

NIRD RKVY Monitoring Unit Analytical Report on Mizoram SAP

1. Name of the State

Mizoram

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 SAP does not indicate targets (s) decided to be achieved using RKVY assistance during 11th Five Year Plan (FYP) for the agriculture sector as a whole and for the sub sectors at the **State level**; however, it gives clear-cut year-wise targets (both *physical* and *financial*) in terms of activities/projects proposed for various sub sectors under the whole agriculture sector at the **district-level**. But, the SAP does make a general mention of the target of 4 per cent growth rate set by the *National Development Council* for the agriculture sector as a whole during the 11th FYP; *implicitly*, the proposed strategies/activities are an attempt towards achieving a growth rate of 4. The district-wise targets are given for just last two years of the 11th FYP i.e. 2010-11 and 2011-12. Further, though the SAP mentions the district-wise targets under the State Plan, yet it does not explicitly indicate their (targets) *deciding/obtaining* using the RKVY assistance outlay; however, the front/main page (*in the SAP*) describes the SAP as *State Agriculture Plan for Rashtriya Krishi Vikas Yojana of XIth Five Year Plan*. Examples of the year-wise targets stated at the district-level include, *distribution of certified paddy seeds: 50 Quintals (Qtl.)* (for Rs 75,000) in 2010-11 and *75 Qtl.* (for Rs 1.13 lakhs) in 2011-12; *distribution of certified pulse seeds: 80 Qtl.* (for Rs 3.60 lakhs) in 2010-11 and *95 Qtl.* (for Rs 4.28 lakhs) in 2011-12; and *distribution of certified oilseeds: 30 Qtl.* (for Rs 0.90 lakhs) in 2010-11 and *40 Qtl.* (for Rs 1.20 lakhs) in 2011-12, as part of the proposed strategy of *Enhancing seed replacement rate* under **Agriculture** sub sector for the **Aizawl** district. Similarly, for the **Champai** district the SAP proposes *1 and 2 number of Model Nurseries in Private Sector* in 2010-11 (for Rs 10.0 Lakhs) and 2011-12 (for Rs 20.0 Lakhs), respectively; and *4 number of Small Nurseries in Private Sector* each for years 2010-11 and 2011-12 at a cost of Rs 12.0 lakhs for each year, under **Horticulture** sub sector. Examples of activities/projects proposed under **Animal Husbandry** sub sector for the **Kolasib** district include, *Distribution of 1000* (for Rs 10.0 Lakhs) and *1100* (for Rs 11.0 Lakhs) *number of Veterinary Aid Kits* in years 2010-11 and 2011-12, respectively; and *Construction of 2* (Rs 20.0 Lakhs) and *1* (Rs 10.0 Lakhs) *number of Veterinary Dispensaries* in years 2010-11 and 2011-12, respectively. The SAP targets development of fresh water fishery in **Lawngtlai** district through *increase in water spread area* to the tune of *75 hectare* (ha) (for Rs 75.0 Lakhs) and *100 ha* (for Rs 100.0 Lakhs) *by constructing new ponds* during years 2010-11 and 2011-12, respectively; and *Renovation of ponds* in *100 ha* (for Rs 15.0 Lakhs) each in years 2010-11 and 2011-12, under **Fisheries** sub sector. The SAP sets targets to construct *100 number of Castor Plantations with startup tools* (for Rs 100 Lakhs) and *100 number of the Rearing Houses (Castor)* (for Rs 15.0 Lkhs), in each of the years 2010-11 and 2011-12; and *100* (for Rs 15.0 Lakhs) and *150* (for Rs 22.5 Lakhs) numbers of *Mulberry Plantations with startup tools* while *100* (for Rs 40.0 Lakhs) and *150* (for Rs 60.0 Lakhs) numbers of *Rearing Houses (Mulberry)* in years 2010-11 and 2011-12, respectively, under **Sericulture** sub sector for the **Lunglei** district. The SAP proposes to treat *98,000 ha of area under acidic soil* (for Rs 70.0 Lakh per year), *11,000 ha of area under wasteland/degraded land* (for Rs 5.7 Lakhs per year) and *900 ha of landslide prone area* (for Rs 3.2 Lakh per year), during years 2010-11 and 2011-12, under **Soil & Water Conservation** for

