

NIRD; RKVY Monitoring Unit, Delhi
Analytical Report on Tamil Nadu SAP

1. Name of the State

Tamil Nadu

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 State has decided to increase the production of its food grain, oilseed and horticulture crops during 11th Five Year Plan, vis-à-vis base year 2005-06, by bringing additional area under cultivation and increasing the productivity of crops. For example, the SAP targets increasing the production of paddy, millets, and pulses from 52.09 lakh MT, 7.30 lakh MT, and 1.77 lakh MT in 2005-06 to 85.8 lakh MT, 21.00 lakh MT and 7.0 lakh MT, respectively during the 11th Plan. The SAP plans to achieve this during the 11th plan by bringing an additional area of 1.5 lakh Ha, 3.09 lakh Ha and 4.75 lakh Ha in case of paddy, millets and pulses, respectively and increasing their productivities (53.48 per cent in paddy, 103.05 per cent in millets and 107.72 per cent in pulses) over the year 2005-06 values. The production of total food grains is targeted to increase from 61.16 lakh MT in 2005-06 to 113.8 lakh MT during the 11th Plan, by incorporating an additional area of 9.34 lakh Ha for cultivation and raising productivity by 45.23 per cent. For cotton, sugarcane and oilseeds, the target is to increase the production from 1.68 lakh bales, 35.11 lakh MT and 11.52 lakh MT in 2005-06 to 6.0 lakh bales, 47.52 lakh MT and 20.40 lakh MT, respectively during the 11th Plan; it is to be achieved by increasing the cultivated area by 0.9 lakh Ha, 0.45 lakh Ha and 4.51 lakh Ha and raising productivities by 96.15 per cent, 19.10 per cent and 8.25 per cent for cotton, sugarcane and oilseeds, respectively. In the case of total horticulture, an additional area of 5.58 lakh Ha is targeted, that includes 1.57 lakh Ha and 1.4 lakh Ha increase in area under fruits and vegetables, respectively. It is stated in SAP that all these imply a growth rate of at least 4% for agriculture sector as a whole.

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?

The SAP mentions in the *methodology* part about assigning the task of preparing *District Agricultural Plans* and *State Agricultural Plan* to the Tamil Nadu Agricultural University (TNAU), Coimbatore. It is not clear that the *State Agriculture Department* has intimated the TNAU about

the State's priorities, targets and resources that ought to be reflected in the C-DAPs. Hence, it is not clear that which *Method* is **used for the preparation of SAP**. The SAP states that the base line and bench mark details at block and district levels are collected along with the list/details of all ongoing schemes. Using this information, action plans are prepared for each type of intervention. Series of sensitization workshops are organized at village/block/and district level with farmers, local representatives and other stake holders. At block level interaction meetings, local needs and needed interventions for development of agriculture and allied sectors are enumerated. In the next level, discussion meetings are conducted with the line Department officials where the objectives of NADP, preparation of C-DAPs, SAPs, and formulation of specific project proposals are discussed. The major interventions, local initiatives and priorities are discussed with the officials and other stake holders and the action plans and proposals are finally developed. Based on these, a draft action plan is prepared and discussed in District Collectors (DC) meetings in each district being chaired by the DC and attended by scientists of TNAU, officials of line Departments and representatives of local bodies. Based on the discussions and using relevant details of SREP of ATMA, the district agricultural plan (DAP) is prepared. The SAP is prepared by integrating all the district level plans. Emphasis is also given in the SAP to dovetailing/convergence of resources by integration at ground level.

