocated in proportion to the population-size of each respective district in the proposed budget outlay. There is a good degree of correlation to the tune of 0.78 between the population-size of districts and their share in total fund-allocation. For example, the two most populated districts in HP, i.e. Kangra and Mandi, are allocated 15.5 per cent and 17.8 per cent, whereas sparsely populated Lahaul Spiti district is allocated 1.9 per cent in the proposed budget outlay of the SAP.

18. Are there any innovative projects? If so, how do they contribute to fulfill the special needs outside ongoing programs?

Innovative projects such as protected cultivation of high value crops like off-season fruits and the niche-based enterprises for rural entrepreneurs like organic farming, mushroom growing, sericulture, agro-tourism, medicinal plants, floriculture and tea-cultivation, have potential to generate significant employment and raise earnings of local farmers, aided by the supportive agro-climatic conditions of the state for such ventures.

19. What is the basis of planning certain projects for the State as a whole and how do they get monitored?

The projects planned for the state as a whole are those that have significance for all the districts. Most of the projects come under this category as majority of issues relevant to all the districts are same such as improvement of crop production system, natural resource conservation and management, and need-based infrastructure development. Though funding proposal of SAP allocates money for *Monitoring and Evaluation of Implementation of DAPs*, yet mechanism for it is not explicit in the SAP.

20. What is the basis of sectoral fund allocation? Is it based on expected marginal contributions? Any viability analysis is made?

Interaction with various stakeholders during the *Panchayat*-level sample surveys from all blocks and the block-level surveys helped the team preparing SAP in identifying and understanding the investment needs of various sectors. Consultation with extension workers/scientists from the district-level line departments and state agriculture department was instrumental in working out fund requirements to fulfill various interventions emanating from the survey. Thus the financial

requirement for parameters like irrigation, watershed schemes, infrastructure, markets etc. were prepared. However, sectoral importance has not been worked out through any viability analysis. This is a weak point of SAP.

21. Whether the allocations across years were right? What was the basis for yearly allocations?

Allocations across years were right. For the first year 15 per cent of total outlay is allocated, for each of the next three years 20 per cent of the total outlay is allocated, and for the last year 25 per cent of the total outlay is allocated. Allocation across years is logical. In the first year, at the conception stage funding requirement is relatively low. Also, the capacity to use funds is lower in the beginning. It rises with progress of the projects. During the intermediate years greater funding provision secures successful completion of the project.

22. Is the SAP in line/ tune with overall agricultural strategy and goals of the country/ state?

Yes, the SAP is in line/ tune with overall agricultural strategy and goals of the country/ state. For example SAP's thrusts towards rejuvenation, conservation and management of natural resources, is critical for the faster agricultural growth. Similarly, other thrust areas of SAP are also in tune with state. The country aims at achieving 4 per cent growth rate during 11th five-year plan. The State Plan is an attempt towards it.

23. Whether mechanisms for planning, baseline information collection, monitoring, documentation and regularly reporting progress are clearly spelt out?

It is not explicit from the SAP that whether mechanisms for planning, baseline information collection, monitoring, documentation and regularly reporting progress exist. However, the funding proposal of SAP allocates Rs. 10 crores for the *Monitoring and Evaluation of Implementation of DAPs* and Rs 2 crores for the *Surveys, Investigation, and Preparation of DPRs.*

Directions for 12th FYP

1. Whether the planning, monitoring and evaluation mechanisms exist, functional and made use of to fulfill the expectation and bridge the gaps? If not, what is the plan for strengthening PME mechanisms and making them functional during the remaining years of 11th FYP and 12th FYP when it gets launched? Whether the baseline information is maintained for comparison of performance of the project later?

There is provision in the funding proposal for the monitoring and evaluation of C-DAPs for the five year plan-period. Also, Rs. 1.10 crores were spent in the preparation of C-DAPs during 2007-08. But the planning, monitoring and evaluation mechanisms are not explicitly mentioned in the SAP.

2. Whether the mid-term evaluation by the external agency is done for change of the targets and inter-sectoral resource adjustments?

It is not mentioned.

3. Is social audit done to facilitate publicity on status of the implementation and maintenance of transparency?

It is not mentioned.

4. What are the major lessons from RKVY implementation in the State for the 12th FYP?

(i). The SAP should provide funding details under various CSS and State-level schemes (including RKVY). If not given, analyzing the extent of convergence of existing schemes with the RKVY will be difficult. Convergent approach within the sector and outside the sector should be attempted, particularly with MGNREGS to avoid duplication in respect of soil and water harvesting and conservation. MGNREGS resources can be tapped for this. Instead the SAP should come out with more interventions to concentrate on cropping and production systems including horticulture, livestock and fisheries in areas that have been developed under watershed and NRM

(ii). The main experiences of implementing CSS/State schemes should be summarized and stated whether/how they are made use of to prepare SAP for replication, expansion etc.

(iii). Prioritization of interventions needs to be attempted using standard objective methods.

(iv). The SAP should attempt to articulate specific programmes/projects/activities along with required budget (RKVY and other sources).

(v). The mismatch between proposal and allocation should be minimum- it can be bridged quite a bit if convergence is attempted as indicated in 4.(i) above.

(vi). The project proposals should emanate from Districts preferably Zilla Parishads on the basis of C-DAPs.

(vii). There should be rigorous filtering of proposals by an expert Committee earlier and in SLSC meetings later.

(vii). There should be a dedicated PM&E mechanism at the State level for facilitating project screening, database management, monitoring, evaluation and reporting of RKVY projects. It should facilitate mid-term evaluation by external agency and also social audit to facilitate publicity and maintenance of transparency.

Overall conclusion

In general, the SAP is well-prepared with sufficient analytical basis for projecting the targets, estimating the yield-gaps and developing the strategies, schemes and sub-schemes for attaining higher growth in agriculture & allied-sectors. It is satisfying to note that uniqueness of districts, goals of the State/country and consideration of spatial and sectoral allocations are kept in view in preparing SAP. The suggested innovative projects are important to the State. However, the SAP has not spelt out specific programmes/projects/activities which can explicitly contribute to higher growth. The Comprehensive State Plan is prepared requiring huge resources (Rs 6214.25 crore). Assuming that they are realistic estimates, the State has to mobilize these resources from all available sources. The SAP is silent on the convergence with the central sector schemes/state schemes for mobilizing resources and other complementarities and further opportunities for convergence. Even the funding proposal, possibly under RKVY (since not clear from the document), requires enormous resources (Rs 3540.03 crores). There is considerable mismatch between the proposed budget and the approved budget under RKVY projects so far for the State. This mismatch will affect the projected targets of growth. Investment in rural infrastructure was one of the priorities, but not received due attention through RKVY projects so far. There is no mention of any dedicated planning monitoring and evaluation (PM&E) mechanisms for RKVY projects. State has to address these limitations and other lessons learned (item 4 above) in the remaining years of 11th FYP and more so in the 12th FYP, when the RKVY projects gets continued to achieve the projected targets.