Mamit district. Finally, under **Training and Extension** sub sector, the SAP proposes to *train 10 persons each in year 2010-11 and 2011-12 (for Rs 1.0 Lakh per year) per district for Capacity building and awareness on organic farming*, besides the other decided targets. *The SAP states specific/different targets for different districts in case of all sub sectors except for Training and Extension in which case it states common or same projects/activities for all districts supported by equal amounts of funding (i.e. for Training and Extension sub sector the SAP proposes Rs 65.50 Lakh for year 2010-11 and Rs 67.0 Lakh for year 2011-12 with respect of to each district.* However, at the **State-level** the SAP **indirectly** mentions the *targets* as difference between the *demand* and *availability* of produces or as *potential* versus *existing performance level* of the agricultural & allied sectors. For example, the SAP mentions that 41,465 ha of cultivated area is under shifting (*Jhum*) cultivation which gives very low yields and this practice is increasingly becoming unsustainable in the present scenario of rising demand for food-grains; *it states its intention to bring more and more cultivated area under the settled form of cultivation* under the *Agriculture* sub sector. Under *Horticulture* sub sector the SAP mentions that the existing area under horticulture crops (45,015 ha) is just 7.13 per cent of the estimated potential area of 6.31 Lakh ha available for the development of horticulture. Under *Animal Husbandry* sub sector, the SAP states **shortfall** between the *Per Capita Availability* and the *ICMR* (Indian Council of Medical Research) *recommended level* of *Milk Production* (159 grams per person per day), *Egg Production* (135 numbers per person per year) and *Meat Production* (75 grams per person per day), in year 2007. Under the *Fisheries* sub sector, the SAP mentions a per capita shortfall of 7.3 kilogram between the demand (11,176 M.T. annually for the projected population of the State in year 2007-08) and the production (3,750 M.T. annually or 3.7 kilogram on per capita basis, in year 2007-08); the SAP aims to utilize the 24,000 ha of potential area available for fish farming against the existing utilization-level of 2,840 ha in the *pond culture sector* and 6,000 ha in *Riverine sector*; the SAP also mentions the gap between the annual *production* (2.0 million) and *requirement* (28.4 million) of *fish-seed* in the State. Under *Sericulture* sub sector, the SAP states that the global demand of silk is increasing at a rate of 5 per cent per annum, presenting opportunity to tap the world silk market.

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?

Though it is not explicitly evident that which method (Method 1 and Method 2) is used for the preparation of the SAP, yet it appears that the SAP uses a combination of the two methods. The SAP involves constitution of *Planning Teams* (for the preparation of CDAPs/SAP) at the *district* (DAPU), *block* (BAPU) and *panchayat/village* (PAPU) levels, while *Planning* for the SAP entails participatory assessment of local development need/potential/choice and local situation (such as natural, human, performance status of the activities in practice, backward-forward linking facilities related to input/services/output and price). The SAP is stated to have been primarily based on collection of base line and bench mark information at district/block/village level. All these facts indicate that the SAP has basically evolved through a bottom-up approach and is representative of the local needs and aspirations, thereby supporting the use of Method 1 (the State Nodal Agency/Agriculture Department takes the draft DAPs from the districts at the first instance to ensure appropriate capture of the State's priorities w.r.t. agriculture and allied sectors in the C-DAPs so that their integration in to the SAP meet priorities, targets and resources of the State). However, the preparation part of the SAP is also stated to involve discussions on the objectives of National Agriculture Development Programme (NADP), preparation of CDAPs, SAP and formulation of project proposals under stream-I and stream-II, in a series of sensitization workshops (conducted for the committee members, planning unit members and officials from line

departments viz., *Agriculture, Horticulture, Agriculture Engineering* etc.); and holding several meetings of NADP under the Chairmanship of Secretary to the State Government. Further, it is also *implicit* that the designing of the *Planning Tools* for the preparation of CDAPs/SAP has taken place at the *State* level. For example, the SAP mentions that the *primary data collection schedule* is prepared as per the guidelines (*formulated at the State level*). It is also implicit in the SAP that *capacity building training of Planning Teams* is conducted by TSI (*State level intervention*). These facts support use of Method 2 in the preparation of the SAP (*State Nodal Agency/Agriculture Department conveys to the districts in the first instance, the State's priorities, targets and resources that are also ought to be reflected in the respective district plans*). Thus, we can say that the SAP incorporates use of a combination of two methods (Method 1 and Method 2) as it involves both *bottom-up* and *top-down* approaches in its planning. However, the integration (methodology) of C-DAPs and prioritizing major interventions to prepare the SAP are not explicit. But, there is a mention in the SAP of *integrating the CDAPs for preparing a comprehensive State Agricultural Plan*. Also, the SAP states about preparing a draft action plan (based on the baseline information and proposals) and presenting in a meeting of *District sectoral heads* under the Chairmanship of Director, Agriculture; further, it mentions about incorporating the feedback received from this meeting in finalization of the *State Agricultural Plan*. Further, the SAP seems to take into consideration the special needs of the districts while formulating projects in the SAP. For example, the C-DAP of *Kolasib* district states about the need of *link road/farm road* for connecting the agriculture production sites/farmers plots (which are not connected with the *roads*). The SAP responds by proposing activities/projects *Potential Area Connectivity* (Rs 2.0 crore) and *Horticulture Link Road* (Rs 90.0 Lakhs) for the *Kolasib* district.