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

SWOC (Strengths, Weaknesses, Opportunities and Challenges) analysis of the state agricultural economy, agriculture and allied sectors is done covering agro-climatic conditions, natural resources, infrastructure, institutions, technologies, manpower etc. The main strengths of the state agricultural economy include abundant sunshine throughout the year, south east and north east monsoon, varied types of agro-climatic conditions, major types of soils to grow variety of crops, fair quantity of land and water resources, wide range of crops, sizeable livestock population, long coastal line and large number of water bodies, well developed cotton and sugar industries, good rail and road transport system and almost 100 per cent electrification. The main weaknesses include monsoon dependent agriculture, small holdings and poor farmers with low literacy level, low adoption of technologies, dilapidated irrigation systems, silted tank and water ways, unauthorized encroachment of land and water spread

areas and poor maintenance of canal and tank bunds. The main opportunities include, potential demand for quality agricultural produce and protective foods, productive soils of red, black, alluvial and loamy type, increasing trend towards farm mechanization and large quantity of wasted lands. The challenges include low and skewed distribution of rainfall, non-viable farming owing to low and uncertain prices of farm produce, frequent and heavy out-break of pests and diseases, heavy pumping of ground water and sea-water incursion in the inlands along the coastal belt, inter-state water disputes and fast urbanization and industrialization. Similarly, succinct analysis of SWOC is done for agriculture and allied sectors.

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 mentions of convergence of ongoing schemes with actions/plans (of the SAP) (*page 9, last para, SAP*). For achieving convergence, the SAP states that it has listed the current ongoing agriculture programs at first and converged them in to the action plans (of the SAP) finally; it also mentions of developing detailed project report for each type of intervention.

Further, exhaustive details of on-going schemes (including that approved under NADP sponsored by the State and Central Governments implemented in the state by the agricultural department) are listed along with the name, physical and financial targets and progress. How convergence among different schemes is attained is not explicit in SAP. However, some of the schemes listed under NADP (RKVY) like DAP spray, micro-nutrient spray, organic farming etc, also figure under other schemes.

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 mentions the ongoing schemes with details of their physical and financial targets and progress. Further, it mentions of convergence of the current ongoing agriculture programs with the action plans (of the SAP). Thus, it is believed that 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.

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

The SAP mentions of estimating the yield gaps of major crops in the State, indicating considerable difference between on farm trials (the potential yield) and yield realized by the farmers (the average yield). The SAP gives district-wise average productivity levels of selected crops during period 1998-99 to 2005-06 and compares them with their potential yields at the State level (reported in year 2006). For example, the average productivity of 3330 Kg /ha for the paddy crop at the State level is almost 50 per cent lower than its potential yield of 6000 Kg /ha. The State average productivity of groundnut crop is 1829 Kg/ha as against the potential of 2850 Kg/ha. The State average productivity of sugarcane crop at 108.204 tonnes/ha is lower than the potential of 146.000 tonners/ha. The State average productivity of cotton crop at 289 kg of lint per ha is much lower than the potential of 730 kg of lint per ha.

Further, the SAP also compares the yield gaps for major crops grown in the irrigated areas with the potential yields, referring to the studies by the TNAU. For example, the SAP reveals yield gaps of 725, 2992, 2223, 883, 881, 369, 37000 and 304 (in Kg/ha) in paddy, cholam (sorghum), ragi, red gram, black gram, groundnut, sugarcane and cotton crops, respectively, cultivated in the irrigated areas. However, similar estimation of yield gaps in case of horticulture, animal husbandry and fisheries sectors is not available in the SAP.

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

The SAP does not mention explicitly that how the technological and agronomic gaps are identified to contribute to yield gaps. However, it mentions of interaction meetings with various stakeholders like farmers and local representatives at the village/block level to enumerate the local needs and the needed interventions for development of agriculture and allied sectors, to be followed by discussion meetings with the line department officials. We may believe that such meetings might have contributed towards identification of technological and agronomic gaps. The SAP lists issues and constraints having bearing on the productivity. For example, it assigns the *non-adoption of new / improved technology in the cultivation of crops* as the main reason behind huge yield gaps (50 per cent) in paddy and cotton crops.

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?