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.

The SAP has attempted to state the agricultural situation of the State through a detailed SWOT analysis, covering various agriculture & allied sectors separately. The strengths include, availability of abundant land resources with organic enriched, fertile soil; less use of chemical and fertilizer; potential area and suitable agro-ecological conditions for cultivation of various crops including cereals and pulses; suitable agro-climatic and agro-ecological conditions for growing various fruit crops; less use of chemicals, fertilizers and pesticides in horticultural crops making them more valuable; favourable and varied climatic conditions supportive to rearing of a variety of animal species suiting their adaptability; enough area coverage with grasses, bushes and forest trees, useful for animal-rearing; availability of vast area of land for establishment of ponds, perennial sources of water and climatic conditions, suit development of fisheries; and ideal climatic conditions and optimum pH of soil for sericulture. The weaknesses include, soil erosion by run-off and acidity in the soil; dominant *jhuming* (shifting cultivation) practice on hill slopes; poor management of soil fertility, unawareness about green manuring, composting, soil testing, seed treatment etc.; imbalanced use of fertilizers (urea); poor storage facilities of fruits and vegetables; poor transport & communication services due to ecological conditions; lack of knowledge and infrastructure on post harvest technology; inadequate vaccine facilities for livestock; lack of technical guidance and scarcity of exotic fingerlings under fisheries; and inadequate infrastructure for sericulture. The opportunities include, scope for promotion of organic farming and its trade at national & global level; promotion of horticultural crops especially passion fruit, orange, grapes & pineapple, organic tea, medicinal & aromatic plants; development of improved varieties of pig and poultry through systematic breeding in wild and indigenous breeds; industrialization of port-

production may enhance meat production; and non-suitability of hilly terrain for wet rice cultivation while suitability for *Mulberry* and *Castor* presenting scope for development of sericulture. The threats include, heavy and long spell of rainfall causing landslide, soil erosion, severe infestation of insect pests and diseases; frosty weather during winter causing crop loss and attack of pests and diseases; flowering in bamboo causes sudden population growth of rodents that results in famine in the areas; prevalence of *jhum* cultivation causing deforestation and heavy soil loss through erosion; scarcity and high cost of fish feed, siltation of fish ponds due to practice of shifting cultivation; and lack of technical know-how in sericulture among farmers.

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 clearly expresses its intent for attempting convergence. The SAP states about listing the current ongoing agricultural programmes (along with their physical and financial performance) for dovetailing the ongoing schemes with the actions plans (*emanating from the SAP*) and finally converging them (*the ongoing schemes*) with the Plan. Further, the SAP states that it (State Agricultural Plan) is prepared by integrating the *District-level* agriculture plans which in turn *integrate multiple programmes that are in operation in the district concerned, include the resources and activities indicated by the State, combine the resources available from the other programmes and finalize the Plan*. The SAP also mentions about involving an activity of assessing the investment requirement of the preferred activities and also the gap with the resources that are expected to be available during the Plan period, in its preparation. However, the SAP misses to substantiate its point through practical examples. Besides the given theoretical framework in support of *convergence* there is not further evidence explicit in the SAP that suggests attempting convergence- inter and intra department/programmes. The extent of convergence is also not explicit in the SAP. Further, it is not explicit that whether all potential options for convergence have been identified and explored.

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?

The SAP does not give enough evidence that suggests about studying the experience of on-going CSS and state schemes and incorporating the lessons learnt in SAP/C-DAPs for replication/ expansion/ modification in uncovered areas. In general, it also misses to give reference to the on-going CSS and state schemes. However, it does give some instances that indicate about studying the experience of on-going CSS/state schemes. For example, the *agriculture/horticulture* department *learns* to integrate various components under *Technology Mission* like *Community Water Tank, Tube wells, Drip Irrigation, Training of Farmers* etc. so that the farmers get the maximum benefits to increase the production of crops as a whole. Similarly, the SAP observes that excellent performance is achieved in growing world class varieties of *Anthurium* flower when grown under shade house; therefore it proposes to cover (*under shade house*) the growing of flowers so as to increase production and have surplus for sale outside the State. Further, the SAP observes that the past research efforts (undertaken in ICAR and SAUs) have lacked a client-driven, on-farm, multi-disciplinary and development-oriented approach, resulting in inappropriate, too complex and non-replicable models. Against these, the SAP states that some new approaches (in *Central Agricultural University Imphal* and *Assam Agricultural University's Regional Research Station in Karbi Anglong*) are evident that involve carrying out of inter disciplinary field research programme with *jhum* farmers.

7. Whether the yield gaps and returns in different crops/livestock/fisheries have been estimated?

The estimation of yield gaps and returns in different crops/livestock/fisheries is not evident in the SAP. However, the SAP states *yields* (in **MT/ha**) of some selected fruit-crops such as *Orange* (6.5), *Banana* (24.36), *Passion Fruit* (5.00), *Arecanut* (5.85), *Ginger* (15.89), *Birdeye Chillies (Dry)* (2.00), *Turmeric* (20.00), *Chow Chow (Squash)* (37.00) and *Cabbage* (25.00), for year 2007-08; the SAP also gives yields of the mentioned crops for year 2006-07. However, for crops under *Agriculture* sector like *Paddy, Maize, Pulses, Oil Seeds* and *Sugarcane*, the SAP gives *area* and *production* figures only; it does not mention *yields*. Further, though the SAP does not give *yields/yield gap analysis* for livestock products, yet it states **shortfall** between the *Per Capita Availability* and the *ICMR recommended level of Milk consumption (gap of 159 grams per person per day)*, *Egg consumption (gap of 135 numbers per person per year)* and *Meat consumption (gap of 75 grams per person per day)*, for year 2007. For *fisheries*, the SAP mentions a per capita shortfall of 7.3 kilogram between the demand (11,176 M.T. per annum) and the production (3,750 M.T. per annum) in year 2007-08. However, a systematic yield-gap analysis (particularly for agricultural crops and sericulture) is evident at the district-level in the C-DAPs of the State. For example, the C-DAP of *Kolasib* districts states the yield-gaps between *average district yield* and *average State yield/frontline demonstration* for *Paddy, Maize, Mustard, Potato* and *Sugarcane* crops; and for *Cocoon production* under *Sericulture*.

8. How the technological and agronomic gaps were identified to contribute to yield gaps?

The SAP identifies technological/agronomic gaps that contribute to yield gaps in general as well as for particular crops/livestock/poultry/fisheries/sericulture (*in terms of gaps in adoption of the recommended practices related to various agricultural activities/items*). The general technological/agronomic gaps include, practice of low yielding *jhum* cultivation on a wide scale, decrease in *jhum cycle* from 10 years earlier to 3 to 5 years due to population pressure that results in decline in land fertility and contributes to land degradation, soil erosion by rain-water run-off, acidity in the soil, poor management of soil fertility, unawareness among farmers (about green manuring, composting, soil testing, seed treatment etc.), lack of quality seed and planting materials, inadequate vaccine facilities for livestock, lack of technical guidance and scarcity of exotic fingerlings under *fisheries* sector, inadequate infrastructure for *sericulture* etc. The technological/agronomic gaps contributing to yield gaps of specific crops/livestock/poultry/fisheries/sericulture are given for *rain-fed paddy, mustard (rabi oilseed), pea (rabi pulse), kharif pulse* and *maize* (agricultural crops); and *tomato, potato, rhizomatous, chilli, pineapple, banana* and *passion fruit* (horticultural crops); *cow, goat, pig* and *poultry* (livestock and poultry); *fisheries* and *sericulture*. Though, the SAP is not **explicit** on how the technological and agronomic gaps are identified to contribute to yield gaps, yet it is **implicit** that the procedures followed in the preparation of the CDAPs/SAP (including the SWOT analysis) have played an important role in identifying the technological and agronomic gaps. The SAP mentions that its preparation involves participatory assessment of local development need/potential/choice and local situation (*such as natural, human, performance status of the activities in practice, backward-forward linking facilities related to input/services/output and price*). The SAP is stated to have been primarily based on collection of base line and bench mark information at district/block/village level. These acts are substantiated with discussions related to the preparation of CDAPs, SAP and formulation of project proposals under stream-I and stream-II, involving officials from line departments viz., Agriculture, Horticulture, Agriculture Engineering etc.) and the Secretary to the State Government.