Again, the SAP is not explicit on the methodology used for adjudging the identified constraints responsible for low crop productivity in general and specific crops in particular. We may anticipate the role of discussion meetings with farmers at village/block level for enumerating the local needs and the needed interventions for development of agriculture and allied sectors, along with discussion meetings with the line department officials, in adjudging the identified constraints responsible for low crop productivity. Also, it is not explicit whether the adjudging of the identified constraints responsible for low crop productivity is an opinion or stated on the empirical basis.

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

The SAP enumerates interventions to bridge the gaps in productivity levels for each of the agriculture & allied sectors, at district-level. But, the methodology for identifying the interventions is not explicit in the SAP. However, it does mention of interaction meetings with various stakeholders like farmers and local representatives at the village/block level to enumerate the local needs and the needed interventions for development of agriculture and allied sectors, to be followed by discussion meetings with the line department officials. It indicates the role of such meetings in identifying 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?

Though not explicitly, the SAP gives an indication of the prioritization of right strategies. The local needs and the needed interventions for the development of agriculture and allied sectors are enumerated during the village/block level interaction meetings with various stakeholders including farmers, followed by discussion meetings with the line department officials. The SAP clearly mentions of having discussions on major interventions, local initiatives and priorities in the meetings with officials and other stakeholders. Besides, the objectives of National

Agriculture Development Programme, preparation of District Agriculture Plans, State Agriculture Plans and formulation of specific project proposals are discussed in such meetings. The action plans and proposals are finally developed. There is no evidence of providing empirical basis for the appropriate strategies. The SAP indicates that right strategies are obtained/decided through a consultative process with all the relevant stake holders

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?

Yes, the prioritized strategies have been translated into projects by sectors with clear cut targets, achievements up to 31/03/2008 and funding for each project. 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?

Some interventions are suggested at the district level like *problem soil management by adopting reclamation methods, integrated soil health management and distribution of soil health cards*. These get reflected in terms of the formulated projects like *bio conversion of farm waste using pleurotus* and *production and distribution of biofertilisers*. Otherwise, the formulation of projects on border areas/ insurgent areas/problem areas (mining, acidic soils etc) is not explicit in the SAP. They do have a small scheme on tribal area sub plan proposed under the plan (for Rs 0.72 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 gives proposed outlays (under RKVY) for the last four five years (2008-09 to 2011-12) under XIth five-year plan. It proposes to allocate Rs 1172.79 crores, Rs 914.89 crores, Rs 824.99

crores, and Rs 823.64 crores for years 2008-09, 2009-10, 2010-11 and 2011-12, respectively (with total proposed allocations amounting to Rs 3736.33 crores for the last four years). The State government provides *release received*/approved projects for years 2007-08, 2008-09 and 2009-10 (up to 31/08/2009) through the *Statement of Release and Unspent balance*. Rs 153.60 crores, Rs 140.38 crores and Rs 51.64 crores (up to 31/08/2009) have been released by the central government to the State in 2007-08, 2008-09 and 2009-10 (up to 31/08/2009), respectively. Since the SAP does not state about the proposed allocations for year 2007-08 and also the information on release received for year 2009-10 is not available for the full year, we can compare the proposed and approved outlays for year 2008-09 only.

For year 2008-09, the released/approved amount of Rs 140.38 crores is just 1.19 per cent of the proposed allocation of Rs 1172.79 crores. This huge mismatch of over 98 per cent between the released/approved amount and the proposed allocation may have a very significant adverse affect on the targets, expected output/outcomes/growth etc.

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 lists projects planned under the XIth plan. A number of these projects are in the category of the large projects (with proposed allocation above Rs 5 crores). For example, *Procurement and Distribution of Paddy and Millet seeds* (Rs 28.74 crores), *National Agricultural Insurance Scheme* (Rs 30 crores), *Precision farming* (Rs 29.59 crores), *agri clinic* (Rs 6.94 crores), *Procurement and distribution subsidy for pulses/oilseeds seeds and coconut seedlings* (Rs 7.55 crores), *Subsidy to SHGs for establishment of Seed Processing Units* (Rs 5.62 crores), *promotion of SRI technology (New innovative)* (Rs 8.05 crores), *control of Eriophyid mite* (Rs 18.77 crores), *National Food Security Mission – Paddy*(Rs 37.14 crores), *soil and water conservation in the catchment of River Valley Project* (Rs 10.64 crores), and *Rotational Water Supply Works* (Rs 39.01 crores).