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 SAP is not *explicit* on how the identified constraints are adjudged responsible for low crop productivity. However, it seems that the procedures followed in the preparation of the CDAPs/SAP (including the SWOT analysis) have played an important role in adjudging the identified constraints responsible for low crop productivity in general and specific crops in particular. The SAP mentions that its preparation involves participatory assessment of local development need/potential/choice and local situation (such as natural, human, performance status of the activities in practice, backward-forward linking facilities related to input/services/output and price). The SAP is stated to have been primarily based on collection of base line and bench mark information at district/block/village level. These acts are substantiated with discussions related to the preparation of CDAPs, SAP and formulation of project proposals under stream-I and stream-II, involving officials from line departments viz., Agriculture, Horticulture, Agriculture Engineering etc.) and the Secretary to the State Government.

10. How the interventions are identified to bridge the gaps in productivity levels?

The SAP is not *explicit* on how the interventions are identified to bridge the gaps in productivity levels. However, it seems that the procedures followed in the preparation of the CDAPs/SAP (including the SWOT analysis) have played an important role in identifying interventions to bridge the gaps in productivity levels. The SAP mentions that its preparation involves participatory assessment of local development need/potential/choice and local situation (such as natural, human, performance status of the activities in practice, backward-forward linking facilities related to input/services/output and price). The SAP is stated to have been primarily based on collection of base line and bench mark information at district/block/village level. These acts are substantiated with discussions related to the preparation of CDAPs, SAP and formulation of project proposals under stream-I and stream-II, involving officials from line departments viz., Agriculture, Horticulture, Agriculture Engineering etc.) and the Secretary to the State Government.

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 proposes strategies for the development of crop/livestock/fisheries and bridging the yield gaps. But, a formal prioritization of the right strategies is not evident in the SAP. Though, the SAP is not *explicit* on how far the strategies have been obtained/decided through a consultative process with all the relevant stake holders, yet the *methodology* for the preparation of the SAP/CDAP is stated to have involved participatory assessment of local development need/potential/choice and local situation, besides having discussions with officials from various line departments.

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 SAP attempts to translate the proposed strategies into activities/projects by sectors and years with clear cut targets and funding for each project at district-level only; it misses to give the same at the State level. Further, the SAP also misses to state however, the SAP misses to give objectives, output, outcome and *source* of funding (RKVY, other sources) for each project. Also, it is not explicit that whether the viability of each project to achieve the expected output is considered.

13. Have border areas/ insurgent areas/problem areas (mining, acidic soils etc) have been addressed by formulating any specific projects?

The SAP proposes project activity *Liming of acid soils* for combating the problem of *acidic soils* in the hill-region of the State; the said *activity* is related to the proposed strategy of *Integrated Nutrient Management*. Funds are proposed at district-level for this project/activity, for example, *Aizwal* (Rs 2.30 Lakhs), *Champhai* (Rs 20.0 Lakhs), *Kolasib* (Rs 2.0 Lakhs), *Lawngtlal* (Rs 15.95 Lakhs), *Lunglei* (Rs 12.0 Lakhs), *Mamit* (Rs 2.30 Lakhs), *Saiha* (Rs 2.30 Lakhs) and *Serchhip* (Rs 10.0 Lakhs).

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?

The SAP proposes an amount of Rs 549.69 crore during 11th FYP under RKVY, involving just the last two years (2010-11 and 2011-12) of the Plan period (2007-08-2011-12). On yearly basis, the SAP proposes Rs 265.80 crore and 283.89 crore for years 2010-11 and 2011-12, respectively. *It is pertinent here to mention that the given proposed amount for Agriculture sector (Rs 46.33 crore for two years: 2010-11 & 2011-12) in Table 93 under heading "Total Financial Requirement for the State for interventions during the XI Five Year Plan" seems to be incorrect being awfully low in value and not matching with the financial outlay given for the Agriculture sector (Rs 189.64 crore for two years) in Table 45 under heading "Total Physical and Financial Targets for Agriculture for the State". Hence, we have considered Rs 189.64 crore as the proposed outlay for the Agriculture sector.* The approved budgets for the State (as per the *consolidated statement* from RKVY website) for years 2007-08, 2008-09, 2009-10 and 2010-11 are Rs 1.05 crore, Rs 4.29 crore, Rs 4.15 crore, and Rs 7.49 crore, respectively, cumulating to a sum of Rs 16.98 crore. Though the total proposed outlay of Rs 549.69 crore (involving last two years of the 11th FYP) is not strictly comparable with the total approved budget of 16.98 (involving first four years of the 11th FYP), yet there is a huge gap of Rs 532.71 crore (**96.9 per cent** of the proposed budget) between the total *proposed* and *approved* amounts for the 11th FYP. Since, the year 2010-11 is the only year for which information on both the *proposed* and the *approved* budgets is available, therefore we limit the comparison between *proposed* and *approved* budgets for this year (2010-11) only. There is a gap of Rs 258.31 crore (**97.2 per cent** of the proposed budget) between the *proposed* and the *approved* budgets for year 2010-11. There is huge mismatch between the proposed and the approved amounts; it is expected to severely affect targets, expected outputs/outcomes/growth for programmes proposed.

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

The SAP states programmes/projects/activities by districts; majority of the programmes/projects/activities are small in size being less than Rs 1 crore in value. *The SAP clubs*

various 'activities' under the 'proposed strategies' - the 'proposed strategies' may actually be considered as 'programs' as they reflect 'action-orientation' through the activities proposed under them. The programmes that are large in size include *Farm Mechanisation* under Agriculture sector: Rs 1.04 crore for Aizawl and Rs 1.13 crore for Champhai; *Promotion of Nursery* (Rs 5.48 crore each for districts Aizawl, Kolasib and Lawngtlai) and *Promotion and popularization of organic farming* (Rs 2.18 crore for Aizawl district and Rs 2.29 crore each for districts Kolasib and Lawngtlai) under Horticulture sector. The large projects/activities include, *Potential Area Connectivity* (Rs 2.0 crore each for Aizawl, Champhai, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha and Serchhip districts), *Community Water Tank* (Rs 3.0 crore each for Aizawl, Champhai, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha and Serchhip districts) and *Rainfed Area Development for sustainable Agriculture* (Rs 6.75 crore each for Aizawl, Champhai, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha and Serchhip districts).

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

Though the SAP formally does not mention the *Flagship* programmes, yet it proposes some large projects/programmes (extensive to cover large part of the State and larger area), such as *Potential Area Connectivity* (Rs 2.0 crore each for Aizawl, Champhai, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha and Serchhip districts), *Community Water Tank* (Rs 3.0 crore each for Aizawl, Champhai, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha and Serchhip districts) and *Rainfed Area Development for sustainable Agriculture* (Rs 6.75 crore each for Aizawl, Champhai, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha and Serchhip districts). Further, in a running reference, the SAP mentions *Mizoram government flagship programme (i.e. Sericulture sector/activities)* in the section *SWOT Analysis for Sericulture*, without giving any other detail.

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

*At the beginning, it is pertinent to state that since the given proposed amount for Agriculture sector (Rs 46.33 crore for two years: 2010-11 & 2011-12) in Table 93 under heading "Total Financial Requirement for the State for interventions during the XI Five Year Plan" seems to be incorrect being awfully low in value and not matching with the financial outlay given for the Agriculture sector (Rs 189.64 crore for two years) in Table 45 under heading "Total Physical and Financial Targets for Agriculture for the State", therefore, we have considered Rs 189.64 crore as the proposed outlay for the Agriculture sector. Out of the total proposed allocation of Rs 549.69 crore for the 11th FYP under RKVY, the SAP makes almost equal provisions for Agriculture (Rs 189.63 crore) and Horticulture (Rs 190.70 crore) sectors constituting 34.5 per cent and 34.7 per cent of the total budget allocation (Rs 549.69 crore), respectively. The allocation shares are quite appropriate as 61.37 per cent of the total population in the State comprises of *cultivators* (mostly practicing low-yielding and ecology-degrading *Jhum* cultivation); it is resulting in a double-edged assault to farmers, reducing both their *income* and the *crop-production*. *The State is not self sufficient in rice production, the major staple crop occupying largest share in area (50 per cent) and production in the State.* The agro-climatic conditions of the State are ideally suitable for cultivation of fruits, vegetables, spices, plantation crops, medicinal & aromatic plants and flowering plants. There is tremendous scope for exploiting the situation through horticulture-development as the existing area under horticulture crops (45,015 ha) is just 7.13 per cent of the estimated potential area of 6.31 Lakh ha available for the development of horticulture. The*