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. However, the SAP does propose some large projects like *Food Security Mission – Paddy* (Rs 37.14 crores), *Procurement and distribution of paddy and millet seeds* (Rs 28.74 crores) and *National Agriculture Insurance Scheme* (Rs 30 crores).

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

The top three sectors in terms of proposed allocations are agriculture (26.35 per cent), Public Works Department for development of irrigation system (23.35 per cent) and Agricultural Engineering (20.02 per cent). These are followed by horticulture (12.67 per cent) and animal husbandry (10.55 per cent). However, the other important sectors like fisheries and agricultural marketing have been allocated only 3.62 per cent and 1.49 per cent, respectively. The SAP states that the proposed sectoral allocations of funds are for carrying out the developmental activities contemplated in the form of sector-wise interventions. The agriculture sector involves important interventions like hybrid seed distribution for various crops, supply of quality seeds, and integrated nutrient and soil health management. The sector rightly deserves highest proposed allocation of 26.35 per cent. Irrigation sector (PWD) has also been rightly allocated 23.35 per cent in total proposed allocations as strengthening irrigation is basic requirement for a sustainable agricultural development. Agricultural engineering has been proposed a higher amount, 20.02 per cent in total allocation as this sector has potential to play a key role in rapid agricultural growth with interventions like popularization of agricultural mechanization through conventional/modern machinery/equipments, soil conservation and water management works etc. The proposed allocations of 12.67 per cent and 10.55 per cent for horticulture and animal husbandry sectors, respectively will be instrumental in augmenting the income and employment of farmers while also contributing to rapid growth of agriculture & allied sectors. Fisheries are an important source of livelihood for a sizable population living along the long coast-line of the State. Also, Tamil Nadu is the biggest fish exporting State of India. Hence allocation share of 3.62 per cent to this sector may be less justified. Similarly, allocation share of 1.49 per cent for agricultural marketing seems to be lower than the requirement as this sector carries potential of augmenting the earnings of farmers and act as an engine of growth for the agriculture & allied sectors. Overall, we may conclude that the sectoral allocation of funds conforms to equitable and optimal distribution of resources.

The SAP does not provide the spatial allocation of funds across districts. Hence, we can not comment on the equitable and optimal distribution of the spatial allocation of funds.

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

The SAP mentions innovative schemes/projects as part of *Macro Management Mode Schemes*, under Centrally Sponsored Schemes (C.S.S) and allocates Rs 3.46 crores to them. The innovative schemes are *Farmers Interest Group*(formation of new FIGs in Paddy, Millets, Pulses, Cotton and Oilseeds, and training to farmers, etc.) (Rs 1.27 crores); and promotion of micro enterprises through FWG and ED training (Rs 2.19 crores). Further, the SAP also refers to some projects under various CSS as the *innovative components*.

Beside this, a number of projects mentioned in the SAP are of innovative nature. For example, Precision farming (Rs 29.59 crore), Agri clinic (Rs 6.94 crore), Development of dry land by cultivation and distribution of dryland machineries (Rs 2.51 crores), land resource inventory – GIS (Rs 2.08 crores), Promotion of Organic farming and organic manure production (Rs 7.15 crores), e-Agriculture (Rs 1.18 crores), strengthening of quality seeds (Rs 19 crores), etc.

The innovative projects shall increase agricultural awareness among farmers regarding best cultivation techniques and efficient use of inputs. These projects will help promote dry land agriculture, contribute to soil health improvement and lead to sustainable agriculture development.