development of the sector is expected to enhance employment and income of farmers in the State. The SAP proposes Rs 83.80 crore (15.2 per cent) for *Land development and conservation of resources*. The allocation share is appropriate as the State faces severe soil erosion due to water run-off caused by heavy rainfall besides the malaise of acidity in the soil. Further, just 5 per cent of the geographical area of the State is under cultivation while only 11 per cent of the cultivated area is irrigated. This warrants the need for land development as well as conservation, development and sustainable management of water resources. The SAP proposes Rs 38.68 crore (7.04 per cent) for the *Animal Husbandry* sector. The allocation share is appropriate as this sector entails great potential for generating income and employment in rural sector as livestock production and agriculture are intrinsically linked, each one being dependent on the other and both are crucial for the overall food supply. *Livestock farming is commonly practiced in the State; livestock provides large share of draught power, the dung produced from dairy farming is important organic manure.* The SAP proposes Rs 20.61 crore (3.75 per cent) for the *Sericulture* sector. The allocation share is appropriate as the State with its unique flora, fauna and climate offers congenial environment for the healthy growth and development of sericulture industry; *Sericulture provides gainful employment, economic development and improvement in the quality of life* of people. The State has an opportunity to take advantage of the rapid growth rate of 30 per cent per annum of India's silk-exports, on the back of increasing global demand. The SAP proposes Rs 15.67 crore (2.85 per cent) for the *Fisheries* sector. The allocation share is appropriate as the State has a vast untapped potential for growth of the sector; the State has 24,000 ha of potential area available for fish farming against the existing utilization-level of 2,840 ha in the *pond culture sector* and 6,000 ha in *Riverine sector*; further, the per capita shortfall between *demand* (11,176 M.T. annually) and *production* (3,750 M.T. annually) in year 2007-08, present incentive for the growth of the sector. The SAP proposes Rs 10.60 crore (1.9 per cent) for *training & extension*. The allocation share is appropriate as it is expected to transfer the latest technologies, on-farm research and vocational training to the farmers, enabling rapid agricultural development in the State. Thus, the sectoral allocation of funds conforms to equitable and optimal distribution of resources. However, the spatial allocation of funds only moderately conforms to equitable and optimal distribution of resources as the *coefficient of correlation* between the *population at district-level* and the *funds proposed to the respective district* has a low value of **+0.21**.

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

The SAP recommends projects under the proposed *Innovative Programme Strategy* for the *Agriculture* and the *Horticulture* sectors, for each district. For example, under *Agriculture* sector, it proposes *Model Organic Farming*, *District Level Exhibition Show (Rabi/Kharif)* (Rs 20.0 Lakhs) and *Assistance for boring of tubewell* (Rs 6.0 Lakhs) for the *Aizawl* district; and under *Horticulture* sector, the SAP proposes *Low Cost Potato Storage* (Rs 1.73 crore) and *District Level Shows* (Rs 4.0 Lakhs) for the *Champai* district. The mentioned *innovative* projects are expected to facilitate the development of agriculture & allied sectors by complimenting with the ongoing programs. Further, the SAP mentions *possible innovative schemes to encourage all sectors' development* among its *major areas of focus*.

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

The SAP proposes many projects that find their implementation in all the districts of the State. For example, *Potential Area Connectivity* (Rs 2.0 crore each for *Aizawl*, *Champai*, *Kolasib*, *Lawngtlai*,

Lunglei, Mamit, Saiha and Serchhip districts), *Community Water Tank* (Rs 3.0 crore each for Aizawl, Champhai, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha and Serchhip districts) and *Rainfed Area Development for sustainable Agriculture* (Rs 6.75 crore each for Aizawl, Champhai, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha and Serchhip districts). Though the basis of planning certain projects for the State as a whole is not explicit, yet we anticipate them to be addressing the needs of the agriculture & allied sectors in the State as perceived by the *State Agriculture Department*. It is not explicit that how they are monitored.

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

The basis of sectoral fund allocation is not explicit in the SAP. It is not explicit whether it is based on expected marginal contributions. Further, any viability analysis is not explicit.

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

The SAP proposes Rs 265.80 crore (48.4 per cent) and Rs 283.89 crore (51.6 per cent) for years 2010-11 and 2011-12, respectively, during the 11th FYP (with a *total proposed budget* of Rs 549.69 crore for the FYP). The number of years for which allocations are given (*two out of five years under the Plan*) is too less to comment upon; therefore, we cannot opine on whether the allocation across years are right. However, the very fact that allocation in the last year of the FYP (51.6 per cent in year 2011-12) is higher than that in the penultimate year (48.4 per cent in year 2010-11) indicates that the given *allocations across years* are inappropriate as they do not follow a *normal distribution* and hence do not conform to the *prudent norms* for allocation across years. *Ideally, the allocation share should be minimum in the first year, being the planning stage for the project/s involving comparatively less investment capacity; the allocation share should increase in the intermediate years as subsequent years demand higher investments for the execution of the planning; and allocation share should decline in the last year because having invested sufficiently in the in-between years, the fund requirements again become low in the last year of the plan-period. Further, the basis for yearly allocation is not explicit in the SAP.*

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

The SAP seems to be in line/ tune with overall agricultural strategy and goals of the country/ state. It proposes for the development of various agricultural & allied sectors with a particular emphasis on *agriculture, horticulture and land development & conservation of resources* sectors. The *agricultural* interventions are expected to increase the production/productivity of food-grains, necessary to meet the food-grain deficit in the State while also enhancing the income of farmers. The *horticultural* interventions are expected to augment both income and employment of farmers in the State. Interventions for *land development & conservation of resources* are expected to complement the efforts undertaken for the development of *agriculture and horticulture* sectors. These are expected to contribute towards country's aim of achieving 4 per cent growth rate during 11th FYP.

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

Though the spelling out of mechanisms for planning, baseline information collection, monitoring, documentation and regularly reporting progress is not explicit in the SAP, yet *methodology* stated

for the preparation of CDAPs/SAP in the SAP suggests about involving *planning* and *baseline information collection* mechanisms in the preparation of the SAP.

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?**

The SAP is not explicit on whether the planning, monitoring and evaluation mechanisms exist, functional and made use of to fulfill the expectation and bridge the gaps. Further, the SAP is not explicit on the plan for strengthening PME mechanisms and making them functional during the remaining years of 11th FYP and 12th FYP, when it gets launched. Also, it is not explicit on whether the baseline information is maintained for comparison of performance of the project later. However, *methodology* stated for the preparation of CDAPs/SAP in the SAP suggests about involving *planning* and *baseline information collection* mechanisms in the preparation of the SAP.

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

The SAP is not explicit on the mid-term evaluation by an external agency.

- 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 year-wise funding details under various CSS and State-level schemes (including RKVY) for the five-year plan period. 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) Further, the SAP should state programmes/projects/activities by sectors and years with clear cut objectives, targets, output, outcome, funding (RKVY, other sources) for each project at the State-level.

(iii) 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.

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

(v) The mismatch between budget proposal and allocation sanctioned 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.

- (viii) 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.
- (ix) Allocation of funds across years should follow prudent allocation norm.
- (x) The SAP must state targets decided to be achieved using RKVY assistance at the State-level; the SAP states project-level targets at district-level only.
- (xi) The SAP must estimate the yield gaps and returns in different crops/livestock/fisheries.
- (xii) The SAP should be explicit on attempting inter and intra department convergence.
- (xiii) The spatial allocation of funds should conform to equitable and optimal distribution of resources.
- (xiv) The *calculated* sum of the funding cost of individual activities/projects mentioned for each agriculture & allied sector does not match with the *given* sum of projects, in case of the *Agriculture* sector (*calculated sum*: Rs 164.25 crore; and *given sum*: Rs 189.63 crore, *page 154*); the discrepancy needs to be looked into. Further, given proposed amount for Agriculture sector (Rs 46.33 crore, *page 246*) in Table 93 under heading “Total Financial Requirement for the State for interventions during the XI Five Year Plan” seems to be incorrect and does not match with the financial outlay given for the Agriculture sector (Rs 189.64 crore, *page 154*) in Table 45 under heading “Total Physical and Financial Targets for Agriculture for the State”; such mistakes need to be avoided in future. This also needs to be checked.

Overall conclusion

The SAP is well attempted. It states clear-cut year-wise targets in terms of activities/projects proposed under various agriculture & allied sectors at the district-level. The systematic *methodology* given in the SAP describes in detail the *steps* involved in the preparation of the SAP/CDAPs. It attempts to critically analyze and state the agricultural situation of the state vis-à-vis its districts through a SWOT analysis covering various agricultural & allied sectors. The SAP attempts to translate the proposed strategies into activities by sectors and years with clear cut targets and funding for each project at district-level. The sectoral allocation of funds conforms to equitable and optimal distribution of resources. However, the SAP further needs improvement. Firstly, it should give the sectoral targets at the State-level also. Secondly, it should attempt to estimate the yield gaps and returns in different crops/livestock/fisheries. Thirdly, the SAP should give examples of attempting convergence along with sources of funding (RKVY and others) for each project. Fourthly, it should mention its attempts to summarize the main experiences of implementing CSS/State schemes and state whether/how they are made use of to prepare SAP for replication, expansion etc. Fifthly, the prioritized strategies should be translated into programmes/projects/activities by sectors and years with clear cut objectives, targets, output, outcome, funding (RKVY, other sources) for each project at the State-level. Sixthly, prioritization of the proposed strategies should be undertaken. Further, for making comment on appropriateness of *allocation across years*, it is necessary to state proposed allocations for all the years under the FYP. Also, discrepancies like *not matching* the *calculated* sum of the funding cost of individual activities mentioned for each agriculture & allied sector with the *given* sum of the proposed projects, in case of *Agriculture* sector, should be avoided. The SAP should also make provision for a dedicated PM&E mechanism at the State level for facilitating project screening, database management, monitoring, evaluation and reporting of RKVY projects. These points require priority attention during 12th FYP.