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

The SAP categorizes the given on-going schemes for XIth plan as the State Plan Schemes (SPS) and the CSS. The projects mentioned in the SAP under both SPS and CSS, seem to be planned for the State as a whole. The basis for planning projects for the State as a whole is not explicit in the SAP. It is not explicit in the SAP 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 SAP does not make explicit the basis of sectoral fund allocation. However, it does state that allocations are proposed for carrying out the developmental activities as contemplated in the form of various sector-wise interventions mentioned in the SAP. It is not explicit whether it is based on expected marginal contribution. There is no indication of any viability analysis.

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

The allocations across years seem to be right. The SAP allocates Rs 1172.79 crores, Rs 914.89 crores, Rs 824.99 crores and Rs 823.64 crores in its fund proposal for years 2008-09, 2009-10, 2010-11 and 2011-12, respectively. Proposed allocations for year 2007-08 are not given in the SAP. However, out of total proposed allocations given in the SAP for last four years of the plan-period, a higher share of 31.4 per cent and 24.5 per cent is given to the 2nd and 3rd years of the plan, respectively. This can be explained in terms of higher fund (capital investment) requirements during intermediate years to execute the planned projects. The relatively smaller allocation of 22.1 per cent and 22.0 per cent of total proposed funds during 4th and 5th years of plan indicate lesser fund requirements during the concluding phase of the ongoing projects.

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

Yes, the SAP seems to be in line/ tune with overall agricultural strategy and goals of the country/ state. The SAP aims at increasing the future agriculture production to meet the requirements of a growing population. To that end, it targets increasing agricultural production both by increasing the area under cultivation and enhancing productivity. The SAP admits limitations accruing to increase in area under cultivation, and gives thrusts on raising agricultural productivity through a number of interventions. A large share of proposed allocation for the development of irrigation system (23.35 per cent) and Agricultural Engineering (20.02 per cent) is a testimony to it. This is also in line with the country's target of achieving 4 per cent growth rate during 11th five-year plan.

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

The SAP is not explicit on the mechanisms for planning, baseline information collection, monitoring, documentation and regularly reporting progress. However, the *methodology* portion of the SAP describes the mechanisms for planning and baseline information collection followed in the preparation of 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 the mechanisms for planning, baseline information collection, monitoring, documentation and regularly reporting progress. However, the *methodology* portion of the SAP describes the mechanisms for planning and baseline information collection followed in the preparation of SAP.

Also, there is no mention of plan for strengthening PME mechanisms and making them functional during the remaining years of 11th FYP and 12th FYP when it gets launched. It is not mentioned whether the baseline information is maintained for comparison of performance of the project later. However, the *methodology* portion in the SAP does mention of collection of base line and bench mark details at block and district levels during preparation of district level plan.

- 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 **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. 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 whether/how they are made use of to prepare SAP for replication, expansion etc should be stated.

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

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

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

(vi) 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.

(vii) The SAP should give sectoral allocation of funds and expected outcomes of implementing proposed interventions (schemes) at the State level.

(viii) The SAP should provide yield-gap estimates, both at State and district-level, for major crops and other enterprises.

(x) The SAP identifies sector-specific interventions for each district of the State.

Overall conclusion

The SAP provides a good account of sector-wise SWOC analysis of the State. But the methodology followed to prepare SAP is not clear. It states all the ongoing schemes with details of their physical and financial targets and progress. It has done yield gap analysis in case of field crops, though it misses to do the same in case of horticulture, animal husbandry and fisheries sectors. However, to get a better insight, more information on convergence of various schemes was needed. The SAP should also state that how the technological and agronomic gaps are identified to contribute to yield gaps. Further, it should throw light on the methodology for adjudging the identified constraints responsible for low crop productivity in general and specific crops in particular. It must enumerate that how the strategies and interventions are identified to bridge the gaps in productivity levels. The PM&E mechanisms including baseline information collection, documentation and regularly reporting progress need to be planned. These may receive greater attention in the 12th FYP.

